Planning and Zoning Commission
AGENDA
CITY OF BOISE

Commission Meeting
Monday, January 6, 2020
6:00 PM
City Hall - Maryanne Jordan City Council Chambers
150 Capitol Blvd
Boise, ID  83702

CHAIR
Jennifer Stevens

Planning and Zoning Commission Members

Co-Chair
Tamara Ansotegui

Commissioner
Milt Gillespie

Commissioner
Meredith Stead

Commissioner
Janelle Finfrock

Commissioner
Jim Bratnober

Commissioner
Bob Schafer

Student Commissioner
Ben Zuckerman

Our Vision: To Make Boise the Most Livable City in the Country

Pursuant to Idaho Code Section 74-204(4), all items on the Agenda marked with an asterisk * are action items that require a vote. Identifying an item as an action item on the Agenda does not require that a vote be taken. All Consent Agenda items will be enacted by one motion, unless a Commissioner or citizen requests the item be removed from the Consent Agenda and considered in the normal sequence of business.
I. CALL TO ORDER

II. CREATION OF CONSENT AGENDA

III. NEW BUSINESS

*1. **PUD19-00035 / 2010 North Redwood Road**
   DEFERRED FROM DECEMBER 2, 2019
   11304 W Fairview Ave
   Conditional use permit for a mixed use planned development comprised of 38 attached townhomes and 1 future commercial retail building on 5.1 acres located in a C-2D (General Commercial with Design Review) zone. Karla Nelson

**SUB19-00064 / Boise Towns Subdivision**
DEFERRED FROM DECEMBER 2, 2019
11304 W Fairview Ave
Preliminary Plat for a mixed use subdivision comprised of 1 common and 40 buildable lots on 5.1 acres located in a C-2D (General Commercial with Design Review) zone. Karla Nelson

*2. **SOS19-00023 / Rodney Johnson**
   8306 W State St
   Waiver to the Subdivision Ordinance requirement to construct curb, gutter and sidewalk as part of a Minor Land Division on 4.27 acres located in an R-1A (Single Family Residential) zone. David Moser

*3. **CUP19-00087 & CVA19-00070 / Joplin Pond, LLC**
   11532 W Joplin Rd
   Conditional use permit for a contractor office and yard on 1.25 acres located in a pending M-2D/DA (Heavy Industrial with Design Review and Development Agreement) zone. A variance for the gravel parking is included. David Moser

**CUP19-00088 / Joplin Pond, LLC**
11532 W Joplin Rd
Conditional use permit for a construction materials processing and reuse facility on 28 acres located in a pending M-2D/DA (Heavy Industrial with Design Review and Development Agreement) zone. David Moser
*4. **CVA19-00067 / Kenneth Reed Architect**  
422 N Bacon Dr  
Variance to encroach into the side setback to construct a new dwelling on 0.19 acres located in an R-1C (Single Family Residential) zone. Ethan Mansfield

*5. **CUP19-00086 / Le Soleil Child Care, LLC**  
302 W Idaho St  
Conditional use permit to operate a large child care center for 40 children in an existing building and a parking reduction located in a R-OD (Residential Office with Design Review) zone. Kevin Holmes

*6. **CUP19-00085 / South Beck & Baird**  
2002 S Vista Ave  
Modification to a previously approved conditional use permit to expand the office use and the associated parking lot on 0.32 acres located in an R-3D (Multi-Family Residential with Design Review) zone. Nicolette Womack

*7. **CAR19-00030 / Dark Horse Associates. LLC**  
9831 & 9819 W Shields Ave  
A minor modification to a Development Agreement which was previously approved for 1.9 acres in a pending R-2D/DA (Medium Density Residential with Design Review and Development Agreement) zone. Nicolette Womack

**PUD19-00038 / Dark Horse Associates, LLC**  
9831 & 9819 W Shields Ave  
Conditional use permit for a planned residential development comprised of 14 detached single-family dwellings on 1.9 acres located in a pending R-2D/DA (Medium Density Residential with Design Review and Development Agreement) zone. Nicolette Womack

**SUB19-00066 / Zephyr Subdivision**  
9831 & 9819 W Shields Ave  
Preliminary Plat for a residential subdivision comprised of 2 common and 14 buildable lots on 1.9 acres located in a pending R-2D/DA (Medium Density Residential with Design Review and Development Agreement) zone. Nicolette Womack
*8.  **CAR19-00021 / Boise State University**  
South of University Drive, between Denver Avenue and Joyce Street  
Rezone of 6 parcels totaling 1.58 acres from an R-2 (Medium Density Residential) zone to a U (University District) zone. Leon Letson

**CPA19-00001 / Boise State University**  
South of University Drive, between Denver Avenue and Joyce Street  
Comprehensive Plan Amendment to amend the Land Use Map with the updated 2019 Campus Master Plan to include new student housing, academic buildings, public space improvements, and a baseball field and associated infrastructure modifications in the southeast corner of campus. Leon Letson

IV. **ADJOURNMENT**
TO: Planning and Zoning Commission
FROM: Karla Nelson, Associate Planner
DATE: December 2, 2019
RE: PUD19-00035 & SUB19-00064 / 11304 W Fairview

PROJECT SUMMARY
Conditional use permit for a mixed-use planned development comprised of 38 attached townhomes and 1 future commercial retail building on 5.1 acres located at 11304 W Fairview Ave in a C-2D (General Commercial with Design Review) zone. Also included is a Preliminary Plat for a mixed-use subdivision comprised of 1 common and 40 buildable lots.

REQUEST
Deferral to the January 6, 2019 Planning and Zoning Commission hearing is requested for this item to allow time to consider design alternatives.

ATTACHMENTS
Deferral request memo dated November 20, 2019.
Karla Nelson

Subject: FW: [External] RE: PUD19-00035

From: Greg Flint <greg.flint@lhm.com>
Sent: Wednesday, November 20, 2019 7:40 AM
To: Karla Nelson <krnelson@cityofboise.org>
Subject: RE: [External] RE: PUD19-00035


Thank you,

Greg Flint
Senior Entitlement Director
Larry H. Miller Real Estate
Direct: 801-563-4176
Cell: 970-903-1302
greg.flint@lhm.com

9350 South 150 East, Suite 1000
Sandy, UT 84070
PUD19-00035 & SUB19-00064 / 2010 North Redwood Road

Summary
The applicant requests a conditional use permit for a mixed use planned development comprised of 38 attached townhomes and 1 future commercial retail building on 5.1 acres located at 11304 W Fairview Ave in a C-2D (General Commercial with Design Review) zone. Also included is a Preliminary Plat for a mixed-use subdivision comprised of 1 common and 40 buildable lots.

Prepared By
Karla Nelson, Associate Planner

Recommendation
Approval with conditions

Reason for the Decision

Planned Unit Development
The applicant’s proposal complies with Boise City Code Section 11-03-04.7 (Planned Unit Development). The project is compatible with the surrounding neighborhood, as it will provide a good transition between the commercial uses along Fairview Avenue and the residential uses to the north. The proposal is also of a similar density to nearby townhome developments. Correspondence received from commenting agencies confirm that the proposed use will not place an undue burden on the transportation system or other services in the vicinity. Impacts on the road network will be further mitigated by the availability of public transit service less than ½ mile to the east and the project’s location along the Shamrock Bikeway. The site is large enough to accommodate the use as 38 residential units are proposed and up to 102 are allowed within the existing C-2D zone and all exterior setbacks have been met or exceeded. The proposed development will not adversely affect other property in the vicinity as it meets the density, height, and parking requirements of the zone. The recommended conditions of approval include greater landscape separation between the overflow car dealership parking lot, future retail development and the proposed townhomes. The development is in compliance with the Comprehensive Plan as it constitutes infill development that is in scale with surrounding development and in a location that avoids costly extension of facilities, as encouraged by Principle NAC3.1, Principle NAC3.2 and Goal CC1.1. The proposed development will also comply with Goal WB-CCN1.2 which encourages higher density and mixed-use development along the length of the Fairview Corridor.

Subdivision
As further detailed in the project report, the applicant’s proposal complies with Boise City Code Section 11-03-04.4 (Subdivisions Plat). As conditioned, the submitted preliminary plat is consistent with the Development Code and the Comprehensive Plan.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
The governing building codes:

Deferred submittals:
- Fire sprinkler design and installation submittals
  - Ceiling schematic
KEYED NOTES

GENERAL NOTES - ROOF PLAN
1. BARRIER CLARK APPROVED 3-PLEX FOR 3-PLEX ROOF PLAN.
2. 3-PLEX ROOF PLAN SHOWN ON SHEET D1.
3. 3-PLEX LEVEL 1 SHOWN ON SHEET B4.
4. 3-PLEX LEVEL 2 SHOWN ON SHEET D4.
5. 3-PLEX LEVEL 3 SHOWN ON SHEET B1.

PROJECT: Boise Fairview Townhomes

DESIGN DEVELOPMENT

TITLE: overall building plan 3-plex

SHEET: AE101

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES, OR IMPLEMENTATION.

METHOD STUDIO INC.

10/29/19 | PUD19-00035

6-PLEX LEVEL 1 (BLDG. E SHOWN)

6-PLEX LEVEL 2 (BLDG. E SHOWN)

6-PLEX LEVEL 3 (BLDG. E SHOWN)

6-PLEX ROOF PLAN (BLDG. E SHOWN)

3 STORY UNIT
SEE: BUILDING E

3 STORY UNIT
SEE: BUILDING E

3 STORY UNIT
SEE: BUILDING E

3 STORY UNIT
SEE: BUILDING E

3 STORY UNIT
SEE: BUILDING E

SIM.

3 6 0    w e s t    a s p e n    a v e n u e
s a l t  l a k e  c i t y ,  u t a h  8 4 1 0 1
8 0 1   5 3 2   4 4 2 2

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES, OR IMPLEMENTATION

THE DESIGNS SHOWN AND DESCRIBED HEREIN INCLUDING ALL TECHNICAL DRAWINGS, GRAPHIC REPRESENTATIONS & MODELS THEREOF, ARE PROPRIETARY & CAN NOT BE COPIED, DUPLICATED, OR COMMERCIALLY EXPLOITED IN WHOLE OR IN PART WITHOUT THE SOLE AND EXPRESS WRITTEN PERMISSION FROM METHOD STUDIO INC.

overall building plan
6-plex type B

GE

GENERAL NOTES - ROOF PLAN

1. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK

2. DO NOT SCALE DRAWINGS

3. CRICKET AT ALL MECHANICAL ITEMS, SKYLIGHTS, ROOF HATCHES; 1/4" PER FOOT BACKSLOPE MINIMUM

4. SEE BUILDING AND WALL SECTIONS FOR ADDITIONAL ROOF DETAILS

5. ALL GIVEN DECK BEARING POINTS ARE AT GRID LINE LOCATIONS UNLESS NOTED OTHERWISE

1/8" = 1'-0"
GENERAL NOTES
1. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.

2. DO NOT SCALE DRAWINGS.

5. SEE SHEET GI003 FOR TYPICAL MOUNTING HEIGHTS. PROVIDE SOLID BLOCKING IN WALLS FOR ALL WALL-MOUNTED ITEMS WHETHER BLOCKING IS DEPICTED IN DRAWINGS OR NOT.

6. COORDINATE ALL EQUIPMENT AND ACCESSORIES, INCLUDING ITEMS THAT ARE OFOI, WITH OWNER.

7. SEE SHEET SERIES AE500 FOR WALL AND ASSEMBLY TYPES.

8. SEE SHEET SERIES AE500 FOR DOOR & WINDOW TYPES.

9. SEE WALL SECTION SHEET SERIES AE301 FOR WALL TYPES AT SPECIFIED LOCATION.

10. SEE ELEVATIONS AND FINISH SCHEDULES FOR SURFACE TREATMENTS AT WALLS.

11. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL WALL CONSTRUCTION INFORMATION.

FLOOR FINISH LEGEND
CARPET, LUXURY VINYL TILE, CONCRETE, DECK, PLYWOOD SUBFLOOR;

KEYED NOTES
1/4" = 1'-0"
1. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.

2. DO NOT SCALE DRAWINGS.

3. SEE SHEET GI003 FOR TYPICAL MOUNTING HEIGHTS. PROVIDE SOLID BLOCKING IN WALLS FOR ALL WALL-MOUNTED ITEMS WHETHER BLOCKING IS DEPICTED IN DRAWINGS OR NOT.

4. COORDINATE ALL EQUIPMENT AND ACCESSORIES, INCLUDING ITEMS THAT ARE OFI, WITH OWNER.

5. SEE SHEET SERIES AE500 FOR WALL AND ASSEMBLY TYPES.

6. SEE SHEET SERIES AE500 FOR DOOR & WINDOW TYPES.

7. SEE WALL SECTION SHEET SERIES AE301 FOR WALL TYPES AT SPECIFIED LOCATION.

8. SEE ELEVATIONS AND FINISH SCHEDULES FOR SURFACE TREATMENTS AT WALLS.

9. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL WALL CONSTRUCTION INFORMATION.

10. SEE ELEVATIONS AND FINISH SCHEDULES FOR SURFACE TREATMENTS AT WALLS.

11. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL WALL CONSTRUCTION INFORMATION.
MATERIAL LEGEND

- BRICK
- FIBER CEMENT SIDING
- WOOD SIDING

FINISH CODE

- BK-01
- BK-02
- FC-01
- WS-01
- MECH SCREEN MS-01

GENERAL NOTES

A. REFER TO AS101 FOR SPECIFIC BUILDING LOCATIONS
B. REFER TO GI003 FOR SPECIFIC EXTERIOR FINISH INFORMATION
C. REFER TO AE100'S FOR WINDOW & DOOR LOCATIONS
D. REFER TO AE500'S FOR WINDOW & DOOR TYPES

LEVEL 1
0"レベル

LEVEL 2
10'レベル

LEVEL 3
20'レベル

ROOF @ 3 STORY BLDG
30'レベル

ROOF @ 2 STORY BLDG
19'レベル

AE302
D1

D1
AE302

B1
AE302

B1
AE302

3 6 0    W E S T    A S P E N    A V E N U E
SALT LAKE CITY, UTAH 84101
801 532 4422
PROJECT #:
DATE:

GENERAL NOTES - ROOF PLAN
1. MATERIALS OF CONSTRUCTION SHALL BE AS SHOWN ON THE MECHANICAL SHEETS OF CORRESPONDING SHEET. DETAILS AND SPECIFICATIONS ARE ON ATTACHED SHEETS.
2. ALL ROOF HOUSING DETAILS SHALL BE AS SHOWN ON THE PERIMETER SHEET.
3. ALL ROOF HATCHES SHALL BE AS SHOWN ON THE MECHANICAL SHEETS.
4. ALL STEEL POLES SHALL BE AS SHOWN ON THE MECHANICAL SHEETS.

KEYED NOTES

MATERIAL LEGEND

AE204
DESIGN DEVELOPMENT

exterior elevations
6-plex type B

initial 10/29/19 | PUD19-00035
Packet Pg. 31
October 26, 2019

City of Boise  
Planning Department  
150 North Capitol Blvd.  
Boise, ID 83702

Re: Boise Towns, Letter of Explanation (SUB19-00064 & PUD19-00035)

To Boise City Planning Commission:

The purpose of this letter is to provide a written description of the proposed project located at 11304 West Fairview Avenue, Boise, Idaho (Parcel # S1103438721). The Developer, Miller Family Real Estate, LLC, is proposing a new residential development with 38 individual townhome single-family dwelling units. The property is located within a General Commercial Zone with Design Review (C-2D). Boise City code conditionally allows residential development within the C-2D zone with a maximum density of 43.5 units per acre and a maximum building height of 45-feet. The proposed density will be approximately 16 units per acre and the maximum proposed building height will be approximately 31-feet.

The existing parcel will be subdivided into 40 individual lots with the Boise City Subdivision Application Process. The residential lots will include 38 lots and 1 common area. The remaining 2-lots will be commercial lots. The lot located on the northeast corner of the property is currently used as overflow parking for the LHM Subaru Dealership to the East. Minor paving improvements are proposed to complete the western portion of the overflow parking lot together with this proposed development. The proposed lot on the south side of the property, adjacent to Fairview avenue and between Shamrock and Steelwood Avenues, will be commercial retail development to be developed in future phases of the overall project.

The proposed residential development includes 7 structures with a total of 38 individual townhome units. Four structures will be 6-plex buildings with alternating 2-story and 3-story units. One structure will be a 6-plex building with 3-story units. One structure will be a 5-plex building with four 2-story units and a single 3-story unit. One structure will be a 3-plex building with 3-story units. The intent of the site is to create quality new housing that can provide a transition between the existing low-density residential area to the north and northwest and the commercial areas to the south and southeast.

The developer proposes access to the residential portion of the property from a new driveway on Shamrock Avenue and a new driveway on Steelwood Avenue. These two access driveways will be connected with a private drive aisle which will allow convenient access to the townhome units and future commercial retail development. The drive aisle will also provide a subtle separation...
or buffer between the residential and future commercial development proposed to the south. An additional access driveway is also proposed on Shamrock Avenue to serve the northwest side of the site.

Within the shared common area of the development, the project proposes amenities to include a playground facility and an outdoor pavilion area for gatherings and social activities. The outdoor amenity areas will include perimeter fencing to create a sense of privacy and protection from the adjacent streets. The outdoor areas will be inviting and fully accessible throughout the common areas of the site. Additionally, 19 guest parking stalls will be included for the residents.

All utilities for the site including water, sanitary sewer, pressurized irrigation, natural gas, and telecommunications, are available to the site. Storm-water will be retained onsite in underground perforated pipes and will accommodate adequate volume to retain the 100-year storm event.

The residential portion of the project will be constructed in a single phase and the development schedule is anticipated to begin early spring 2020 and be complete by spring of 2021.

We appreciate your consideration of our application. The developer is excited to enhance the neighborhood and the City of Boise with new high-quality townhouses.

Should you require additional information or have any questions please contact me at (801) 410-8500.

Sincerely,

ANDERSON WAHLEN & ASSOCIATES

Eric Malmberg, P.E.
Project Manager
## Property Information

### Address
- **Street Number:** 11304
- **Prefix:** W
- **Street Name:** FAIRVIEW AVE
- **Subdivision name:** SEC 03 3N 1E
- **Block:** 0
- **Lot:** 0
- **Section:** E3
- **Township:** 3
- **Range:** 1
- **Zoning:** C-2D
- **Additional Parcel Numbers:** 51103438721

### Primary Contact
**Who is responsible for receiving e-mail, uploading files and communicating with Boise City?**
- Agent/Representative
- Applicant
- Owner

### Applicant Information
- **First Name:** Eric
- **Last Name:** Malmberg
- **Company:** 2010 North Redwood Road
- **Address:** 2010 North Redwood Road
- **City:** Salt Lake City
- **State:** UT
- **Zip:** 84116
- **Phone Number:** (801) 410-8500
- **Cell:** (801) 512-7112
- **Fax:** (801) 521-9551

### Agent/Representative Information
- **First Name:** Eric
- **Last Name:** Malmberg
- **Company:** 2010 North Redwood Road
- **Address:** 2010 North Redwood Road
- **City:** Salt Lake City
- **State:** UT
- **Zip:** 84116
- **Phone Number:** (801) 410-8500
- **Cell:** (801) 512-7112
- **Fax:** (801) 521-9551

### Owner Information
- **Same as Applicant?** No
- **First Name:** Greg
- **Last Name:** Flint
- **Company:** Miller Family Real Estate LLC
- **Address:** 9350 South 150 East Suite 1000
- **City:** Sandy
- **State:** UT
- **Zip:** 84070
- **Phone Number:** (801) 563-4176
- **Cell:** (970) 903-1302
- **Fax:** (801) 521-9551

---

Project Information

1. Neighborhood Meeting Held (Date):
   10/08/2019

2. Neighborhood Association:
   West Valley

3. Comprehensive Planning Area:
   West Bench

4. This application is a request to construct, add or change the use of the property as follows:
   The developer is proposing the construction of a new residential subdivision for 38 new townhomes and a common area located within a General Commercial Design Review Overlay District (C-2D) zone. The residential portion of the development

5. Size of Property:
   5.091 Acres

6. Water Issues:
   A. What are your fire flow requirements? (See International Fire Code):
      1500 gpm
   B. Number of hydrants (show location on site plan):
      Note: Any new hydrants/hydrant piping require Suez Water approval.
      Number of Existing: 3
      Number of Proposed: 1
   C. Is the building "sprinklered"?
      Yes
      No
   D. What volume of water is available? (Contact SUEZ (208) 352-7354):
      2500 gpm

7. Existing uses and structures on the property are as follows:
   An existing 10' x 14' shed structure located on the Northwest corner of the property is currently being used as a pump house for the Nampa Meridian Irrigation Company.

8. Are there any hazards on the property?
   (Such as canals, hazardous material spills, soil or water contamination.) If so, describe them and give their locations:
   No hazards on the property.

9. Adjacent property information:
<table>
<thead>
<tr>
<th>Building types and/or uses</th>
<th>Number of Stories</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>North: King Street</td>
<td>0</td>
<td>(C-2D) General Commercial</td>
</tr>
<tr>
<td>South: Fairview Avenue</td>
<td>0</td>
<td>(C-2D) General Commercial</td>
</tr>
<tr>
<td>East: Steelwood Avenue</td>
<td>0</td>
<td>(C-2D) General Commercial</td>
</tr>
<tr>
<td>West: Shamrock Avenue</td>
<td>0</td>
<td>(C-2D) General Commercial</td>
</tr>
</tbody>
</table>
10. Non-Residential Structures:

A. Number of Proposed non-residential structures: 

Square footage of proposed non-residential structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
<th>Net Leasable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>0</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>0</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>0</td>
</tr>
<tr>
<td>4th Floor</td>
<td>0</td>
</tr>
</tbody>
</table>

B. Maximum Proposed Height: 

C. Number of stories: 

D. Number of EXISTING non-residential structures to remain: 

Square footage of existing non-residential structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
<th>Net Leasable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>140</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>0</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>0</td>
</tr>
<tr>
<td>4th Floor</td>
<td>0</td>
</tr>
</tbody>
</table>

E. Existing Structure Height(s): 

F. Number of Stories: 

11. Residential Structures:

A. Number of Proposed residential units (if applicable): 38

B. Size of Proposed residential structures (if applicable):

<table>
<thead>
<tr>
<th>Number of Units</th>
<th>Square Foot per Unit</th>
<th>Total Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Bedroom</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two-Bedroom</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Three-Bedroom</td>
<td>38</td>
<td>2333</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Number</td>
<td>38</td>
<td>2333</td>
</tr>
</tbody>
</table>

C. Number of Existing units to remain: 

D. Maximum Proposed Structure Height(s): 31

E. Number of Stories: 3
### 12. Site Design:

<table>
<thead>
<tr>
<th>A. Percentage of site devoted to building coverage:</th>
<th>33.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Percentage of site devoted to landscaping:</td>
<td>20.2</td>
</tr>
<tr>
<td>C. Percentage of site devoted to paving:</td>
<td>46</td>
</tr>
<tr>
<td>D. Percentage of site devoted to other uses:</td>
<td>0</td>
</tr>
<tr>
<td>E. Describe other use:</td>
<td></td>
</tr>
</tbody>
</table>

### 13. Loading Facilities, if proposed (For Commercial uses only):

<table>
<thead>
<tr>
<th>Number</th>
<th>Location</th>
<th>Size</th>
<th>Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 14. Parking:

<table>
<thead>
<tr>
<th>A. Handicapped Spaces:</th>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Parking Spaces:</th>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80</td>
<td>95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Bicycle Spaces:</th>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Proposed Compact Spaces:</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Restricted (assigned, garage, reserved spaces) parking spaces proposed:</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F. Are you proposing off-site parking?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, how many spaces?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G. Are you requesting shared parking or a parking reduction?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, how many spaces?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** If you are requesting shared parking or a parking reduction, you must submit a survey of persons using and working on the premises and any additional information demonstrating that use by the regular employees and visitors to the premises will require fewer off-street parking spaces than required by the Zoning Ordinance.

### 15. Setbacks (Plans that are not graphically dimensioned will not be accepted.)

<table>
<thead>
<tr>
<th>Building Setback</th>
<th>Proposed Required</th>
<th>Parking Proposed Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Rear</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Side 1</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Side 2</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

### 16. Waivers Requested:

<table>
<thead>
<tr>
<th>A. Lot size:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Internal Setbacks:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Frontage:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17. Sidewalks:
   Proposed:  □ Attached  □ Detached
   Adjacent: □ Attached  □ Detached

18. Amenities:
   Number:  
   Description: Outdoor playground and pavilion area.

19. Density:
   Allowed Density: 43.5 units per acre
   Proposed Density: 16.1 units per acre

20. Building Exterior:
   Materials       Colors
   Roof: TPO        White
   Walls: Brick     Light Gray
   Windows/Doors: Metal/Wood Dark Gray/Blond Wood
   Fascia, Trim etc.: N/A

   Onsite underground retention system with perforated pipe.

22. Floodways & Hillsides:
   A. Is any portion of this property located in a Floodway or a 100-year Floodplain? □ Yes □ No
   B. Does any portion of this parcel have slopes in excess of 15%? □ Yes □ No

   Note: If the answer to either of the above is yes, you will be required to submit an additional Floodplain and/or Hillside application and additional fee. You must submit the additional required application(s) for review at the same time as this request.

23. Airport Influence Area:
   Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)
   □ No □ Area A □ Area B □ Area B1 □ Area C
24. Street Layout:

A. PUBLIC Street Layout Review

The impacts of proposed development on adjacent land uses and transportation facilities must be considered. A "Traffic Impact Study" (TIS) will be generally required by the Ada County Highway District, if the proposed development contains no more than 100 dwelling units (includes hotels and motels as well as private dwelling units), more than 30,000 square feet of commercial use, or more than 50,000 square feet of industrial or institutional use, or has associated it with special circumstances deemed by ACHD to warrant an impact study. A copy of this study must be submitted with this application.

Is a Traffic Impact Study required?
☐ Yes ☐ No

B. PRIVATE Street Layout Review

The impacts of proposed development on adjacent land uses and transportation facilities must be considered. A "Traffic Impact Study" (TIS) prepared by a traffic engineer will be required by Public Works and Planning & Development Services for the interior roadway and parking system. This requirement may be waived when it can be shown by the applicant that no section of on-site roadway will exceed 240 vehicle trips per day.

Is a Traffic Impact Study required?
☐ Yes ☐ No

Are you proposing public street connection to adjacent properties?
☐ Yes ☐ No

25. Solid Waste:

A. Type of trash receptacles:
☐ Individual Can/Residential ☐ 3 Yd Dumpster ☐ 6 Yd Dumpster ☐ 8 Yd Dumpster ☐ Compactor

B. Number of trash receptacles: 38

C. Proposed screening method:
Receptacles will be stored in the garage.

D. Is the proposed location accessible for collection? (Contact Boise Public Works at 384-3901.)
☐ Yes ☐ No

E. Is recycling proposed?
☐ Yes ☐ No

Verification of Legal Lot or Parcel Status

Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant’s responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate.
The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongly issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: __________________________
Date: __________________________
Property Information

Address
Street Number: 11304
Prefix: W
Street Name: FAIRVIEW AVE
Unit #: 

Subdivision name: SEC 03 3N 1E
Block: 0
Lot: 0
Section: E3
Township: 3
Range: 1
Zoning: C-2D

Parcel Number: 51103438721
Additional Parcel Numbers: 

Primary Contact
Who is responsible for receiving e-mail, uploading files and communicating with Boise City?
○ Agent/Representative  ○ Applicant  ○ Owner

Applicant Information
First Name: Eric
Last Name: Maimberg
Company: 2010 North Redwood Road
Address: 2010 North Redwood Road
City: Salt Lake City
State: UT
Zip: 84116
E-mail: ericm@awaeng.com
Phone Number: (801) 410-8500
Cell: (801) 512-7112
Fax: (801) 521-9551

Agent/Representative Information
Role Type: ○ Architect  ○ Land Developer  ○ Engineer  ○ Contractor  ○ Other
First Name: Eric
Last Name: Maimberg
Company: 2010 North Redwood Road
Address: 2010 North Redwood Road
City: Salt Lake City
State: UT
Zip: 84116
E-mail: ericm@awaeng.com
Phone Number: (801) 410-8500
Cell: (801) 512-7112
Fax: (801) 521-9551

Owner Information
Same as Applicant? ○ No  ○ Yes  (If yes, leave this section blank)
First Name: Greg
Last Name: Flint
Company: Miller Family Real Estate LLC
Address: 9350 South 150 East Suite 1000
City: Sandy
State: UT
Zip: 84070
E-mail: greg.flint@ihm.com
Phone Number: (801) 563-4176
Cell: (970) 903-1302
Fax: (801) 521-9551

2. Proposed Subdivision/Condominium Name:

Boise Towns

**Note:** Must be approved by the Ada County Surveyor.

3. Cross Reference Files:

Please list all previously approved or currently associated file(s):
DRH17-00502; CZC17-00184

4. Subdivision/Condominium Features:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of buildable lots/units</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Buildable lots/units per acre</td>
<td></td>
<td>7.86</td>
</tr>
<tr>
<td>Number of common lots/units</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Zoning Classification</td>
<td></td>
<td>C-2D</td>
</tr>
<tr>
<td>Total acres in subdivision</td>
<td>5.091</td>
<td></td>
</tr>
</tbody>
</table>

5. Building Program:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of existing buildings</td>
<td>1</td>
</tr>
<tr>
<td>Number of existing buildings to remain</td>
<td>1</td>
</tr>
</tbody>
</table>

- **Type of Existing Buildings:** Residential, Commercial, Industrial, Mixed Use
- **Type of Proposed Buildings:** Residential, Commercial, Industrial, Mixed Use

6. Waivers or Modifications:

- Are any waivers/modifications being requested from the Subdivision Ordinance? **Yes**  **No**

  If yes, please include a detailed explanation in your letter.

  An additional waiver/modification review fee must be paid at the time of submittal.

7. Private Streets:

- Are private streets proposed? **Yes**  **No**

  If yes, please provide justification in the letter of explanation.

  An additional private street review fee must be paid at the time of submittal.
8. Public Streets:
   Number of new public streets proposed:

9. Floodways & Hillsides:
   Is any portion of this property located in a Floodway or a 100-year Floodplain?  
   Yes  No

   Does any portion of this parcel have slopes in excess of 15%?  
   Yes  No

   Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

11. Airport Influence Area:
   Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)
   No  Area A  Area B  Area B1  Area C

The undersigned declares that the above provided information is true and accurate.
The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: ________________________________

Date: ________________________________
Planning Division Project Report

File Number: PUD19-00035 & SUB19-00064
Applicant: Eric Malmberg, P.E. / 2010 North Redwood Road
Property Address: 11304 W Fairview Ave.

Public Hearing Date: January 6, 2020
Heard by: Planning and Zoning Commission

Analyst: Karla Nelson, Associate Planner
Reviewed By: Céline Acord, Current Planning Manager

Public Notification
Neighborhood meeting conducted on: October 8, 2019
Radius notices mailed to properties within 300 feet on: November 15, 2019
Newspaper notification published on: November 16, 2019
Staff posted notice on site on: November 15, 2019

Table of Contents
1. Project Data and Facts .......................................................... 2
2. Land Use ........................................................................... 2
3. Project Proposal ................................................................. 3
4. Development Code ............................................................. 4
5. Comprehensive Plan ......................................................... 4
6. Transportation Data ......................................................... 4
7. Analysis ............................................................................ 5
8. Approval Criteria ............................................................. 9
9. Recommended Conditions of Approval .............................. 11

Exhibits
Agency Comments
Public Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Architect/Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood /Contact</strong></td>
</tr>
</tbody>
</table>

**Procedure**
The Planning and Zoning Commission renders a final decision on the conditional use permit and makes a recommendation to the City Council on the subdivision.

**Current Land Use**
The northeast corner of the property is used as overflow parking for the car dealership to the east. The remainder of the lot is vacant.

**Description of Applicant’s Request**
The applicant requests a conditional use permit for a mixed use planned development comprised of 38 attached townhomes and 1 future commercial development. Also included is a Preliminary Plat for a mixed-use subdivision comprised of 1 common and 40 buildable lots.

2. Land Use

**Description and Character of Surrounding Area**
The property is located on the north side of Fairview Avenue, a five-lane arterial roadway, between Wildwood and Shamrock Street. Fairview Avenue is lined with commercial uses, including the commercially-zoned properties and uses directly to the west, east and south of the subject property. A mix of residential uses are also found nearby. Townhome developments, similar to the proposal, have been approved just north of the site as well as on the south side of Fairview Avenue.

**Adjacent Land Uses and Zoning**

| North | Approved 67-unit townhome development / C-2D |
| South | Fairview Avenue then a bank with a drive-through, vacant land and a 54-unit townhome development / C-2D/DA |
| East  | Steelwood Avenue then a car dealership / C-2D |
| West  | Shamrock Avenue then equipment rental store and single-family dwellings / C-2D and R-1C |
3. Project Proposal

Structure(s) Design

<table>
<thead>
<tr>
<th>Number and Proposed Use of Buildings</th>
<th>7 structures with 38 attached townhomes and a future commercial development.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Stories / Maximum Building Height</td>
<td>2 and 3 story Townhomes / Approx. 30’ in height</td>
</tr>
<tr>
<td>Fencing</td>
<td>A 6-foot tall vinyl fence will be located along the west and south side of the parking area on the northeast section of the property. A 6-foot tall decorative metal fence will screen the four parking spaces on the northwest side of the property from Shamrock Avenue and King Street.</td>
</tr>
<tr>
<td>Required Amenities</td>
<td>Playground facility, outdoor pavilion and drought tolerant landscaping will be provided.</td>
</tr>
</tbody>
</table>

Townhome Setbacks (Perimeter)

<table>
<thead>
<tr>
<th>Yard</th>
<th>Building</th>
<th>Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Required</td>
<td>Proposed</td>
</tr>
<tr>
<td>Front (Service Drive)</td>
<td>10’</td>
<td>25’</td>
</tr>
<tr>
<td>Street Side (Shamrock Ave)</td>
<td>10’</td>
<td>10’</td>
</tr>
<tr>
<td>Street Side (King St)</td>
<td>10’</td>
<td>83’</td>
</tr>
<tr>
<td>Street Side (Steelwood Ave)</td>
<td>10’</td>
<td>11’</td>
</tr>
<tr>
<td>Rear (Abutting Parking Lot)</td>
<td>15’</td>
<td>15’</td>
</tr>
</tbody>
</table>

*As a part of the Planned Unit Development reduced interior parking setbacks are proposed for the service drive. Interior side yard setbacks of 0’ are proposed for the townhomes. The overflow parking lot expansion meets all required setbacks of the zone.

Parking

Two off-street parking spaces will be provided for each townhome within enclosed garages accessed from private service drives. In addition, 18 guest parking spaces will be provided along the service drive closest to Shamrock Avenue. Boise City Code requires 2 parking spaces per townhome.
4. Development Code *(Boise City Code Title 11)*

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.4</td>
<td>Subdivision Plat Specific Procedures</td>
</tr>
<tr>
<td>11-03-04.7</td>
<td>Planned Unit Development Specific Procedures</td>
</tr>
<tr>
<td>11-04-05</td>
<td>General Purpose of Commercial Districts</td>
</tr>
<tr>
<td>11-07-03</td>
<td>Off-Street Parking &amp; Loading Standards</td>
</tr>
<tr>
<td>11-07-06.5</td>
<td>Planned Unit Development Standards</td>
</tr>
<tr>
<td>11-09-03</td>
<td>Subdivision Design Standards</td>
</tr>
</tbody>
</table>

5. Comprehensive Plan *(Blueprint Boise)*

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2: City Wide Visions and Policies</td>
<td>NAC3.1: Infill Scale &amp; Character</td>
</tr>
<tr>
<td></td>
<td>NAC3.2: Areas of Change and Stability</td>
</tr>
<tr>
<td></td>
<td>NAC7: Facilitate a Mix of Housing Types</td>
</tr>
<tr>
<td></td>
<td>CC1.1: Reduce Vehicle Miles Traveled</td>
</tr>
<tr>
<td>Chapter 3: Community Structure and Design</td>
<td>GDP-C/E.2: Building Orientation</td>
</tr>
<tr>
<td>Chapter 4: West Bench Planning Area Policies</td>
<td>WB-CCN1.2: Fairview Corridor</td>
</tr>
</tbody>
</table>

6. Transportation Data

This development is estimated to generate 207 additional vehicle trips per day and 17 additional vehicle trips per hour in the PM peak hour, based on the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition*. The average daily traffic count for Fairview Avenue east of Cloverdale Road was 33,316 on June 12, 2018. The average daily traffic count for Shamrock Avenue north of Fairview Avenue was 2,094 on April 26, 2017 and 2,125 on July 18, 2019 for Steelwood Avenue north of Fairview Avenue.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Traffic Count</th>
<th>Level of Service*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview Avenue</td>
<td>420’</td>
<td>Principal Arterial</td>
<td>1,654</td>
<td>Better than “E”</td>
</tr>
<tr>
<td>Shamrock Avenue</td>
<td>530’</td>
<td>Collector</td>
<td>116</td>
<td>Better than “D”</td>
</tr>
<tr>
<td>Steelwood Avenue</td>
<td>530’</td>
<td>Local</td>
<td>119</td>
<td>N/A</td>
</tr>
<tr>
<td>King Street</td>
<td>420’</td>
<td>Local</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Acceptable level of service for a five-lane principal arterial is “E” (1,780 VPH).

*Acceptable level of service for a two-lane collector is “D” (425 VPH).

The Ada County Highway District has approved the project with conditions. The applicant will be required to reconstruct any pedestrian ramps that do not meet current ADA standards. ACHD also noted that the driveway access on Steelwood Avenue is within the...
Steelwood Avenue/Fairview Avenue influence area and may be restricted to right-in/right-out in the future, as conditions warrant.

7. Analysis
The applicant requests a conditional use permit for a mixed use planned development comprised of 38 attached townhomes and 1 future commercial retail building on 5.1 acres located at 11304 W Fairview Ave in a C-2D (General Commercial with Design Review) zone. Also included is a Preliminary Plat for a mixed-use subdivision comprised of 1 common and 40 buildable lots. The site is bordered by a car dealership, equipment rental store, bank, future commercial developments, approved townhome projects and some single-family homes.

**Planned Unit Development**
The applicant proposes to construct 38 two and three-story townhomes each with three bedrooms. The development will include seven structures, five of which will include six units, the remaining two will have five and three units, respectively. Site access will be provided by way of service drives with two access points on Shamrock Avenue, one of which offers a 26-foot wide straight connection to Steelwood Avenue. Between the townhomes, the service drives narrow to between 23 and 25 feet. The portion of the service drive behind the townhomes facing Shamrock avenue is proposed to include 18 guest parking spaces, 4 of which will be located close to King Street adjacent to the proposed playground. Two parking spaces will be provided for each townhome within enclosed garages. Curb, gutter, and five-foot attached sidewalk exist along Steelwood Avenue, King Street and Shamrock Avenue. Five-foot detached sidewalk is proposed along the north side of the service drive shared...
with the proposed future retail development, in addition sidewalks are proposed in front of each of the townhomes which connect the development to surrounding streets.

The site is large enough to accommodate the use as 38 residential units are proposed and up to 102 are allowed within the existing C-2D zone. The site design has a floor area ratio of 0.84 while a ratio of 1.5 is allowed. The site plan complies with all exterior setback requirements of the zone. In order to accommodate the proposed townhomes, reduced lot sizes, street frontages and interior setbacks are proposed as part of the planned unit development.

The proposed use of townhomes and future commercial is compatible with the surrounding area as townhomes abut the site to the north and the proposal mirrors a similar development on the south side of Fairview Avenue which includes townhomes behind a retail pad. However, certain aspects of the proposed design are challenging and could result in a less than desirable living environment for future residents as the site is shared with automobile-oriented uses in the form of a car dealership and future automobile-oriented retail along Fairview. The initial site plan only included five-feet of landscaping to buffer the townhomes from the shared service drive and future retail development on Fairview Avenue. While revised plans increase the setback to 15-feet the Planning Team recommends that a minimum of 20-feet be provided to allow for detached sidewalks and adequate space for trees. Furthermore, the subdivision includes a 7,920 square foot expansion of the existing car dealership overflow parking lot. The planning team would prefer that this space be utilized to create more amenities for future residents, however since the lot is proposed to be expanded, additional landscaping is recommended. The parking lot is screened with a 6-foot vinyl fence and 12 to 20-feet of landscaping is proposed between the fence and townhomes. The Planning Team recommends that the landscape separation be increased to 20-feet to accommodate a detached sidewalk and adequate space to support trees.

The development is over one acre; thus, per Boise City Code, two amenities are required. One will be provided with a small playground, pavilion and landscaped area covering the northwest corner of the property. The applicant also proposes to utilize drought tolerant landscaping throughout the site. Redwood Park is just over ½ mile to the north.
and can be accessed from the Shamrock Bikeway. The landscape plan includes 5 to 15-feet of landscaping in front the townhomes on Shamrock and Steelwood Avenues. The northern 80-feet of the site is encumbered by an irrigation easement which restricts trees; instead, smaller shrubs and grasses will be utilized in this space.

**Connectivity**

The applicant has proposed a 26-foot wide service drive be placed between the future retail pad and the proposed townhome development. This service drive would connect Shamrock Avenue to Steelwood Avenue. A letter has been received from a neighbor in the Shamrock West Subdivision expressing concern about the proposed access onto Steelwood Avenue as it could cause traffic to back-up on Fairview Avenue. To address this concern, ACHD noted that the driveway may be restricted to right-in/right-out only in the future if conditions warrant. An additional access is proposed between the two townhome structures facing Shamrock Avenue. The interior of the development is also served with 23 to 25-foot service drives providing access to the garage side of the townhomes. There are no opportunities to connect the proposed street to any other roadways. Established residential properties abut the site to the west and a car dealership encompasses the parcel to the east.

Existing 5-foot attached sidewalk abut the site along Shamrock Avenue, King Street and Steelwood Avenue. A detached 5-foot sidewalk exists along Fairview Avenue without curb or gutter. While detached sidewalks are preferred the Planning Team finds the existing sidewalks to be in good condition and is not recommending that they be removed and replaced. Internal 4 to 5-foot paths are proposed to connect the entrances of the townhomes to the sidewalk on surrounding streets. A recommended condition of approval will require 5-foot sidewalks and pathways throughout the site, which is accessible by various modes of transportation as the Shamrock Bikeway is adjacent to the site and the Route 8 – Five Mile bus route is less than a ½ mile to the east.

**Tree Mitigation**

The applicant proposes to remove all existing trees on the site. The included landscape plan details that 104 caliper inches of healthy desirable trees will be removed, and an equal amount will be replaced as required by Boise City Code.

**Recommended Conditions of Approval**

Given the complexity of some of the conditions of approval recommended by the Planning Team, a visual depiction of specific site design and layout changes have been provided below.
The Planning Team recommends:

1) Detached sidewalks and landscaping be provided on the north side of the shared service drive. The area shall be 20' deep with 8' of landscaping between the curb and sidewalk that includes class II trees, a 5' sidewalk and 7' of landscaping between the townhomes and the sidewalk.

2) A minimum of 20' of separation between the overflow car dealership parking lot parcel boundary and the proposed townhomes. The separation should include a 10' strip of Type C landscaping adjacent to the fence followed by a 5' sidewalk and another 5' strip of landscaping. Trees will not be required within the 80' irrigation easement.

3) Enhance modulation on the Shamrock Avenue facing facades, buildings G and E, to include varying heights similar to that provided in Building A.

As indicated below, the Planning Team finds that with the recommended conditions the application is consistent with the standards of approval.
8. Approval Criteria

Planned Unit Development (11-03-04.07(C7))

i. The location is compatible to other uses in the general neighborhood;

The project is compatible with uses in the surrounding neighborhood. The site is bordered by a car dealership, equipment rental store, bank, future commercial developments, approved townhome projects and some single-family homes. Townhomes abut the site to the north and the proposal mirrors a similar development on the south side of Fairview Avenue which includes townhomes behind a retail pad. The site is located on the Shamrock Bikeway and is less than a ½ mile from a bus route. The surrounding approved townhome developments have similar density as the proposed development, however, greater separation is provided in these nearby developments from any adjacent automobile oriented commercial uses. A recommended condition of approval will require that the landscape separation between the townhomes and southern service drive be increased to 20-feet and shall include 8-feet of landscaping between the curb and sidewalk, a 5-foot detached sidewalk followed by another 7-feet of landscaping between the sidewalk and townhomes. As the property is located within a Design Review Overlay District, the proposed building and site designs will be reviewed in more detail through a separate Design Review application. Through this process greater modulation of the building elevations will be required. The townhome development will be buffered from the expanded car dealership overflow lot with a 6-foot fence. A recommended condition of approval will require 20-feet of landscape separation between the fence and the townhomes.

ii. The proposed use will not place an undue burden on transportation and other public facilities in the vicinity;

Correspondence received from commenting agencies confirm the proposed use will not place an undue burden on the transportation system or other services in the vicinity. The Ada County Highway District included standard conditions of approval and a requirement that all pedestrian ramps comply with current ADA standards. ACHD also noted that the Steelwood Avenue access is within the Steelwood/Fairview Avenue signal influence area and the service drive may be restricted to right-in/right-out in the future. Fairview Avenue is a Principal Arterial roadway with more than 30,000 vehicle trips per day and can easily accommodate the proposed development. Impacts on the road network will be further mitigated by the availability of public transit service less than ½ mile to the east and the projects location along a bikeway. Residents in the buildings with shared access drives closest to Steelwood Avenue will be required to utilize a carry out service for solid waste collection. As indicated in attached comments, no public agency has voiced opposition to this request. The standard conditions of each have been included as conditions of approval.
iii. The site is large enough to accommodate the proposed use and all yards, open spaces, pathways, walls, fences, parking, loading, landscaping, and such other features as are required by this Code:

The site is large enough to accommodate the use as 38 residential units are proposed and up to 102 are allowed within the existing C-2D zone. The site design also complies with the 1.5 floor area ratio requirement of the zone as the 86,903 square feet of floor area proposed on the 102,707 square feet (2.358 acres) of the property devoted to townhomes will result in a ratio of only 0.84. Adequate parking will be provided as each townhome will provide two off-street parking spaces within enclosed garages and 18 additional guest parking spaces will be provided along the western service drive. The proposed development complies with or exceeds all exterior setback requirements of the C-2D zone. Two amenities are provided as required by Boise City Code in the form of a playground and pavilion area and drought tolerant landscaping. Existing five-foot wide attached sidewalks, curb and gutter surround the site along Shamrock Avenue, King Street and Steelwood Avenue. A five-foot wide detached sidewalk is proposed along the northern side of the shared service drive and additional four and five-foot paths connect the townhomes to surrounding sidewalks. A recommended condition of approval will require that all sidewalks and pathways be a minimum of five-feet in width. Six-foot tall closed vision fencing will screen the car dealership overflow parking lot from the development. A recommended condition of approval will require a 20-foot separation with a pathway and landscaping between the car dealership parking lot boundary and townhome structures. A recommended condition of approval will also require an increased landscape separation of 20-feet between the townhomes and the southern shared service drive.

iv. The proposed use, if it complies with all conditions imposed, will not adversely affect other property of the vicinity:

The proposed development will not adversely affect other property in the vicinity as the project complies with the density, height and parking requirements of Boise City Code. The proposal is similar to surrounding developments which include an approved townhome development to the north and the proposal mirrors a similar development on the south side of Fairview Avenue which includes townhomes behind a retail pad. Single-family homes are directly across from the development on the west side of Shamrock Avenue. Townhome structures are proposed to face Shamrock and Steelwood Avenue and help to screen the provided guest parking and townhome garages. The building facades include extensive glazing and modulation which will be enhanced through the Design Review process. Trees will be planted along Shamrock Avenue and Steelwood Avenue where they abut the site outside of the 80-foot irrigation easement and a 6-foot solid fence and landscaping will screen the new open overflow car dealership parking lot. Traffic impacts on the adjacent residential neighborhoods should be minimal as the development is only 180’ from Fairview Avenue a Principal Arterial Roadway and the traffic signal on Steelwood Avenue will help to direct traffic and should encourage cars to travel directly to Fairview Avenue without traveling through the neighborhood to the north.
v. **The proposed use is in compliance with the Comprehensive Plan.**

The proposed project complies with many of the goals and policies of the Comprehensive Plan. Principle NAC3.1 encourages infill development that complements the surrounding development and similar townhome developments are found directly to the north as well as on the south side of Fairview Avenue. Infill is particularly encouraged by Principle NAC3.2 in areas that are identified as areas of change such as the Fairview corridor. Similarly, Goal CC1.1 encourages infill development in order to avoid costly extensions of transportation facilities and to minimize travel distances, and the proposed development will be located within a developed area of the City already served by existing roadways. The proposed building designs will comply with Principle GDP-C/E.2, which encourages buildings to frame the street as is done on the west and east side of the proposed development. The proposed development will also comply with Goal WB-CCN1.2 of the Comprehensive Plan which encourages higher density and mixed-use development along the length of the Fairview Corridor. The subject property will provide a good location for a townhome development as it is located on Fairview Avenue and will be within close proximity to many office and commercial uses located along the Fairview Avenue Corridor.

9. **Recommended Conditions of Approval**

**Site Specific**

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received **October 30, 2019** and revised **December 19, 2019**, except as expressly modified the following conditions:

2. Provide detached sidewalks along the north side of the service drive shared with the future retail development with 8' of landscaping between the curb and sidewalk that includes class II trees, a 5' sidewalk and another 7' of landscaping between the townhomes and the sidewalk.

3. Provide a minimum of 20' of separation between the overflow car dealership parking lot parcel boundary and the proposed townhomes. The separation should include a 10' strip of landscaping with Type C Landscaping adjacent to the fence followed by a 5' sidewalk and another 5' strip of landscaping. Trees will not be required within the 80' irrigation easement.

4. Enhance modulation on the Shamrock Avenue facing facades, buildings G and E, to include varying heights similar to that provided in Building A.

5. All pathways and sidewalks within the development shall be have a minimum width of 5'.

6. Future residents of buildings A, B, C and D will be required to utilize a carry out or premium carry out service for solid waste collection. The owners or tenants of these units will need to be informed of this requirement prior to purchasing the unit.

7. A cross access agreement shall be provided for the shared service drive between the townhomes and the future retail development and the shared service drive behind buildings G and E which allows for east/west and north/south travel.

8. The future commercial development will need to obtain all necessary permits and entitlements, this approval does not approve any preliminary site designs.

**Agency Requirements**

9. The applicant shall comply with the requirements of the following agencies as identified in their submitted memos:
   
   a. Ada County Highway District *(December 5, 2019)*;
   b. Nampa & Meridian Irrigation District *(November 19, 2019)*; and
   c. Central District Health Department *(November 12, 2019)*.

10. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW). The following is a list of department comments by division:

   a. Drainage *(November 21, 2019)*;
   b. Sewer *(November 4, 2019)*;
   c. Solid Waste *(November 4, 2019)*; and
   d. Street Lights *(November 1, 2019)*.

Please contact BCPW at 208-608-7150. All items required by BCPW shall be included on the plans/specifications that are submitted for a Building Permit. Please note that any changes or modifications by the owner to the approved plans must be submitted to the Public Works Department for approval.

11. The applicant shall comply with all requirements of the Boise Fire Department comments received December 6, 2019. Any deviation from this plan is subject to Fire Department approval. For additional information, contact Ron Johnson at 208-570-6500.

12. The applicant shall comply with all requirements of the Boise City Building Department comments received November 4, 2019.

**Subdivision:**

13. The following notes shall be placed on the face of the Final Plat stating:
a. The development of this property shall be in compliance with the Boise Development Code or as specifically approved by PUD19-00035 and SUB19-00064.

b. Minimum building setbacks shall be in accordance with the City of Boise applicable zoning and subdivision regulations, unless otherwise approved by PUD19-00035, at the time of issuance of individual building permits.

c. This development is subject to the Covenants, Conditions, and Restrictions (CC&R’s) that pertain to this development, to be filed and recorded in the Ada County Recorder’s Office.

d. For streets having a width less than 33 feet back of curb to back of curb parking shall be restricted on one side. A note on the face of the final plat is required noting the parking restriction prior to signing of the final plat by the Boise City Engineer.

14. The Mylar shall include the following endorsements or certifications (I.C. Title 50, Chapter 13). These must be executed prior to submitting the Final Plat for recording with the Ada County Recorder’s Office.

   a. Signatures of owners or dedicators,
   b. Certificate of the Surveyor,
   c. Certificate of the Central District Health Department,
   d. Acceptance of the Commissioners of the Ada County Highway District,
   e. Certificate of the Boise City Engineer,
   f. Certificate of the Boise City Clerk,
   g. Certificate of the Ada County Surveyor, and
   h. Signature of the Ada County Treasurer.

15. The name, Forester Subdivision, is reserved and shall not be changed unless there is a change in ownership, at which time, the new owner(s) shall submit their new name to the Ada County Engineer for review and reservation. Should a change in name occur the applicant shall submit, in writing from the Ada County Engineer, the new name to the Planning and Development Services Department and re-approval by the Council of the “Revised” Final Plat shall be required. The developer and/or owner shall submit all items including fees, as required by the Planning and Development Services Department, prior to scheduling the “Revised” Final Plat for public hearing.

16. Correct street names as approved by the Ada County Street Name Committee shall be placed on the plat (B.C.C. 11-09-03.4E).

17. A letter of acceptance for water service from the utility providing same is required (B.C.C. 11-09-04.3).
18. Developer shall provide utility easements as required by the public utility providing service (B.C.C. 11-09-03.6).

19. Developer shall provide a letter from the United States Postal Service stating, "The Developer and/or Owner has received approval for location of mailboxes by the United States Postal Service."

   Contact: Dan Frasier, Postmaster
   770 S. 13th St.
   Boise, ID 83708-0001
   Phone No. (208) 433-4301
   Fax No. (208) 433-4400

20. A letter from the appropriate school district is required stating, "The Developer has made arrangements to comply with all requirements of the School District."

21. The developer shall make arrangements to comply with all requirements of the Boise City Fire Department and verify in one of the following ways:
   a. A letter from the Boise City Fire Department stating that all conditions for water, access, and/or other requirements have been satisfied, OR
   b. A non-build agreement has been executed and recorded with a note on the face of the Final Plat identifying the instrument number.

   NOTE: "No Parking" signs shall be installed in accordance with the requirements of the International Fire Code (BCC 7-0-32, IFC 503.8). Contact the Boise City Fire Department for sign placement and spacing. Developer may either construct prior to final platting or post bond in the amount of 110% of the estimated costs with the Boise City Planning and Development Services Department.

22. Covenants, homeowners' association by-laws or other similar deed restrictions, which provide for the use, control and maintenance of all common areas, storage facilities, recreational facilities or open spaces, shall be reviewed and approved by the Boise City Attorney. After recordation of the Final Plat and CC&R's, no building permit shall be accepted until a copy of the recorded CC&R's has been submitted to the Boise City Attorney.

23. Prior to the City Engineer's Certification of the Final Plat and prior to earth disturbing activities, an erosion and sediment control (ESC) permit must be obtained. An ESC plan conforming to the requirements of the Boise City Code, is to be submitted to the Erosion Control Program Manager for review and approval. No grading or earth disturbing activities may start until an approved ESC permit has been issued.
24. Prior to submitting the Mylar of the Final Plat to Boise City, all the conditions of approval must be satisfied. Approvals must be provided on agency letterhead.

25. Prior to submitting the Mylar of the Final Plat to Boise City, the following endorsements or certifications and must be executed:

   a. Signatures of owners or dedicators,
   b. Certificate of the Surveyor,
   c. Certificate of the Central District Health Department,
   d. Acceptance of the Commissioners of the Ada County Highway District.

26. Developer shall comply with B.C.C. 11-03-04.4 which specifies the limitation on time for filing and obtaining certification. Certification by the Boise City Engineer shall be made within two years from date of approval of the Final Plat by the Boise City Council.

   a. The developer may submit a request for a time extension, including the appropriate fee, to the Boise City Planning and Development Services Department for processing. Boise City Council may grant time extensions for a period not to exceed one year provided the request is filed, in writing, at least 20 working days prior to the expiration of the first two-year period, or expiration date established thereafter.

   b. If a time extension is granted, the Boise City Council reserves the right to modify and/or add condition(s) to the original Preliminary or Final Plat to conform with adopted policies and/or ordinance changes.

   c. The Final Plat shall be recorded with the Ada County Recorder within one year from the date of the Boise City Engineer’s signature. If the Final Plat is not recorded within the one-year time frame it shall be deemed null and void.

27. No Building Permit for the construction of any new structure shall be accepted until the Final Plat has been recorded pursuant to the requirements of B.C.C. 11-09-04.1. If a Non-Building Agreement is approved by Boise City Fire Department, no building permits shall be submitted until a “Satisfaction of Non-Building Agreement” is recorded.

28. An individual who has attended the Boise City Responsible Person (RP) Certification class, or has obtained Interim Certification for RP shall be identified for this project. A permit will not be issued until such time as the name and certification number of the RP has been provided to Boise City. Contact Erosion Control at 208-608-7100 for more information.
Standard Conditions of Approval

29. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

30. Building Permit approval is contingent upon the determination that the site is in conformance with the Boise City Subdivision Ordinance. Contact the Planning and Development Services Planning Department at 208-608-7100 regarding questions pertaining to this condition.

31. Vision Triangles, as defined under B.C.C. 11-012-03, shall remain clear of sight obstructions.

32. All landscaping areas shall be provided with an underground irrigation system. Landscaping shall be maintained according to current accepted industry standards to promote good plant health, and any dead or diseased plants shall be replaced. All landscape areas with shrubs shall have approved mulch, such as bark or soil aid.

33. Swales/retention/detention areas shall not be located along the streets, unless it can be shown that landscaped berms/shrubs will screen the swales.

34. In compliance with the Boise City Code, anyone planting, pruning, removing or trenching/excavating near any tree(s) on ACHD or State right-of-ways must obtain a permit from Boise City Community Forestry at least one (1) week in advance of such work by calling 208-608-7700. Species shall be selected from the Boise City Tree Selection Guide.

35. Deciduous trees shall be not less than 2" to 2 1/2" inch caliper size at the time of planting, evergreen trees 5' to 6' in height, and shrubs 1 to 5 gallons, as approved by staff. All plants are to conform to the American Association of Nurseryman Standards in terms of size and quality.

36. Utility services shall be installed underground.

37. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

38. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or his authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.
39. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

40. All amenities, landscaping, fencing, sidewalks and underground irrigation shall be installed or bonded for prior to the issuance of a building permit. For bonding, the applicant is required to provide a minimum of two bids for the amenities, landscaping materials and the installation. The bond shall be for 110% of the highest bid. For additional information, please call (208) 608-7100.

41. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.

42. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

43. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must acquire construction permits and commence placement of permanent footings and structures on or in the ground.

44. Prior to the expiration of this permit, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.

45. To reduce the noise impact of construction on nearby residential properties, all exterior construction activities shall be limited to the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. for Saturday and Sunday. Low noise impact activities such as surveying, layout and weather protection may be performed at any time. After each floor of the structure or building is enclosed with exterior walls and windows, interior construction of the enclosed floors can be performed at any time.
1. **Description of Application:** The applicant is requesting preliminary plat and design review approval for a mixed-use development consisting of 38 residential units and 2 commercial lots (to be built with a future phase). The proposed use is consistent with the City of Boise’s comprehensive plan designation of Commercial.

2. **Description of Adjacent Surrounding Area:**

<table>
<thead>
<tr>
<th>Direction</th>
<th>Land Use</th>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>General Commercial (Ambleside Subdivision)</td>
<td>C-2D</td>
</tr>
<tr>
<td>South</td>
<td>General Commercial (Wild Shamrock Subdivision)</td>
<td>C-2D/DA</td>
</tr>
<tr>
<td>East</td>
<td>General Commercial (LMH Subaru)</td>
<td>C-2D</td>
</tr>
<tr>
<td>West</td>
<td>General Commercial &amp; Single Family Residential</td>
<td>C-2D &amp; R-1C</td>
</tr>
</tbody>
</table>

3. **Site History:** ACHD staff reviewed this site as DRH17-00502 for a parking lot expansion in October of 2017. The requirements of this staff report differ from the prior action to reflect the current site plan.

4. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

   - Wild Shamrock Center, an 8-lot commercial subdivision located immediately south of this site, was approved by ACHD in December 2016 and is in various stages of development.

5. **Transit:** Transit services are not available to serve this site.
6. **New Center Lane Miles:** The proposed development includes 0 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP) / Integrated Five Year Work Plan (IFYWP):**
   - Bridge #1424 on Shamrock Avenue south of King Street is scheduled in the IFYWP to be replaced in 2021.
   - Fairview Avenue is listed in the CIP to be widened to 7-lanes from Cloverdale Road to Five Mile Road between 2031 and 2035.
   - The intersection of Fairview Avenue and Cloverdale Road is listed in the CIP to be widened to 7-lanes on the north leg, 6-lanes on the south, 8-lanes east, and 8-lanes on the west leg, and signalized between 2021 and 2025.

**B. Traffic Findings for Consideration**

1. **Trip Generation:** This development is estimated to generate 207 additional vehicle trips per day; 17 additional vehicle trips per hour in the PM peak hour, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

2. **Condition of Area Roadways**
   Traffic Count is based on Vehicles per hour (VPH)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Hour Traffic Count</th>
<th>PM Peak Hour Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview Ave.</td>
<td>420-feet</td>
<td>Principal Arterial</td>
<td>1,654</td>
<td>Better than “E”</td>
</tr>
<tr>
<td>Shamrock Ave.</td>
<td>530-feet</td>
<td>Collector</td>
<td>116</td>
<td>Better than “D”</td>
</tr>
<tr>
<td>Steelwood Ave.</td>
<td>530-feet</td>
<td>Local</td>
<td>119</td>
<td>N/A</td>
</tr>
<tr>
<td>King Street</td>
<td>420-feet</td>
<td>Local</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Acceptable level of service for a five-lane principal arterial is “E” (1,780 VPH).
* Acceptable level of service for a seven-lane principal arterial is “E” (2,720 VPH).
* Acceptable level of service for a two-lane collector is “D” (425 VPH).

3. **Average Daily Traffic Count (VDT)**
   Average daily traffic counts are based on ACHD’s most current traffic counts.
   - The average daily traffic count for Fairview Avenue east of Cloverdale Road was 33,316 on June 12, 2018.
   - The average daily traffic count for Shamrock Avenue north of Fairview Avenue was 2,094 on April 26, 2017.
   - The average daily traffic count for Steelwood Avenue north of Fairview Avenue was 2,125 on July 18, 2019.

**C. Findings for Consideration**
1. **Fairview Avenue**
   a. **Existing Conditions:** Fairview Avenue is improved with 5-travel lanes, 5-foot wide concrete sidewalk and no curb and gutter abutting the site. There is 120-feet of right-of-way for Fairview Avenue (61-feet from centerline).

   b. **Policy:**
      - **Arterial Roadway Policy:** District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.
      - **Master Street Map and Typology Policy:** District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.
      - **Street Section and Right-of-Way Width Policy:** District Policies 7205.2.1 & 7205.5.2 state that the standard 7-lane street section shall be 96-feet (back-of-curb to back-of-curb) within 120-feet of right-of-way. This width typically accommodates three travel lanes in each direction, a continuous raised or landscaped median with intermittent turn lanes, and safety shoulders.
      - **Minor Improvements Policy:** District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.
      - **ACHD Master Street Map:** ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Fairview Avenue is designated in the MSM as a Mobility Corridor with 7-lanes and on-street bike lanes, a 98-foot street section within 124-feet of right-of-way.

   c. **Applicant Proposal:** The applicant is not proposing any improvements to Fairview Avenue abutting the site.

   d. **Staff Comments/Recommendations:** Fairview Avenue is improved with 5 travel lanes and sidewalk abutting the site; therefore, no additional street improvements or right-of-way dedication are required as part of this application.

      Consistent with ACHD’s Minor Improvement Policy, the applicant should be required to repair or replace any damaged or deficient improvements along Fairview Avenue abutting the site.

2. **Shamrock Avenue**
   a. **Existing Conditions:** Shamrock Avenue is improved with 2 travel lanes (½ of a 36-foot street section), vertical curb, gutter, and 5-foot wide attached concrete sidewalk abutting the site. There is 51-feet of right-of-way for Shamrock Avenue (25-feet from centerline).

   b. **Policy:**
      - **Collector Street Policy:** District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.
      - **Master Street Map and Typologies Policy:** District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.
Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District’s planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. This segment of Shamrock Avenue is designated in the MSM as a Residential Collector with 2-lanes and on-street bike lanes, a 33-foot street section within 55-feet of right-of-way.

c. Applicant Proposal: The applicant is not proposing any improvements to Shamrock Avenue abutting the site.

d. Staff Comments/Recommendations: Shamrock Avenue is fully improved with 2 travel lanes, curb, gutter, and sidewalk abutting the site; therefore, no additional street improvements or right-of-way dedication are required as part of this application.

Consistent with ACHD’s Minor Improvement Policy, the applicant should be required to repair or replace any damaged or deficient improvements along Shamrock Avenue abutting the site.

Additionally, the applicant should be required to provide verification the existing pedestrian ramps on Shamrock Avenue at King Street and Fairview Avenue are ADA compliant. If the pedestrian ramps do not meet current ADA standards, then they should be reconstructed.
3. Steelwood Avenue
   a. Existing Conditions: Steelwood Avenue is improved with 2 travel lanes (a 36-foot street section), vertical curb, gutter, and 5-foot wide attached concrete sidewalk abutting the site. There is 54-feet of right-of-way for Steelwood Avenue (27-feet from centerline).

   b. Policy:
      Commercial Roadway Policy: District Policy 7208.2.1 states that the developer is responsible for improving all commercial street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

      Street Section and Right-of-Way Policy: District Policy 7208.5 states that right-of-way widths for new commercial streets shall typically be 50 and 70-feet wide and that the standard street section will vary depending on the need for a center turn lane, bike lanes, volumes, percentage of truck traffic, and/or on-street parking.

      - A 36-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and on-street parking.

      Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

   c. Applicant’s Proposal: The applicant is not proposing any improvements to Steelwood Avenue abutting the site.

   d. Staff Comments/Recommendations: Steelwood Avenue is fully improved with 2 travel lanes, curb, gutter, and sidewalk abutting the site; therefore, no additional street improvements or right-of-way dedication are required as part of this application.

      Consistent with ACHD’s Minor Improvement Policy, the applicant should be required to repair or replace any damaged or deficient improvements along Shamrock Avenue abutting the site.

      The applicant should be required to provide verification the existing pedestrian ramps on Steelwood Avenue at King Street and Fairview Avenue are ADA compliant. If the pedestrian ramps do not meet current ADA standards, then they should be reconstructed.

4. King Street
   a. Existing Conditions: King Street is improved with 2 travel lanes (a 40-foot street section), vertical curb, gutter, and 5-foot wide attached concrete sidewalk abutting the site. There is 54-feet of right-of-way for King Street (28-feet from centerline).

   b. Policy:
      Commercial Roadway Policy: District Policy 7208.2.1 states that the developer is responsible for improving all commercial street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

      Street Section and Right-of-Way Policy: District Policy 7208.5 states that right-of-way widths for new commercial streets shall typically be 50 and 70-feet wide and that the standard street section will vary depending on the need for a center turn lane, bike lanes, volumes, percentage of truck traffic, and/or on-street parking.

      - A 36-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and on-street parking.
Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

c. Applicant’s Proposal: The applicant is not proposing any improvements to King Street abutting the site.

d. Staff Comments/Recommendations: King Street is fully improved with 2 travel lanes, curb, gutter, and sidewalk abutting the site; therefore, no additional street improvements or right-of-way dedication are required as part of this application.

Consistent with ACHD’s Minor Improvement Policy, the applicant should be required to repair or replace any damaged or deficient improvements along King Street abutting the site. This includes a portion of damaged sidewalk on King Street at the Steelwood Avenue intersection.

5. Driveways
5.1 Fairview Avenue

a. Existing Conditions: There are no driveways onto Fairview Avenue from the site.

b. Policy: Access Points Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

Access Policy: District policy 7205.4.7 states that direct access to principal arterials is typically prohibited. If a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. If it is necessary to take access to the higher classified street due to a lack of frontage, the minimum allowable spacing shall be based on Table 1b under District policy 7205.4.7, unless a waiver for the access point has been approved by the District Commission. Driveways, when approved on a principal arterial shall operate as a right-in/right-out only, and the District will require the construction of a raised median to restrict the left turning movements.

c. Applicant’s Proposal: The applicant is not proposing to construct any driveways onto Fairview Avenue abutting the site.

d. Staff Comments/Recommendations: The applicant’s proposal meets District policy and should be approved as proposed.

5.2 Shamrock Avenue

a. Existing Conditions: There is a 40-foot wide curb cut type driveway onto Shamrock Avenue located 413-feet north of Fairview Avenue.

b. Policy: Access Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

District Policy 7206.1 states that the primary function of a collector is to intercept traffic from the local street system and carry that traffic to the nearest arterial. A secondary function is to service
adjacent property. Access will be limited or controlled. Collectors may also be designated at bicycle and bus routes.

**Driveway Location Policy:** District policy 7206.4.4 requires driveways located on collector roadways near a STOP controlled intersection to be located outside of the area of influence; OR a minimum of 150-feet from the intersection, whichever is greater. Dimensions shall be measured from the centerline of the intersection to the centerline of the driveway.

**Successive Driveways:** District policy 7206.4.5 Table 1, requires driveways located on collector roadways with a speed limit of 25 MPH and daily traffic volumes greater than 100 VTD to align or offset a minimum of 245-feet from any existing or proposed driveway.

**Driveway Width Policy:** District policy 7206.4.6 restricts high-volume driveways (100 VTD or more) to a maximum width of 36-feet and low-volume driveways (less than 100 VTD) to a maximum width of 30-feet. Curb return type driveways with 30-foot radii will be required for high-volume driveways with 100 VTD or more. Curb return type driveways with 15-foot radii will be required for low-volume driveways with less than 100 VTD.

**Driveway Paving Policy:** Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7206.4.6, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway and install pavement tape in accordance with Table 2 under District Policy 7206.4.6.

**Minor Improvements Policy:** District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

c. **Applicant’s Proposal:** The applicant is proposing to construct a 31-foot wide curb return type driveway onto Shamrock Avenue located 228-feet north of Fairview Avenue.

The applicant is proposing to reconstruct the existing driveway on Shamrock Avenue located 413-feet north of Fairview Avenue as a 31-foot wide curb return type driveway.

d. **Staff Comments/Recommendations:** The applicant’s proposal does not meet District Successive Driveway policy as the proposed southern driveway offsets an existing driveway on the west side of Shamrock Avenue by 50-feet. However, staff recommends a modification of policy to allow the driveway to be located as proposed because the driveway on the west side of Shamrock Avenue is a low volume driveway and Shamrock Avenue is a low volume collector street with a low potential for additional development to the north. Additionally, the driveway on the west side of Shamrock Avenue is used for large equipment rentals (pickup and delivery site). Staff is concerned that if the driveways are aligned that the traveling public (including equipment rentals) would use the private drive aisle to access the signalized intersection at the Steelwood Avenue/Fairview Avenue intersection. The 80% modification of policy is approved at the discretion of the Development Services Manager.

The applicant’s proposal to reconstruct the existing driveway on Shamrock Avenue as a 31-foot wide curb return type driveway 413-feet north of Fairview Avenue meets District policy and should be approved as proposed.

5.3 **Steelwood Avenue**

a. **Existing Conditions:** There is a 36-foot wide curb return type driveway onto Steelwood Street located 176-feet south of King Street. This driveway provides access to an existing parking lot.

b. **Policy:**
Driveway Location Policy: District policy 7208.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector/arterial or arterial street intersection.

Successive Driveways: District Policy 7208.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

Driveway Width Policy: District policy 7208.4.3 restricts commercial driveways to a maximum width of 40-feet. Most commercial driveways will be constructed as curb-cut type facilities.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7208.4.3, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway.

c. Applicant’s Proposal: The applicant is proposing to construct a 31-foot wide curb return type driveway located 228-feet north of Fairview Avenue (measured centerline to centerline).

d. Staff Comments/Recommendations: The existing driveway located 176-feet south of King Street was approved by ACHD in 2017. This driveway meets District policy and can remain as is.

The applicant’s proposal to construct a new driveway onto Steelwood Avenue meet’s District policy and should be approved, as proposed. However, the driveway is located within the influence area of the Steelwood Avenue/Fairview Avenue intersection and may be restricted to right-in/right-out only in the future as conditions warrant as determined by ACHD.

6. Tree Planters
Tree Planter Policy: The District’s Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

7. Landscaping
Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

8. Other Access
Fairview Avenue is classified as a principal arterial roadway. Direct lot access is prohibited to this roadway and should be noted on the final plat.

D. Site Specific Conditions of Approval
1. Provide verification the existing pedestrian ramps on Shamrock Avenue and Steelwood Avenue at King Street and Fairview Avenue are ADA compliant. Reconstruct the pedestrian ramps that do not meet current ADA standards.

2. Consistent with ACHD’s Minor Improvement Policy, the applicant should be required to repair or replace any damaged or deficient improvements along Fairview Avenue, Shamrock Avenue, Steelwood Avenue and King Street abutting the site.
3. Construct a 31-foot wide curb return type driveway onto Shamrock Avenue located 228-feet north of Fairview Avenue, as proposed.

4. Construct a 31-foot wide curb return type driveway onto Shamrock Avenue located 413-feet north of Fairview Avenue, as proposed.

5. Construct a 31-foot wide curb return type driveway onto Steelwood Avenue located 228-feet north of Fairview Avenue, as proposed. This driveway may be restricted to right-in/right-out as conditions warrant as determined by ACHD.

6. Direct lot access to Fairview Avenue is prohibited and shall be noted on the final plat.

7. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. Payment of impact fees is due prior to issuance of a building permit.


E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant’s engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District’s Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District’s Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant’s authorized representative and an authorized...
representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law
1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.

2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

G. Attachments
1. Vicinity Map
2. Site Plan
3. Utility Coordinating Council
4. Development Process Checklist
5. Appeal Guidelines
Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) Notification: Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) Plan Review: The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) Revisions: The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) Final Notification: The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.
Development Process Checklist

Items Completed to Date:

☑ Submit a development application to a City or to Ada County
☑ The City or the County will transmit the development application to ACHD
☑ The ACHD Planning Review Section will receive the development application to review
☑ The Planning Review Section will do one of the following:
  ☑ Send a "No Review" letter to the applicant stating that there are no site specific conditions of approval at this time.
  ☑ Write a Staff Level report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.
  ☑ Write a Commission Level report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐ For ALL development applications, including those receiving a "No Review" letter:
  • The applicant should submit one set of engineered plans directly to ACHD for review by the Development Review Section for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
  • The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐ Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)
☐ Driveway or Property Approach(s)
  • Submit a “Driveway Approach Request” form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ Working in the ACHD Right-of-Way
  • Four business days prior to starting work have a bonded contractor submit a “Temporary Highway Use Permit Application” to ACHD Construction – Permits along with:
    a) Traffic Control Plan
    b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50’ or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)
☐ Sediment & Erosion Submittal
  • At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ Idaho Power Company
  • Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ Final Approval from Development Services is required prior to scheduling a Pre-Con.
Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

   a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

   b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

   c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

   d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

   e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.
1. **Request for Reconsideration of Commission Action:** A Commissioner, a member of ACHD staff or any other person objecting to any final action taken by the Commission may request reconsideration of that action, provided the request is not for a reconsideration of an action previously requested to be reconsidered, an action whose provisions have been partly and materially carried out, or an action that has created a contractual relationship with third parties.

   a. Only a Commission member who voted with the prevailing side can move for reconsideration, but the motion may be seconded by any Commissioner and is voted on by all Commissioners present.

      If a motion to reconsider is made and seconded it is subject to a motion to postpone to a certain time.

   b. The request must be in writing and delivered to the Secretary of the Highway District no later than 11:00 a.m. 2 days prior to the Commission’s next scheduled regular meeting following the meeting at which the action to be reconsidered was taken. Upon receipt of the request, the Secretary shall cause the same to be placed on the agenda for that next scheduled regular Commission meeting.

   c. The request for reconsideration must be supported by written documentation setting forth new facts and information not presented at the earlier meeting, or a changed situation that has developed since the taking of the earlier vote, or information establishing an error of fact or law in the earlier action. The request may also be supported by oral testimony at the meeting.

   d. If a motion to reconsider passes, the effect is the original matter is in the exact position it occupied the moment before it was voted on originally. It will normally be returned to ACHD staff for further review. The Commission may set the date of the meeting at which the matter is to be returned. The Commission shall only take action on the original matter at a meeting where the agenda notice so provides.

   e. At the meeting where the original matter is again on the agenda for Commission action, interested persons and ACHD staff may present such written and oral testimony as the President of the Commission determines to be appropriate, and the Commission may take any action the majority of the Commission deems advisable.

   f. If a motion to reconsider passes, the applicant may be charged a reasonable fee, to cover administrative costs, as established by the Commission.
November 4, 2019

PDS Building Department Plan Review:

The subdivision Preliminary plat SUB19-00064 has been reviewed and there are no comments at this time.

Michael Hanson
Plans Examiner
Planning and Development Services
Office: (208)608-7101
mdhanson@cityofboise.org

Making Boise the most livable city in the country.
1. We have No Objections to this Proposal.

2. We recommend Denial of this Proposal.

3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.

4. We will require more data concerning soil conditions on this Proposal before we can comment.

5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:

   - high seasonal ground water
   - waste flow characteristics
   - bedrock from original grade
   - other ____________________________

6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.

7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.

8. After written approvals from appropriate entities are submitted, we can approve this proposal for:

   - central sewage
   - interim sewage
   - individual sewage
   - community sewage system
   - community water well
   - central water
   - individual water

9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:

   - central sewage
   - sewage dry lines
   - community sewage system
   - community water

10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.

11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.

12. We will require plans be submitted for a plan review for any:

   - food establishment
   - beverage establishment
   - swimming pools or spas
   - child care center
   - grocery store

13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHID.

14. ____________________________

Reviewed By: ____________________________

Date: ____________________________
Subdivision drainage shall be in accordance to B.C.C. 11-09-04-05. The developer shall submit a letter from the appropriate drainage entity approving the drainage system or accepting the drainage there from. A copy of the construction drawing(s) depicting all site drainage improvements shall be submitted with the letter.

a. Developer may either construct improvement prior to final platting or post bond in the amount of 110% of the estimated construction costs. Estimated construction costs shall be provided by the developer's engineer.

b. For drainage facilities located outside of the public right-of-way, the developer shall dedicate a storm drainage easement. Said easement shall be labeled as either an Ada County Highway District storm drainage easement or a homeowners’ association storm drainage easement, depending on what entity will assume responsibility for the operation and maintenance of the storm drainage system.

c. If the homeowners’ association is to be responsible for the operation and maintenance of the storm drainage facilities, the covenants, homeowners’ association by-laws or other similar deed restrictions shall be reviewed and approved by the Boise City Attorney.
2) If fills greater than one foot in depth are to be placed in subdivision lots inside of building envelopes, as defined by the applicable subdivision building setbacks, the Developer shall obtain a grading permit from the Boise City Building Department (Commercial Rough Grading Permit). Grading permit must be acquired prior to the start of construction or final plat signature by the Boise City Engineer, whichever comes first.

Special Conditions:

2. EROSION CONTROL CONDITIONS

1) Subdivision work shall be in accordance to B.C.C. 08-17 Construction site Erosion Control Ordinance. The developer shall obtain an Erosion Control Permit from the Boise City Building Department. The Erosion Control Permit must be acquired prior to the start of construction.

2) This project will require an Erosion Control Plan (ECP) or Stormwater Pollution Prevention Plan (SWPPP) to be submitted with the permit application. The plan must bear the signature and certification number of an individual who has successfully complete a Boise City approved training course.

Special Conditions:

3. STANDARD HILLSIDE CONDITIONS

NA

4. MISC. ENGINEERING CONDITIONS

NA

5. PRIVATE STREET CONDITIONS

NA

1) The following private street requirements must be met in an acceptable format:

a. Convey to those lot owners taking access from the private street, the perpetual right of ingress and egress over the described private street, and

b. Provide that such perpetual easement shall run with the land, and

c. Provide each lot owner taking access from the private street, undivided interest within the private street.
2) A restrictive covenant for maintenance and reconstruction shall be recorded at the time of recording the plat which covenant, (a) creates the formation of a homeowners association for the perpetual requirement for the maintenance/reconstruction of the private street, and private street signs and (b) provides that said covenant shall run with the land, and (c) provides that the homeowners association shall not be dissolved without the express consent of Boise City.

3) Said easement and covenant to be reviewed and approved by the Boise City Attorney (B.C.C. 9-20-7.E.2.q & 9-20-7.E.2.r).

4) Private street widths shall be in conformance with B.C.C. 11-09-03.5. or as allowed via B.C.C. 11-09-05. All private streets, base and pavement, shall be constructed to the same construction specifications required for public streets. Contact the Ada County Highway District (ACHD) for public street construction requirements (B.C.C. 11-09-03.5.B.).

   a. Certification of construction to ACHD specifications is required from an independent testing laboratory or a consulting engineer, including test results for the verification of construction (B.C.C. 11-09-03-05.B.(2)(e)).

      i. If it is an existing private street, verification of acceptable construction of the existing private street, including acceptability for use of emergency vehicles (including fire trucks and ambulances), is required from an independent testing laboratory or a registered Professional Engineer.

   b. Sidewalks are required on both sides of the private street (or in compliance with the sidewalk plan approved with the conditional use) unless specifically waived by the Boise City Council.

   c. Private street signs shall be installed in the same manner as public street signs (see requirements of ACHD).

   d. The developer shall pay the current drainage review and inspection fees on the proposed subdivision (B.C.C. 11-03-03.3.B.).

   e. Drainage facilities for the private street shall comply with Boise City’s Storm Water Management and Discharge Control Ordinance (B.C.C. 8-15). Plans shall be approved and construction inspected by Boise City Public Works.

      i. Developer and/or owner may either construct prior to final platting or post bond/agreement in the amount of 110% of the estimated costs, including certification (B.C.C. 11-09-04.2., Filing of Plans and Bonding Surety).
Special Conditions:

If you have any further questions, please contact Melissa Jannusch

Melissa Jannusch, E.I.T.
Associate Engineer
Hillside Coordinator
Public Works Engineering
208-608-7168
mjannusch@cityofboise.org

Making Boise the most livable city in the country.

\Boise\pw\Common\PWA\Subjects\Review Comments\Subdivision Comments\Temp (uploaded comments)\Drainage Hillside Eng comments\MMJ-Grading, Drainage, Hillside & Misc Sub Comment - Boise Towns.docx
December 6, 2019

Karla Nelson
PDS – Current Planning

Re: SUB19-0064

Dear Karla,

This is a request for a Subdivision with 40 buildable lots and 1 common lot on 5.09 acres.

The Boise Fire Department has reviewed and can approve the application subject to compliance with all the following code requirements and conditions of approval. Any deviation from this plan is subject to Fire Department approval. Please note that unless stated otherwise, this memo represents the requirements of the International Fire Code (IFC) as adopted and amended by Boise City Code.

Comments:

1. Fire hydrants, capable of producing the required fire flow, shall be located along approved fire lanes. Fire hydrant spacing shall meet the requirements of IFC table C105.1.1 (IFC 507.3, IFC B105.2, IFC C105).

2. Monument signage for addressing will be required at the entrance and at all intersections within the project. (IFC 505.1)

3. For streets having a width less than 33 feet back of curb to back of curb parking shall be restricted on one side. A note on the face of the final plat is required noting the parking restriction prior to signing of the final plat by the Boise City Engineer. In addition, No Parking signs shall be installed in accordance with the requirements of the IFC. (BCC5-12-32, IFC 503.8)

General Requirement:

Fire Department required fire hydrants, access, and street identification shall be installed prior to construction or storage of combustible materials on site. Provisions may be made for temporary access and identification measures.

Specific building construction requirements of the International Building Code, International Fire Code and Boise City Code will apply. However, these provisions are best addressed by a licensed Architect at time of building permit application.

Regards,

Ron L. Johnson
Division Chief – Assistant Fire Marshal
Boise Fire Department
November 19, 2019

Planning & Development Services
City of Boise
P.O. Box 500
Boise, ID 83701

RE: PUD19-00035 & SUB19-00064/ Boise Towns; H304 W. Fairview Avenue

Dear Planning & Development:

Nampa & Meridian Irrigation District (NMID) requires a filed Land Use Change Application to review prior to final platting. Please contact Elke Adams (208) 466-7861, at 1503 First Street S, Nampa, ID, for further information.

All private laterals and waste ways must be protected. The Districts Finch Lateral courses along the north boundary of this proposed project. The districts easement for the Finch Lateral at this location is a minimum of eighty feet (80') total, forty feet (40') each side.

This easement must be protected. Any encroachment without a signed License Agreement and approved plan before construction is unacceptable.

All municipal surface drainage must be retained on site. If any municipal surface drainage leaves the site, the NMID must review drainage plans. Developer must comply with Idaho Code 31-3805.

Sincerely,

David T. Duvall
Asst. Water Superintendent
Nampa & Meridian Irrigation District

Cc: Office/file
20 November 2019

Eric Malmberg
2010 North Redwood Rd.
Salt Lake City, UT 84116


Please note the District now requires three (3) sets of plans

Dear Mr. Malmberg:

Enclosed please find a Land Use Change Application for your use to file with the Irrigation District for its review on the above-referenced development. If this development is under a "rush" to be finalized, I would recommend that you submit a cashier's check, money order or cash as payment of the fees in order to speed the process up. If you submit a company or personal check, it must clear the bank before processing the application.

Should this development be planning a pressurized urban irrigation system that will be owned, operated and maintained by the Irrigation District, I strongly urge you to coordinate with Greg G. Curtis, Water Superintendent for the Irrigation District, concerning the installation of the pressure system. Enclosed is a questionnaire that you must fill out and return in order to initiate the process of contractual agreements between the owner or developer and the Irrigation District for the ownership, operation and maintenance of the pressure urban irrigation system.

If you have any questions concerning this matter, please feel free to call on me at the District’s office, or Greg G. Curtis, at the District’s shop.

Sincerely,

Elke Adams, Asst. Secretary/Treasurer
NAMPA & MERIDIAN IRRIGATION DISTRICT

EA/cmg

cc: File
Water Superintendent
Boise City, Planning & Development Services P.O. Box 500 Boise, ID 83701
Greg Flint, Miller Family Real Estate LLC 9350 S. 150 E., Ste 1000 Sandy, UT 84070

enc.
CITY OF BOISE

INTER-DEPARTMENT
CORRESPONDENCE

Date: November 4, 2019

To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
       Public Works Department

Subject: PUD19-00035; 11304 W. Fairview Avenue; Sewer Comments

Upon development of the property, connection to central sanitary sewer is required. Sewers are available in N. Steelwood Avenue and on south side of property. No permanent structures allowed within Boise City Sewer Easement.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
City of Boise Solid Waste staff has reviewed the application for this project and has the following comment(s):

The buildings with shared access drives closest to Steelwood Ave (24 units in four buildings) are inaccessible to the collection truck as currently designed, as trucks must have forward access from dead-end streets. Owners or tenants of these units must take their solid waste carts to the nearest road for collection, or pay for carry out or premium carry out service. The owners or tenants of these units will also need to be informed of this requirement prior to purchasing the unit or moving in.

Please contact me with any questions at 208-608-7161 or ecarpenter@cityofboise.org.
To: Planning and Development Services

From: Tom Marshall, Street Light Program Technician
Public Works Engineering

Subject: Street Light Comments
PUD19-00035: 11304 W Fairview Ave.

Street lights are required. Contact Public Works for required facilities and location prior to submission of a building permit. (Final approved plans must accompany submitted building plans at time of permitting.)

Street lights are required at the following locations:

1. NWC on Shamrock & King
2. SWC

As per Idaho Power requirements the lights along the following street frontages must be installed on a metered service. Meter service cabinet location to be in the right of way or in a developer designated City Street Light Easement. They shall meet the requirements of the Idaho Standards for Public Works Construction, Standard Drawings, and the Boise City Standard Revisions for ISPWC Division 1102 Street Lights. See Streetlight Approved Fixtures and Materials for a list of approved meter service cabinets.

1. Shamrock Ave on southwest edge of property line.

New Street Light installations shall conform to the current version of the Boise Standard Revisions, Idaho Standards for Public Works Construction...
(ISPWC) using approved LED fixtures listed in Streetlight Approved Fixtures and Materials.

Developer shall not connect, or allow any subcontractor to connect any irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices to any street lighting circuits. Any and all irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices shall be connected directly to Idaho Power at an Idaho Power approved location.

All electrical work must be completed by a licensed journeyman electrician, as per state code to include underground conduit, wire, pole base, light pole, fixture and meter cabinets. The electrician must be present at all inspections and all work shall be performed to the current National Electrical Code.

If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208) 608-7526
tmmarshall@cityofboise.org

Making Boise the most livable city in the country.
December 11, 2019

VIA EMAIL:  krnelson@cityofboise.org
Boise City Planning & Zoning
Attn:  Karla Nelson
P.O. Box 500
Boise, ID  83701

Re:  PUD19-00035

Dear Ms. Nelson:

I am writing to express my concern about the proposed mixed use development at 11304 W. Fairview Avenue, Boise, Idaho, and in particular, the proposal for two additional driveways to access Shamrock Avenue and Steelwood Avenue.

Due to left turn restrictions imposed by ACHD, residents of the neighborhoods to the north of the project who access Fairview Avenue via Wildwood Way and Shamrock Avenue must use Steelwood Avenue to turn east onto Fairview Avenue. (Left turns are prohibited from Shamrock and Wildwood.) Steelwood is not a large street. It already has two accesses on the east side of the street for the Larry Miller Subaru dealership, and one access on the west side for the existing overflow parking lot. I see two problems with adding another access point on the west side of Steelwood Avenue:

(1) The left turn lane on southbound Steelwood already backs up with cars and creates a conflict with traffic trying to exit the Larry Miller dealership. During heavy traffic times (such as the morning rush hour), the left turn lane is backed up past the existing southern-most driveway access. It only takes a couple of cars and a school bus to make that happen. (See the enclosed satellite image printed from Google maps.) Adding another access point on the west side of Steelwood will increase the problem of cars entering the road too close to the intersection and increase the potential for traffic accidents at this already congested little intersection. Once the commercial portion is completed, cars trying to enter the proposed southern-most driveway will likely be blocked by southbound traffic waiting in line on Steelwood, which could potentially even cause traffic to back up onto Fairview Avenue. I believe reconfiguring this site plan so that all traffic enters and exits the new development through the existing parking lot driveway (closer to King Street) would work better for traffic flow on Steelwood and would be much safer for everyone.
(2) Parallel parking is currently permitted on both sides of Steelwood Avenue. It’s not uncommon to see a large semi carrying automobiles parked along the west side of Steelwood. This parallel parking crowds the traffic trying to use Steelwood to access Fairview, and impedes visibility for cars trying to enter Steelwood. If the City is going to approve a second driveway (which I am against), then I believe parallel parking should be prohibited on Steelwood so that the traffic exiting the new development will have clear visibility.

The proposed development also requests a second driveway on the west side of the project so traffic can access Shamrock Avenue. Again, I have concerns about allowing a second access point:

(1) Tate’s Rents has an existing driveway on the west side of Shamrock Avenue. Due to the nature of their business, many of the vehicles using this driveway are pulling trailers loaded with equipment. Adding another driveway on the east side of Shamrock in close proximity to the existing Tate’s Rents driveway will increase the potential for traffic accidents.

(2) Fairview Avenue is heavily traveled and often requires a rapid left turn from eastbound Fairview for cars heading north on Shamrock Avenue. Adding a driveway so close to this intersection will create a potential hazard since the traffic turning from Fairview will now have to watch an additional driveway for potential conflicts. This seems dangerous. Looking at the site plan, it appears the traffic within the development can still access Shamrock by using the existing driveway on the north end of the project. I recognize it will be less convenient (particularly for the commercial development planned for the future), but I believe it will be much safer for everyone.

Shamrock Avenue currently doesn’t get used for parallel parking, but once the residential portion of this development is completed, it’s not hard to imagine that will change. I would request you consider prohibiting parallel parking on Shamrock Avenue so that visibility remains clear, particularly if the second driveway is approved.

Thank you for your consideration.

Sincerely,

Emily Suchan
Larry Miller Subaru Driveway

Note that with only three vehicles in the left turn lane, the exit from Larry Miller Subaru is almost blocked.
SOS19-00023 / Rodney Johnson

Summary
The applicant requests a Waiver to the Subdivision Ordinance requirement to construct curb, gutter and sidewalk as part of a Minor Land Division on 4.27 acres located at 8306 W. State Street in an R-1A (Single Family Residential) zone.

Prepared By
David Moser, Associate Planner

Recommendation
Approval

Reason for the Decision
The waiver request complies with the approval criteria of B.C.C. Section 11-09-05.1.E (Waivers). The requirement to install curb, gutter, and sidewalk along State Street, Roe Street and Limelight Road would result in substantial hardship and inequity. A waiver from these requirements will allow the property to develop in a reasonable manner and as part of a planned future development. This includes the anticipated Planned Unit Development at the intersection of Limelight Road and Roe Street. In addition, State Street is planned to be improved in the future, which includes widening the roadway to seven lanes of traffic with a multi-use pathway. The property along State Street is also constrained by the location of an open irrigation lateral. The Planning Team recommends a more holistic approach to the dedication of roadway and sidewalk improvements at this subject property. This waiver request is supported by Goal ES14.1 of Blueprint Boise which encourages coordination with irrigation companies in the review of development applications on lands adjacent to canals for maintenance of access and canal operations.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
EXHIBIT “A”
PARCEL 1

A Parcel of land as shown on Record of Survey for Rod Johnson being in the East 305 feet of Lot 5 Steins Subdivision northeasterly of West State Street right-of-way located in the NW1/4 of Section 24, Township 4 North, Range 1 East, Boise Meridian, Ada County, Idaho and described as follows:

Commencing at an aluminum cap marking the northwest corner of Section 24 thence South 0°55'33” West, a distance of 1320.40 feet to a brass cap marking the N1/16 corner common to Section 23 and said Section 24, thence along the South line of said Steins Subdivision South 89°22'37” East, a distance of 1258.79 feet to the POINT OF BEGINNING.

Thence along the northeasterly right-of-way of West State Street North 61°40'04” West, a distance of 266.54 feet to a 5/8 inch rebar;

Thence leaving said right-of-way North 00°37'23” East, a distance of 206.22 feet to a 5/8 inch rebar;

Thence South 87°10'58” East, a distance of 302.74 feet to a 5/8 inch rebar on the westerly right-of-way of Roe Street;

Thence along the said westerly right-of-way line South 00°28'37” West, a distance of 318.57 feet to a point on the said south line of Steins Subdivision;

Thence leaving said westerly right-of-way line along said south line of Steins Subdivision North 89°22'37” West, a distance of 67.36 feet to the POINT OF BEGINNING.

Said Parcel 1 containing 83634 square feet or 1.920 acres more or less.
EXHIBIT "A"
PARCEL 2

A Parcel of land as shown on Record of Survey for Rod Johnson being in the East 305 feet of Lot 5 Steins Subdivision northeasterly of West State Street right-of-way located in the NW1/4 of Section 24, Township 4 North, Range 1 East, Boise Meridian, Ada County, Idaho and described as follows:

Commencing at an aluminum cap marking the northwest corner of Section 24 thence South 0°55'33" West, a distance of 1320.40 feet to a brass cap marking the N1/16 corner common to Section 23 and said Section 24, thence along the South line of said Steins Subdivision South 89°22'37" East, a distance of 1326.15 feet to a point, thence along the westerly right-of-way line of Roe Street North 0°28'37" East a distance of 318.57 feet to a 5/8 inch rebar marking the POINT OF BEGINNING.

Thence North 87°10'58" West, a distance of 302.74 feet to a 5/8 inch rebar;

Thence North 00°37'23" East, a distance of 330.00 feet to a 5/8 inch rebar on the south line of Silvercloud Subdivision;

Thence along the said south line South 89°27'16" East, a distance of 301.65 feet to a 5/8 inch rebar on the said westerly right-of-way of Roe Street;

Thence along the said westerly right-of-way South 00°28'37" West, a distance of 342.00 feet to the POINT OF BEGINNING.

Said Parcel 2 containing 101498 square feet or 2.330 acres more or less.
August 21, 2019

Launee Wolverton
Silvercreek Realty Group
6389 N. Maximums Place
Meridian, ID 83646
launewolverton@gmail.com

RE: ROS19-00068 / Minor Land Division / 8306 W. State Street

The Boise City Development Services Department has reviewed your application for a Minor Land Division. This request has been reviewed under Boise City Code (B.C.C.) 11-09-02.1A. Based on the information provided on the application and Record of Survey you are hereby granted approval of the Minor Land Division subject to the following Conditions of Approval.

CONDITIONS OF APPROVAL

1. Prior to approval of Boise City Planning Director:

   A. Submit a site plan showing existing buildings, parking, and driveway locations.
   B. Label Parcel 1 as “Parcel A.”
   C. Label Parcel 2 as “Parcel B.”
   D. Update note regarding the approval of this Minor Land Division to include “ROS19-00068.”
   E. Address parcels as follows:
      i. Parcel A: 8306 W. State Street
      ii. Parcel B: 6049 N. Roe Street
   F. Curb, gutter, and sidewalk shall be installed along all adjacent street frontages. Coordinate this work with the Ada County Highway District, Idaho Transportation Department, and the associated irrigation company.
   G. Include a note that states, “These parcels may not be divided unless approved by the City of Boise. The original parcels are no longer buildable parcels pursuant to this Record of Survey.”
   H. Include signature areas for:
      i. Property Owner
      ii. Boise City Planning Director
      iii. Ada County Recorder
   I. Comply with the requirements of:
      i. City of Boise Public Works – Sewer per the memo dated August 2, 2019.
      ii. Ada County Highway District per the memo dated August 8, 2019.
iii. City of Boise Public Works – Addressing per the memo dated July 31, 2019.

2. Prior to issuance of a building permit:

A. The Record of Survey must be signed by the Boise City Planning Director and recorded.

B. Notices of Buildable Parcels must be signed by the Boise City Planning Director and be recorded.

C. The parcel must have tax parcel numbers assigned by the Ada County Assessor.

May we also take this opportunity to advise you that this approval will not take effect until after the ten (10) day appeal period has lapsed without an appeal being filed. The decision or any of the conditions attached may be appealed to the Boise City Planning and Zoning Commission within ten (10) days from the date of issuance of this decision. All appeals of this permit must be filed by 5:00 P.M., on September 2, 2019. The appeal must be written, accompanied by the appropriate fee, and submitted to the Boise City Planning and Development Services Department prior to the deadline set forth above. Appeal application forms are available at the Boise City Planning and Development Services Department, 2nd Floor, Boise City Hall, 150 North Capitol Boulevard or online at www.cityofboise.org/pds.

If you have any questions regarding this approval or any of the Conditions of Approval, please contact me at (208) 608-7083.

Sincerely,

[Signature]

Leon Letson
Senior Planner, Current Planning & Subdivisions
Ms. Launee Woverton, Agent for  
Mr. Rodney Johnson, Owner of Record  
Silvercreek Realty Group  
6389 N. Maximums Place  
Meridian, ID 83646

November 18, 2019

Mr. Leon Letson  
Senior Planner, Current Planning & Subdivisions  
Planning and Development Services  
P.O. Box 500  
Boise, ID 83701-0500

RE: Minor Land Division ROS19-00068 – Waiver of Improvement Conditions

Dear Leon,

Thank you for your assistance and professionalism in the processing of the approval of the Minor Land Subdivision with conditions as provided in your letter dated August 21, 2019.

The owner is requesting a waiver of Condition of Approval Item F. – the installation of curb, gutter and sidewalks of the Minor Subdivision approval.

Parcel B: 6049 N Roe Street is currently under contract with a Buyer who is planning a new multi-family project on that will be consistent with the City Comprehensive Plan, uses and zoning of adjacent parcels to the east and north. The Buyer is in the concept and schematic design process and plans to submit an application to the City for a rezone and PUD for Parcel B in the next approximately 30 to 45 days.

The Buyer met numerous times with Planning and Development Planners regarding the Planning and Zoning Process for the rezone and PUD; and is aware of the requirement to complete curb, gutter and sidewalks along the Roe and Limelight Street boundary frontages as a condition of approval. Buyer will comply with those obligations at the time of construction of the new project.

Parcel A: 8306 W. State Street has frontage along State Street to the south and on Roe Street to the east. It will remain as a single-family residence along with existing garage and accessory farm structures. There is no intention to redevelop this property in the near future. This property has an irrigation ditch that runs along State Street and around the corner and to the north along Roe Street. The parcel has no direct access on to State Street and any redevelopment would require working with Idaho Transportation Department and Ada County Highway District to negotiate access points and realignment of Roe Street. It does not make sense at this time to require this parcel to install curb, gutter and sidewalks prior to redevelopment.

We are requesting waiver of the Conditions of Approval Item F for the following justifications:

1. The completed Minor Subdivision will allow the City to Boise to require each parcel owner to install curb, gutter and sidewalk upon the redevelopment of each parcel.

2. The Buyer of the Parcel B will be submitting an application for rezone and PUD and will work with the City of Boise on complying with installing curb, gutter and sidewalk as a condition of approval.

Page 1 of 2
Ms. Launee Woverton, Agent for
Mr. Rodney Johnson, Owner of Record
Silvercreek Realty Group
6389 N. Maximums Place
Meridian, ID 83646

3. Parcel A is will remain as is after the final approval of the Minor Land Subdivision; and when the owner or subsequent owners desires to redevelop the site, will have to with the City and governing agencies to determine the appropriate improvements required at that time.

Please process this application for waiver as expediently as possible. If you have any questions lease email or call me at your convenience; launeewolverton@gmail.com or 208-391-9395.

Sincerely,

Launee Woverton, Agent for
Rodney Johnson, Owner of Record - 8306 W State Street
Waiver of Subdivision Ordinance Application

Case #: R0519-00068

Property Information

Address: Street Number: 8306 Prefix: West Street Name: State Street
Subdivision: Steins Sub Block: 305 Lot: 5 Section: Township: Range:
Primary Parcel Number: R8123251000 Additional Parcels: R8123251000

Applicant Information

First Name: Rodney Last Name: Johnson
Company: Phone:
Address: 8306 W State St City: Boise State: ID Zip: 83714
E-mail: Cell: (208) 949-1211 Fax:

Agent/Representative Information

First Name: Launee Last Name: Wolverton
Company: Silvercreek Realty Group Phone: (208) 391-9395
Address: 6389 N Maximus City: Meridian State: ID Zip: 83646
E-mail: launewolverton@gmail.com Cell: (208) 391-9395 Fax:
Role Type: ☐ Surveyor ☐ Land Developer ☐ Engineer ☐ Architect ☐ Other

Owner Information

Same as Applicant? ☐ Yes ☐ No (If yes, leave this section blank)
First Name: Last Name:
Company: Phone:
Address: City: State: Zip: 
E-mail: Cell: Fax:

www.cityofboise.org/pds
City of Boise Planning & Development Service:
P.O. Box 500 • 150 N. Capitol Blvd • Boise, Idaho 83702-0500
Phone 208/384-3830 • Fax 208/384-3814 • TDD/TTY 800/373-3529

Date Received: 11/06/2019
Revision: 01/2010

Packet Pg. 103
1. Associated Subdivision/Condominium Name: Steins Sub

2. Please list all sections of the Subdivision Ordinance to be waived: All Sections Parcel 1+2

**Submittal Checklist**

- [x] Completed Waiver of Subdivision Ordinance Application #204
- [x] Documentation explaining the reason(s) for the request, including the hardship to justify the waiver. Also, please include any other materials that may help to demonstrate the relief sought by this request.
- [x] Legal description of property. (Not applicable if submitted with a subdivision plat)
- [x] Scaled drawing showing the property affected by the requested waiver. (Not applicable if submitted with a subdivision plat)
- [x] Vicinity Map of the property and surrounding area. (Map must show at least 600' beyond property drawn at a scale of 1"=300' or larger.)
- [x] Processing fee.

**The following items must be submitted with this application:**
Completed Waiver of Subdivision Ordinance Checklist and all required documents, maps and fees.

 applicants representative signature

Rodney James Johnson

Date

11/18/19
Planning Division Project Report

File Number: SOS19-00023
Applicant: Rodney Johnson
Property Address: 8306 W. State Street

Public Hearing Date: January 6, 2020
Heard by: Planning and Zoning Commission

Analyst: David Moser, Associate Planner
Reviewed By: Céline Acord, Current Planning Manager

Table of Contents
1. Project Data and Facts........................................................................................................... 2
2. Land Use............................................................................................................................... 2
3. Development Code............................................................................................................... 3
4. Comprehensive Plan............................................................................................................. 3
5. Analysis................................................................................................................................. 3
6. Recommendation.................................................................................................................. 5

Exhibits
Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single-Family Home</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description of Applicant’s Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Waiver to the Subdivision Ordinance requirement to construct curb, gutter and sidewalk as part of a Minor Land Division.</td>
</tr>
</tbody>
</table>

2. Land Use

<table>
<thead>
<tr>
<th>Description and Character of Surrounding Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>The area is mostly detached single-family homes, apartments and townhouses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjacent Land Uses and Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North</strong></td>
</tr>
<tr>
<td><strong>South</strong></td>
</tr>
<tr>
<td><strong>East</strong></td>
</tr>
<tr>
<td><strong>West</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History of Previous Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROS19-00068</strong></td>
</tr>
</tbody>
</table>
3. Development Code  (Boise City Code Title 11)

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-09-02</td>
<td>Records of Survey</td>
</tr>
<tr>
<td>11-09-05</td>
<td>Modifications and Waivers</td>
</tr>
</tbody>
</table>

4. Comprehensive Plan  (Blueprint Boise)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2: Citywide Vision and Policies</td>
<td>Goal ES14.1</td>
</tr>
</tbody>
</table>

5. Analysis

On August 21, 2019, a Minor Land Division application (ROS19-00068) was approved to divide the property at 8306 W. State Street into two buildable lots. The Minor Land Division approval required sidewalk with curb and gutter be installed along all abutting rights-of-way (i.e. Limelight Road, Roe Street and State Street). On November 18, 2019, the applicant applied for a waiver to this requirement.

Section 11-09-05.1(E) of the Development Code allows the Planning and Zoning Commission to issue a waiver of the requirement to install sidewalk, curb and gutter provided the property is an unusual size or shape or is surrounded by such developments or has unusual conditions that the strict application of these regulations would result in substantial hardship or inequity. In addition, a waiver may be granted so the applicant may develop the property in a reasonable manner, provided the quality of the development is not diminished and the public welfare and interests of the City are protected, and the general intent and spirit of these regulations are preserved and conformity to the Comprehensive Plan is assured.

In total the subject property is bounded by approximately 1,296 linear feet of street frontage, which is required to be improved with curb, gutter and sidewalk as part of the record of survey. It is the applicant’s intent to sell the north half of the property (Parcel B), which will be developed with a higher density multi-family project (Site Plan). Through this development process the adjacent streets (i.e. Limelight Street and Roe Street) will be improved with curb, gutter and sidewalk. As such, the Planning Team recommends waiving these required street improvements as part of the record of survey along these street frontages.
The south half of the subject property (Parcel A) will remain a single-family home for the foreseeable future. However, given its location along State Street it is anticipated to redevelop in the future and street improvements will be required at that time. In addition, there are physical site constraints that preclude the installation of street improvements along State Street, which includes a large irrigation canal.

Finally, the State Street roadway design is still conceptual. As such, the location and design of the multi-use pathway as not been determined. In addition, the changes to the irrigation canal as part of these future right-of-way improvements are currently still conceptual. As such, installing street improvements now might not match the final roadway design and will have to be removed. Therefore, granting the waiver from the curb and gutter improvements will not diminish the quality of the development or the neighborhood. The public welfare and interests of the city will be protected, and the general intent and spirit of the Development Code will be preserved.
There are Comprehensive Plan policies that support the waiver of these improvements. The street improvements along Limelight Road and Roe Street will be installed with the future development. Goal ES14.1 encourages coordination with irrigation companies in the review of development applications on lands adjacent to canals for maintenance of access and canal operations.

The Planning Team finds that there is a hardship associated with the requirement to construct curb, gutter and sidewalk for the subject property and recommends approval of the waiver to allow for more holistic approach to the street improvements along the adjacent roadways.

6. Recommendation
The Planning Team recommends approval of the request to waive sidewalk, curb and gutter requirements.
To: Planning and Development Services
From: Tom Marshall, Street Light Program Technician
Public Works Engineering
Subject: Street Light Comments
SOS19-00023: 8306 W State St.

No comment.
If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.
CUP19-00087, CUP19-00088 & CVA19-00070 / Joplin Pond, LLC

Summary
The applicant requests a conditional use permit for a contractor yard and construction material recycle facility on approximately 30 acres located at 11532 W Joplin Rd in a pending M-2D/DA (Heavy Industrial with Design Review and a Development Agreement) zone. A variance to allow a gravel parking is included.

Prepared By
David Moser, Associate Planner

Recommendation
Approval of CUP19-00087 & CUP19-00088 with conditions
Withdrawn - CVA19-00070

Reason for the Decision

Conditional Use - CUP19-00087
The project is consistent with the approval criteria of Section 11-03-04.6(C7) (Conditional Use) of the Boise City Development Code. The contractor yard is compatible with the uses on the adjacent industrial properties and residential neighborhood to the southwest since it is less intense than the historic use of the site which include a gravel extraction operation. In addition, the adjacent single-family homes are elevated approximately 56 feet over the subject property. Comments received from public agencies confirm that it will not place an undue burden on the transportation system or other services in the vicinity. The site is large enough to accommodate the proposed use. The contractor yard will reuse the existing buildings on site, and it provides sufficient off-street parking. It will not adversely affect the adjacent residential neighborhood due to the site separation and difference in elevation. Also, it is less intense than the adjacent industrial uses. The reuse of the existing buildings is supported by the Comprehensive Plan (Policy ES 9.5).

Conditional Use - CUP19-00088
The project is consistent with the approval criteria of Section 11-03-04.6(C7) (Conditional Use) of the Boise City Development Code. The construction material recycle facility is compatible with the uses on the adjacent industrial properties and residential neighborhood to the southwest since it is less intense than the historic use of the site which include a gravel extraction operation. In addition, the adjacent single-family homes are elevated approximately 56 feet over the subject property. Comments received from public agencies confirm it will not place an undue burden on the transportation system or other services in the vicinity. No new structures are proposed with this facility and no parking is required. With conditions of approval limiting the facilities hours of operation and noise impacts, it will not adversely affect the adjacent residential neighborhood.
This facility is in compliance with the Comprehensive Plan since it is intended to recycle building materials and reduce waste that would go to the landfill. Goal ES5 encourages the reduction of solid waste being landfilled. Policy EC 6.3 encourages businesses that use sustainable practices and the recycling of materials.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
Landscape Requirements:

Tree Protection Notes:

1. Plant and protect existing native clover at the proposed site.
2. Plant and protect existing native clover at the proposed site.
3. Maintain existing native clover at the proposed site.
4. Plant and protect existing native clover at the proposed site.
5. Plant and protect existing native clover at the proposed site.
6. Plant and protect existing native clover at the proposed site.
7. Plant and protect existing native clover at the proposed site.
8. Plant and protect existing native clover at the proposed site.
9. Plant and protect existing native clover at the proposed site.
10. Plant and protect existing native clover at the proposed site.
11. Plant and protect existing native clover at the proposed site.
12. Plant and protect existing native clover at the proposed site.
13. Plant and protect existing native clover at the proposed site.
14. Plant and protect existing native clover at the proposed site.
15. Plant and protect existing native clover at the proposed site.
16. Plant and protect existing native clover at the proposed site.
17. Plant and protect existing native clover at the proposed site.
18. Plant and protect existing native clover at the proposed site.
19. Plant and protect existing native clover at the proposed site.
20. Plant and protect existing native clover at the proposed site.

Sheet Notes:

1. No new exterior sign cutting permitted.
2. No new exterior mechanical equipment is permitted.
3. All trees shall be protected from the construction and mulch area.
4. All landscaping areas are to be inspected by the health department to comply with soil and mulch area requirements.

Keynotes:

1. Sheet boundary must be extended to property boundary.
2. Permanent external ventilation for mechanical equipment.
3. Access to vehicle access road.
4. Access to vehicle access road.
5. Access to vehicle access road.
6. Access to vehicle access road.
7. Access to vehicle access road.
8. Access to vehicle access road.
9. Access to vehicle access road.
10. Access to vehicle access road.
11. Access to vehicle access road.
12. Access to vehicle access road.
13. Access to vehicle access road.
15. Access to vehicle access road.
16. Access to vehicle access road.
17. Access to vehicle access road.
18. Access to vehicle access road.
19. Access to vehicle access road.
20. Access to vehicle access road.

Project Team:

Joplin Pond, LLC

1100 Joplin Road
Joplin, MO 64804

1. Scott Howell
2. John F. Emery

November 26, 2019

Celine Acord
Current Planning/Subdivision Manager
City of Boise
150 N. Capitol Blvd.
Boise, ID 83702

RE: 11532 Joplin Road | Boise, ID
Conditional Use Permit Application – Contractor’s Office & Yard

Dear Ms. Acord,

We represent Joplin Pond LLC, owners of the Property located at 11532 W. Joplin Road in Boise. The property was recently annexed to the City of Boise and zoned M-2-DA under CAR19-00015. To develop the property consistent with Blueprint Boise and the Development Agreement approved with the Rezone, we are pleased to submit this application for a Conditional Use Permit associated with a Contractor’s Office & Yard.

Background

The Property consists of two parcels and is located on the north side of Joplin Road, west of Aspen Street. Assessor’s mapping of the overall property currently includes:

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Address</th>
<th>Size</th>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>S0522347010</td>
<td>11532 W. Joplin Road</td>
<td>26.07 acres</td>
<td>M-2-DA</td>
</tr>
<tr>
<td>S0522347050</td>
<td>11532 W. Joplin Road</td>
<td>4.91 acres</td>
<td>M-2-DA</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30.98-acres</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A record of survey / property line adjustment (PLA) application is in progress to adjust the parcel lines (file ROS19-00103). A 3.00-acre resultant parcel at the southeast corner of the overall property (near the intersection of Joplin Rd with Aspen Street) has previously been submitted for consideration under a Design Review application for a Construction Office and Yard. This Contractor Office and Shop use was approved with the annexation and rezone in file CAR19-00015.

The other resultant parcel of the PLA comprises 28.14-acres, a portion of which is the subject of

Figure 1 - Vicinity Map
the enclosed Conditional Use Permit application. A separate application for a Construction Material Processing and Reuse facility on a portion of the 28.14-acre parcel has been submitted separately but concurrently with this application for a Contractor’s Office & Yard.

The uses in operation on surrounding properties include gravel pits, batch plants, rock crushing and hauling. The City’s Boise Watershed / Sewer treatment plant is northwest of the property.

Application Summary

Blueprint Boise and the Land Use Map identify the Property as Public / Quasi-Public. The City has determined, and the comprehensive plan states, the M-2 zone is in accord with the Public / Quasi-Public land use designation.

The Development Agreement for the Property permitted a Construction Contractor Office, Yard, and Shop, on the eastern portion of the property. The Development Agreement requires all uses other than this contractor office to process a conditional use permit. This application requests approval for a Contractor’s Office & Yard in and surrounding the existing structures on the western portion of the property.

The proposed Contractor’s Office & Yard will occupy the existing structures on the property. The shop and outbuildings will be utilized for equipment storage and repairs. The buildings will be retrofitted to current code for a contractor office use. Landscape material such as gravel, topsoil, trees, shrubs, and plants will be stored onsite.

The Contractor’s Office & Yard plans to consolidate the primary access into the property from Joplin Rd. with a shared access location for the proposed Material Processing and Reuse facility (concurrent application). A secondary access to Joplin Rd is necessary due to access and circulations constraints inside the site caused by the numerous canals that flow through the property.

Thank you in advance for your consideration and support.

Sincerely,

Tamara Thompson
Director of Client Services

The Land Group, Inc.
November 26, 2019

Celine Acord
Current Planning/Subdivision Manager
City of Boise
150 N. Capitol Blvd.
Boise, ID 83702

RE: 11532 Joplin Road | Boise, ID
Conditional Use Permit Application – Construction Materials Processing and Reuse

Dear Ms. Acord,

We represent Joplin Pond LLC, owners of the Property located at 11532 W. Joplin Road in Boise. The property was recently annexed to the City of Boise and zoned M-2-DA under CAR19-00015. To develop the property consistent with Blueprint Boise and the Development Agreement approved with the Rezone, we are pleased to submit this application for a Conditional Use Permit associated with a Construction Materials Processing and Reuse facility.

Background

The Property consists of two parcels and is located on the north side of Joplin Road, west of Aspen Street. Assessor’s mapping of the overall property currently includes:

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Address</th>
<th>Size</th>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>S0522347010</td>
<td>11532 W. Joplin Road</td>
<td>26.07 acres</td>
<td>M-2-DA</td>
</tr>
<tr>
<td>S0522347050</td>
<td>11532 W. Joplin Road</td>
<td>4.91 acres</td>
<td>M-2-DA</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30.98-acres</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A record of survey / property line adjustment (PLA) application is in progress to adjust the parcel lines (file ROS19-00103). A 3.00-acre resultant parcel at the southeast corner of the overall property (near the intersection of Joplin Rd with Aspen Street) has previously been submitted for consideration under a Design Review application for a Construction Office and Yard. This Contractor Office and Shop use was approved with the annexation and rezone in file CAR19-00015.

The other resultant parcel of the PLA comprises 28.14-acres, a portion of which is the subject of
the enclosed Conditional Use Permit application. A separate application for a Contractor Office and Shop in the southwest portion of the 28.14-acre parcel has been submitted separately but concurrently with this application for a Construction Materials Processing and Reuse facility.

The uses in operation on surrounding properties include gravel pits, batch plants, rock crushing and hauling. The City’s Boise Watershed / Sewer treatment plant is northwest of the property.

**Application Summary**

Blueprint Boise and the Land Use Map identify the Property as Public / Quasi-Public. The City has determined, and the comprehensive plan states, the M-2 zone is in accord with the Public / Quasi-Public land use designation.

The Development Agreement for the Property permitted a Construction Contractor Office, Yard, and Shop, on the eastern portion of the property. The Development Agreement requires all uses other than this contractor office to process a conditional use permit. This application requests approval for a Construction Materials Processing and Reuse facility on the property.

Significant volumes of construction related waste are reusable. It’s estimated that construction debris accounts for one-third of the solid waste in the United States. Responsible reuse of these materials will help keep these materials out of the landfill. Concrete and asphalt debris are great candidates for recycling and the benefits of doing so are compelling – reducing use of landfills, reducing trucking materials from new-material sources, and reusing recycled material as gravel to reduce the need for gravel mining.

The proposed Construction Materials Processing and Reuse facility will accept clean fill material such as topsoil, general earthwork materials, asphalt, and concrete waste products from work sites in the area. The materials will be processed onsite and prepared for reuse in the construction and landscape industries. Concrete and product separation, and material crushing may occur. Some heavy equipment, such as loaders, excavators and bulldozers will be utilized onsite to process material. Suitable material may be used to backfill portions of the existing ponds on the property.

No mining or extraction is planned or proposed with this application.

The hours of operation for the facility will require flexibly to accept material depending on the job, season, and market conditions. The construction projects that will generate the materials to be processed may occur at any time; for example, summer work often starts early in the morning to avoid afternoon heat, or some roadwork projects require night work to reduce inconvenience to the travelling public.

Historically, mining and rock crushing have occurred on this property and the surrounding properties since before 1968. Most of the surrounding properties have approvals for rock crushing and batch plants without operating hour limitations, a few have hours ranging from 7am to 430pm.

To the extent the Construction Materials Processing and Reuse facility will use crushing as a part of material processing, hours for that activity would be limited to 7am – 430pm, 6 days per week.
Conclusion

The proposed Construction Materials Processing and Reuse facility maintains and preserves compatibility of surrounding zoning and development as the surrounding properties are industrial in nature and provide sand, gravel, and pit mining operations, crushing and hauling operations, and asphalt and concrete batch plants. This eco-friendly use will provide an efficient alternative to construction materials entering the landfill.

Thank you in advance for your consideration and support. We look forward to working with City staff to address any questions.

Sincerely,

Tamara Thompson
Director of Client Services
The Land Group, Inc.
December 23, 2019

David Moser
Associate Planner
City of Boise
150 N. Capitol Blvd.
Boise, ID 83702

RE: 11532 Joplin Road | Boise, ID
Conditional Use Permit Application – Contractor’s Office & Yard CUP19-00087

Dear David,

This letter is intended to supplement the project narrative submitted with our application.

The proposed Contractor’s Office & Yard will occupy the existing structures on the property. The shop and outbuildings will be utilized for equipment storage and repairs. The buildings will be retrofitted to current code for a contractor office use. Landscape material such as gravel, topsoil, trees, shrubs, and plants will be stored onsite.

Six parking spaces, including ADA, will be provided for the contractor office; however, the location of the northern two spaces may be relocated during the design review process. The main entrance and parking spaces to the east of the office will be paved.

The general hours of operation of the contractor yard are 7am to 7pm.

ACHD policy is for sidewalks on one side of the road in an industrial area. A sidewalk exists on the south side of Joplin Road adjacent to this property, therefore ACHD is not requiring a sidewalk along this property frontage. Sidewalks are not located on the north side of Joplin to the immediate east or west of the property. The City of Boise’s properties adjacent to this property to the west do not have sidewalks. Due to site constraints associated with the irrigation canals and drains sidewalks along the property frontage, if conditioned, would be a hardship. (See topographic survey, Exhibit B).

Sincerely,

Tamara Thompson
Director of Client Services

The Land Group, Inc.
December 23, 2019

David Moser  
Associate Planner  
City of Boise  
150 N. Capitol Blvd.  
Boise, ID 83702

RE: 11532 Joplin Road | Boise, ID  
Conditional Use Permit Application – Construction Materials Processing and Reuse CUP19-00088

Dear David,

This letter is intended to supplement the project narrative submitted with our application.

The proposed Construction Materials Processing and Reuse facility will accept clean fill material such as topsoil, general earthwork materials, asphalt, and concrete waste products from work sites in the area. The materials will be processed onsite and prepared for reuse in the construction and landscape industries. Concrete and product separation, and material crushing may occur. Some heavy equipment, such as loaders, excavators and bulldozers will be utilized onsite to process material. Suitable material may be used to backfill portions of the existing ponds on the property.

The crushing and hauling will occur adjacent to the pond. The intent is to move north to fill portions of the pond to gain more land area.

The crushing hours of operation are 8:30am to 5:00pm Monday – Saturday. Please see Exhibit A for the sound level test of a concrete recycling impact crushing plant. The sound level varies based on distance and wind. In general, the prevailing winds in Boise are from the northwest, therefore, the residential uses are not downwind of the facility. The decibel range is anticipated to be below 40 db at over 500’ from the sound source.

The hauling hours of operation are 7am to 10pm. Due to some roadwork projects requiring night work, this facility may accept material 24-hours a day a maximum of 100 days per year. However, prior to 24-hour operation, a 15’ high natural barrier such as a berm and/or plant material will be constructed.
ACHD policy is for sidewalks on one side of the road in an industrial area. A sidewalk exists on the south side of Joplin Road adjacent to this property, therefore ACHD is not requiring a sidewalk along this property frontage. Sidewalks are not located on the north side of Joplin to the immediate east or west of the property. The City of Boise’s properties adjacent to this property to the west do not have sidewalks. Due to site constraints associated with the irrigation canals and drains sidewalks along the property frontage, if conditioned, would be a hardship. (See topographic survey, Exhibit B).

Sincerely,

Tamara Thompson
Director of Client Services

The Land Group, Inc.
NOTE:

Eagle Crusher Portable Concrete Recycling Plant Impact Crusher.

Tests were taken using a General Radio Company Sound Level Meter, Type 1565-B, A-Scale, Slow Button. Temperature 73°, sunny, clear, wind 10-15 MPH from N.W. Noise levels 400 feet from plant produced 58 db readings down wind and 50 db up wind from plant. Readings were taken without a windscreen attachment.

The owner of the plant reported that the plant has been operating 12 months without complaints from neighbors residing 400' from plant operation. We are optimistic that we will not have any noise problem that can't be resolved.
11532 W. Joplin – Material Processing and Reuse facility
Property Information

Address

<table>
<thead>
<tr>
<th>Street Number:</th>
<th>Prefix:</th>
<th>Street Name:</th>
<th>Unit #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>11532</td>
<td>W</td>
<td>JOPLIN RD</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subdivision name:</th>
<th>Block:</th>
<th>Lot:</th>
<th>Section:</th>
<th>Township:</th>
<th>Range:</th>
<th>Zoning:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEC 22 4N 1E</td>
<td>0</td>
<td>0</td>
<td>22</td>
<td>4</td>
<td>1</td>
<td>RUT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parcel Number:</th>
<th>Additional Parcel Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>S0522347010</td>
<td>S0522347050</td>
</tr>
</tbody>
</table>

Primary Contact

Who is responsible for receiving e-mail, uploading files and communicating with Boise City?

- Agent/Representative
- Applicant
- Owner

Applicant Information

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>Guho</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joplin Pond, LLC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5390 W. Irving Street</td>
<td>Boise</td>
<td>ID</td>
<td>83706</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:mark@mguho.com">mark@mguho.com</a></td>
<td>(208) 375-7475</td>
</tr>
</tbody>
</table>

Agent/Representative Information

<table>
<thead>
<tr>
<th>Role Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect</td>
</tr>
<tr>
<td>Land Developer</td>
</tr>
<tr>
<td>Engineer</td>
</tr>
<tr>
<td>Contractor</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamara</td>
<td>Thompson</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Land Group, Inc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td>H62 E. Shore Drive, Ste 100</td>
<td>Eagle</td>
<td>ID</td>
<td>83616</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:tamara@theandgroupinc.com">tamara@theandgroupinc.com</a></td>
<td>(208) 939-4041</td>
</tr>
</tbody>
</table>

Owner Information

Same as Applicant? ☐ No ☑ Yes

(If yes, leave this section blank)

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ID</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell:</th>
<th>Fax:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.a

Packet Pg. 139

A. Number of Structures: 4  Use: office and shops

Square footage of proposed structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

B. Maximum proposed structure height(s):

C. Number of stories: 1

D. Number of seats (if restaurant, tavern or lounge): 0

E. Number of residential units (if applicable): 0

10. Existing Structures:

Square footage of existing structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

11. Building Exterior:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td></td>
</tr>
<tr>
<td>Walls</td>
<td></td>
</tr>
<tr>
<td>Windows/Doors</td>
<td></td>
</tr>
<tr>
<td>Fascia, Trim, etc:</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

12. Setbacks:

Note: Plans that are not graphically dimensioned will not be accepted.

<table>
<thead>
<tr>
<th>Building Required</th>
<th>Building Proposed</th>
<th>Parking Required</th>
<th>Parking Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front: 20</td>
<td>40</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Rear: 0</td>
<td>100+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 1: 15</td>
<td>100+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2: 15</td>
<td>100+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. Site Design:

Site Percentage Devoted to

<table>
<thead>
<tr>
<th>Building Coverage:</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Landscaping:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paving:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Uses:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe Other Uses:

14. Parking:

<table>
<thead>
<tr>
<th>Accessible Spaces:</th>
<th>Proposed compact spaces:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parking Spaces:</th>
<th>Proposed compact spaces:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bicycle Spaces:</th>
<th>Proposed compact spaces:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Are you proposing off-site parking?  
○ Yes  ○ No

If yes, how many spaces?

Are you requesting shared parking or a parking reduction?  
○ Yes  ○ No

If yes, how many spaces?

Restricted parking?  
○ Yes  ○ No

15. Landscaping:

A. Are there any prominent trees or areas of vegetation on the property?  
○ Yes  ○ No

B. Type:  
wetland type

C. Size:  
vary

D. General Location:  
SW corner along canals

16. Mechanical Units:

Number of Units:

Unit Location:

Type:

Height:

Proposed Screening Method:
A. Type of trash receptacles:
- Individual Can/Residential
- 3 Yd. Dumpster
- 6 Yd. Dumpster
- 8 Yd. Dumpster
- Compactor

B. Number of trash receptacles: 1

C. Proposed screening method:

D. Is the proposed location accessible for collection? (Contact Boise Public Works at 384-3901.)
- Yes
- No

E. Is recycling proposed?
- Yes
- No

18. Irrigation Ditches/Canals:
A. Are there any irrigation ditches or canals on or adjacent to the property? Yes
B. Location: bisects property
C. Size: 36

19. Fencing:
- Proposed: chain link - black vinyl coated
- Existing to Remain
- Type:
- Height: 6'
- Location: Joplin frontage, see plan

20. Loading Facilities (if proposed, for commercial uses only):
- Number:
- Location:
- Size:
- Screening:

21. Drainage:
- Proposed method of on-site retention: swales

22. Floodways & Hillsides:
A. Is any portion of this property located in a Floodway or a 100-year Floodplain? Yes
B. Does any portion of this parcel have slopes in excess of 15%? Yes

Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

23. Airport Influence Area:
- Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)
- No
- Area A
- Area B
- Area B1
- Area C
Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant’s responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate. The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: 

Date: 

Property Information

Address

Street Number: 11532
Prefix: W
Street Name: JOPLIN RD
Unit #: 

Subdivision name: SEC 22 4N 1E
Block: 0
Lot: 0
Section: 22
Township: 4
Range: 1
Zoning: RUT

Parcel Number: 50522347010
Additional Parcel Numbers: 50522347050

Primary Contact

Who is responsible for receiving e-mail, uploading files and communicating with Boise City?

- [ ] Agent/Representative
- [ ] Applicant
- [ ] Owner

Applicant Information

First Name: Mark
Last Name: Guho

Company: Joplin Pond, LLC

Address: 5390 W. Irving St
City: Boise
State: ID
Zip: 83706

E-mail: mark@mguho.com
Phone Number: (208) 375-7475
Cell: Fax:

Agent/Representative Information

Role Type: [ ] Architect
[ ] Land Developer
[ ] Engineer
[ ] Contractor
[ ] Other

First Name: Tamara
Last Name: Thompson

Company: The Land Group, Inc

Address: 662 E. Shore Drive, Ste 100
City: Boise
State: ID
Zip: 83616

E-mail: tamara@theandgroupinc.com
Phone Number: (208) 939-4041
Cell: Fax:

Owner Information

Same as Applicant? [No] [Yes] (If yes, leave this section blank)

First Name: 
Last Name: 

Company: 

Address: 
City: 
State: ID
Zip: 

E-mail: 
Phone Number: 
Cell: Fax:
Is this a Modification application?  
[ ] Yes  [ ] No  
File number being modified: 

1. Neighborhood Association:  

2. Comprehensive Planning Area:  
[ ] West Bench  

3. This application is a request to construct, add or change the use of the property as follows:  
Change use to facilitate Construction Materials Processing and Reuse facility  

4. Size of Property:  
[ ] Acres  [ ] Square Feet  

5. Water Issues:  
A. What are your fire flow requirements? (See International Fire Code):  

B. Number of hydrants (show location on site plan):  
Note: Any new hydrants/hydrant piping require Suez Water approval.  
Number of Existing:  
Number of Proposed:  

C. Is the building "sprinklered"?  
[ ] Yes  [ ] No  

D. What volume of water is available? (Contact SUEZ (208) 362-7354):  
2500 gpm  

6. Existing uses and structures on the property are as follows:  
Existing buildings will be used for a separate Contractor Office and Shops.  

7. Is the project intended to be phased? Please explain:  
No.  

8. Adjacent property information:  

Building types and/or uses  
Zone  

North: gravel pit andcri North:  

South: storage South: (M-1D) Limited Industrial w/Design R  

East: gravel pit and cri East: (M-2) General Industrial  

West: public works yard West: (M-1) Limited Industrial
A. Number of Structures: 0
Use: no structures

Square footage of proposed structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

B. Maximum proposed structure height(s):

C. Number of stories:

D. Number of seats (if restaurant, tavern or lounge):

E. Number of residential units (if applicable):

10. Existing Structures:

Square footage of existing structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

11. Building Exterior:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof:</td>
<td></td>
</tr>
<tr>
<td>Walls:</td>
<td></td>
</tr>
<tr>
<td>Windows/Doors:</td>
<td></td>
</tr>
<tr>
<td>Fascia, Trim, etc:</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

12. Setbacks:

Note: Plans that are not graphically dimensioned will not be accepted.

<table>
<thead>
<tr>
<th>Building Required</th>
<th>Building Proposed</th>
<th>Parking Required</th>
<th>Parking Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front: 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear: 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 1: 15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2: 15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Site Design:

<table>
<thead>
<tr>
<th>Building Coverage:</th>
<th>Site Percentage Devoted to</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Landscaping:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paving:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Uses:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe Other Uses: processing material

#### 14. Parking:

<table>
<thead>
<tr>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessible Spaces:</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Spaces:</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Bicycle Spaces:</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Proposed compact spaces:

Are you proposing off-site parking?  
- Yes  
- No

If yes, how many spaces?

Are you requesting shared parking or a parking reduction?  
- Yes  
- No

If yes, how many spaces?

Restricted parking?  
- Yes  
- No

#### 15. Landscaping:

A. Are there any prominent trees or areas of vegetation on the property?  
- Yes  
- No

B. Type: varies

C. Size: varies

D. General Location: SW corner along canals and by existing house

#### 16. Mechanical Units:

<table>
<thead>
<tr>
<th>Number of Units:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Height:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Proposed Screening Method:
17. Solid Waste:

A. Type of trash receptacles:
   - [ ] Individual Can/Residential
   - [x] 3 Yd. Dumpster
   - [x] 6 Yd. Dumpster
   - [ ] 8 Yd. Dumpster
   - [ ] Compactor

B. Number of trash receptacles: 

C. Proposed screening method: 

D. Is the proposed location accessible for collection? (Contact Boise Public Works at 384-3901.)
   - [ ] Yes
   - [ ] No

E. Is recycling proposed?

18. Irrigation Ditches/Canals:

A. Are there any irrigation ditches or canals on or adjacent to the property?
   - [ ] Yes
   - [ ] No

B. Location: along Joplin and bisects property

C. Size: 36

19. Fencing:

<table>
<thead>
<tr>
<th>Proposed</th>
<th>Existing to Remain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: chain link - black vinyl coated</td>
<td></td>
</tr>
<tr>
<td>Height: 6'</td>
<td></td>
</tr>
<tr>
<td>Location: Joplin frontage, see plan</td>
<td></td>
</tr>
</tbody>
</table>

20. Loading Facilities (if proposed, for commercial uses only):

Number: 

Location: 

Size: 

Screening: 

21. Drainage:

Proposed method of on-site retention: swales

22. Floodways & Hillsides:

A. Is any portion of this property located in a Floodway or a 100-year Floodplain?
   - [ ] Yes
   - [ ] No

B. Does any portion of this parcel have slopes in excess of 15%?
   - [ ] Yes
   - [ ] No

Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

23. Airport Influence Area:

Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)

- [ ] No
- [ ] Area A
- [ ] Area B
- [ ] Area B1
- [ ] Area C
Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant’s responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate. The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: ____________________________
Date: ____________________________
**Planning Division Project Report**

**File Number**  
CUP19-00087, CUP19-00088 & CVA19-00070

**Applicant**  
Mark Guho / Joplin Pond, LLC

**Property Address**  
11532 W. Joplin Road

**Public Hearing Date**  
January 6, 2020

**Heard by**  
Planning and Zoning Commission

**Analyst**  
David Moser, Associate Planner

**Reviewed By**  
Céline Acord, Current Planning Manager

---

**Public Notification**

- Neighborhood meeting conducted on: June 19, 2019
- Radius notices mailed to properties within 300 feet on: December 20, 2019
- Newspaper notification published on: December 21, 2019
- Applicant posted notice on site on: December 18, 2019

---

**Table of Contents**

1. Project Data and Facts .......................................................... 2
2. Land Use ............................................................................. 2
3. Project Proposal ................................................................. 3
4. Development Code ............................................................. 3
5. Comprehensive Plan ............................................................ 3
6. Transportation Data ............................................................. 4
7. Analysis .............................................................................. 4
8. Approval Criteria ............................................................... 7
9. Recommended Conditions of Approval .................................. 8

**Exhibits**

Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Architect/Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

**Current Land Use**

A single-family house with several out buildings occupies the southwest corner of property. The remainder of the subject property contains two large ponds.

**Description of Applicant’s Request**

The applicant requests to convert the existing buildings on site into a contractor yard and shop. Adjacent to the contractor yard the applicant requests to operate a construction materials recycling facility.

2. Land Use

**Description and Character of Surrounding Area**

The property is located on the north side of Joplin Road in an area dominated by industrial uses including the Boise City Water Renewal Facility and several gravel pits and mining operations. The terrain slopes upward to the southwest of the property where several large single-family homes overlook the site. The Boise River is less than a half mile to the north.

**Adjacent Land Uses and Zoning**

| North | Boise Water Renewal Facility and Gravel Pits, then the Boise River/ M-2 (Heavy Industrial) and RUT (Rural Urban Transition in Ada County) |
| South | Joplin Road, then Single-Family Dwellings and Storage Units / R-1A (Single Family Residential), L-OD (Limited Office with Design Review), and M-1D (Light Industrial with Design Review) |
| East | Contractor’s yard, Dog Kennel then Gravel Pits / M2 (General Industrial in Ada County), M-1D and RUT |
| West | City of Boise Shop and Vacant Land / M-1 and A-1 (Open Lands) |
3. Project Proposal

The applicant requests two conditional use permits which include a contractor office and yard on the southwest corner of the site and a construction material recycle facility on the southeast corner of the site.

Setbacks

No new structures are proposed with either request and the development will comply with all setbacks. The contractor yard will reuse the existing buildings on site for the office and storage. A 20-foot landscape buffer will be provided along Joplin Road.

Parking

The Development Code does not list a specific parking standard for these types of uses and the applicant is proposing 6 full size parking spaces for the contractor yard and no parking spaces for the recycle facility. The 6 parking spaces for the contractor yard are adequate to meet the anticipated parking demanded for this use. Given the nature of the recycle facility no parking is required. The applicant has agreed to pave the parking lot adjacent to the east of the contractor office and the main entrance. Therefore, the variance request for a gravel parking lot has been withdrawn.

4. Development Code (Boise City Code Title 11)

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.6</td>
<td>Specific Procedures: Conditional Use Permit</td>
</tr>
<tr>
<td>11-04-06</td>
<td>Industrial Districts</td>
</tr>
<tr>
<td>11-07-03</td>
<td>Off-Street Parking and Loading Standards</td>
</tr>
</tbody>
</table>

5. Comprehensive Plan (Blueprint Boise)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
</table>
| Chapter 2: City Wide Visions and Policies | Policies ES 2.8, ES 8.4 and ES 9.5  
Goal ES 5  
Policy CC 7.1  
Policy EC 6.3 |
| Chapter 3: Community Structure and Design | Principle GDP-C/E.3 (a)  
 Principle GDP-C/E.4(b) |
6. Transportation Data

Based on the Institute of Transportation Engineers Trip Generation Manual 10th edition the development is estimated to generate 38 vehicle trips per day and 4 vehicle trips per hour in the PM peak hour for the two proposed uses.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Traffic Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joplin Road</td>
<td>1,059’</td>
<td>Collector north of Park Blvd / Local south of Park Blvd</td>
<td>N/A</td>
</tr>
<tr>
<td>State Highway 20/26</td>
<td>0’</td>
<td>Principal Arterial</td>
<td>1,481</td>
</tr>
<tr>
<td>Chinden Boulevard*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*ACHD does not set level of service thresholds for State Highways.

The average daily traffic count for State Highway 20/26 (Chinden Blvd) west of Glenwood Street was 30,816 on March 21, 2019. There are no current traffic counts for Joplin Road.

7. Analysis

The applicant requests a conditional use permit for a contractor yard and construction materials recycle facility on 29.25 acres located at 11532 W Joplin Rd in a pending M-2D/DA (Heavy Industrial with Design Review and a Development Agreement) zone. A variance for the gravel parking was included. In correspondence received on December 23, 2019, the applicant has agreed to pave the parking lot. Therefore, the variance request has been withdrawn.

History

The annexation (CAR19-00015) of the subject property from RUT (Rural Urban Transition-Ada County) to M-2D/DA was recently approved by the City Council on October 8, 2019. The third reading of this annexation ordinance is scheduled to be heard by the Council on January 7, 2020. A Development Agreement (DA) has been recorded for the property, which specifically discusses the proposed contractor office and yard. According to the DA, any development on the southwest corner of the site and the proposed recycle facility shall obtain conditional use approval. To ensure the annexation is complete and the DA is in effect, a recommended condition of approval requires the annexation and three readings of the ordinance be completed prior to submittal of building and grading permits.

Conditional Uses

The subject property is approximately 30 acres in size and comprised of two ponds which occupy the north side of site. The applicant is currently requesting a property line adjustment (i.e. ROS19-00103) to create a 3-acre parcel on the southeast corner of the property. With this record of survey, a cross access agreement is required between the properties, which is a specific requirement of the DA. The larger remaining parcel will contain the contractor yard and recycle facility.
The contractor yard is located on the southwest side of the site and on the south side of the Thurman Mill Canal. It will use the four existing structures for storage and office uses. It will operate 7 days a week and with standard hours of operation (i.e. 7am to 7pm).

The recycle facility is located adjacent to the east of the contractor yard and on the north side of the Thurman Mill Canal. This facility is comprised of an open area and will not contain any permanent structures. The applicant will bridge and pipe the canal to gain access. It will provide an outdoor storage area for used construction materials (i.e. soil, concrete, asphalt and rock debris) which will be sorted and processed for reuse. The site will not accept any hazardous materials. In addition, some of the construction materials will be used to back fill the adjacent pond. The processing of these materials will include the crushing of rock, concrete and asphalt debris.

According to the applicant, the recycle facility will operate Monday through Saturday from 8:30am to 5pm, which includes the use of heavy equipment to move material and crushing activities.
These proposed hours of operation are more restrictive than the Sunroc Facility adjacent to the north, which limits its batch plant operations to 7:30am to 4:30pm. In addition, the anticipated noise level from the crushing machinery ranges between 40 decibels (db) to 53 db at 500 feet away depending on weather conditions. These db levels are equivalent to a Suburban Area at Night at 40 db to Light Traffic at 50 db. The nearest residential house is located approximately 550 feet away to the southwest and elevated 56 feet on a ridge. In addition to the site operations, the hauling hours will be limited to 7am to 10pm daily. However, the site would accept deliveries 24 hours a day during the summer months (i.e. ~100 days a year). To limit noise impacts from these late-night deliveries a recommended condition of approval requires the construction of a 15-foot high natural barrier (i.e. berm and landscaping) prior to accepting material outside the standard hours of operation. Finally, these activities will move to the north and away from the residential neighborhood over time as the pond is filled. The conditions would reduce the noise impacts generated from the facility on the adjacent residential neighborhood. Reducing noise impacts on adjacent properties from the loading, unloading sorting and processing (e.g. crushing) of material is supported by the Comprehensive Plan. Policy ES8.4 requires mitigation measures be used to protect “Noise Sensitive” (i.e. single-family residences) land uses. Principle GDP-C/E.4 promotes the mitigation of noise and lights impacts on adjacent properties.

Both the contractor yard and recycle facility will use a gravel surface for the work area. The Development Code allows for storage areas within an industrial zone to use a gravel surface provided they are screened from the right-of-way. As such, the gravel surface within the contractor yard and construction material recycling area is acceptable since these areas are screened from the street with a 6-foot chain link fence. A recommended condition of approval requires the fence be sight obscuring and if the fence is chain link then it shall use slats. The new parking lot and gravel surfaced work area would require Design Review approval to review the site screening and landscaping. Principle GDP-C/E3 (a) promotes concealing storage areas behind decorative screening or walls. To further limit the sites impacts on the surrounding neighborhood the applicant shall provide a maintenance plan for dust control to the City of Boise prior to the commencement of both uses.

Connectivity
The applicant is not proposing any roadway improvements along Joplin Road abutting the property. However, ACHD is requiring Joplin Road be improved with a 36-foot wide ½ street section with curb and gutter. They are not requiring sidewalk since it is an industrial area and the south side of the roadway is improved with sidewalks. In addition, there are physical constraints associated with the site that make the construction of sidewalk difficult along this street frontage. This includes the location of the Thurman Mill Canal and Thurman Drain on the southeast and southwest side of the property, respectively. Both the drain and irrigation structures are located adjacent to and within the right-of-way as seen on the figure below. As such, the Planning Team is not requiring any additional right-of-way improvements.
8. Approval Criteria

**Conditional Use Permit (11-03-04.6(a))**

i. **The location is compatible to other uses in the general neighborhood;**

The location of the contractor yard and construction material recycle facility is compatible to the other uses in the general industrial neighborhood. The adjacent industrial uses include self-storage and outdoor storage to the south, gravel extraction operation (i.e. Sunroc) to the north, Boise City Water Renewal Facility to the west, and commercial contractor shop to the east along Joplin Road. In addition, both uses are less intense than the historic gravel extraction operations that occurred on site. A single-family residential neighborhood is located to the southwest across Joplin Road. These homes are located on a ridge that is elevated approximately 56 feet over the industrial properties to the north. These houses are generally setback from the edge of the slope with views of the river and foothills. This difference in elevation will ensure further compatibility with neighboring residential properties.

ii. **The proposed use will not place an undue burden on transportation and other public facilities in the vicinity;**

Comments received from public agencies confirm the proposed uses (i.e. contractor yard and material recycle facility) will not place an undue burden on the transportation system or other services in the vicinity. ACHD had no concerns with standards conditions of approval which included some street improvements along Joplin Road. To ensure it complies Public Works requirements the project shall provide compliant site access for solid waste vehicles as per code.
iii. The site is large enough to accommodate the proposed use and all yards, open spaces, pathways, walls, fences, parking, loading, landscaping, and such other features as are required by this Code;

The site is large enough to accommodate the proposed uses. The site design provides a 20-foot wide landscape buffer along the right-of-way since it is adjacent to a residential neighborhood to the south across Joplin Road. The contractor yard and shop will reuse the existing buildings. No new structures are proposed with the recycle facility. Given the nature of the two uses, the correct number of off-street parking spaces are provided.

iv. The proposed use, if it complies with all conditions imposed, will not adversely affect other property of the vicinity;

The proposed contractor yard and shop will not adversely affect the adjacent residential neighborhood due to the site separation and difference in elevation. Compared to other adjacent industrial uses (Sunroc Facility and the Boise City Water Renewal Facility) the contractor yard is a relatively low impact land use. In addition, the adjacent residential neighborhood is located on a ridge and situated approximately 56 feet higher in elevation than the subject property. With the recommended conditions of approval, the recycle facility will not adversely impact the adjacent residential neighborhood. These conditions include limiting the operation hours of the recycle facility and the crushing activities to specific times as a means to mitigate noise impacts.

v. The proposed use is in compliance with the Comprehensive Plan.

The contractor yard and recycle facility are in compliance with the Comprehensive Plan. Policy ES 9.5 encourages the adaptive reuse of buildings as a means to promote energy conservation and reuse of building materials (Policy ES 9.5). In addition, Goal ES 5 encourages the reduction of solid waste being landfilled. Policy EC 6.3 encourages businesses that use sustainable practices and the recycling of materials. These goals and policies are the intended purpose of the recycle facility and the contractor will reuse the existing buildings.

9. Recommended Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received November 26 and 27, 2019, except as expressly modified by Design Review and the following conditions:

2. The three readings of the ordinance for the annexation (CAR19-00015) shall be completed prior to submittal of building and grading permits.
3. The hours of operation for the material reuse facility shall be limited to 8:30am to 5pm Monday through Saturday. The hauling activities shall generally be limited to 7am to 10pm daily. During the summer months these hours shall be extended to 24 hours a day. Prior to implementing these extended hauling hours of operation a 15-foot high natural barrier (berm and landscaping) shall be constructed along the south side of the reuse facility.

4. The gravel storage/work areas shall be screened with a sight obscuring fence. If it is a chain link fence, then sight obscuring slat shall be used.

5. The applicant shall pave the contractor office parking lot.

6. A maintenance plan for dust control shall be submitted to the City of Boise prior to the commencement of the use of the gravel work and storage areas.

7. The site plan shall provide adequate access for the Public Works solid waste vehicles.

8. Design Review approval is required prior to submitting a building and/or grading permit.

9. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW) in the memos from:
   i. Sewer dated December 2, 2019;
   ii. Pretreatment dated December 5, 2019;
   iii. Drainage dated December 9, 2019;
   iv. Solid Waste dated December 12, 2019; and

   Contact BCPW at 208-384-3900 for specific comments or questions.

10. Compliance with the comments from the following agencies:
    i. Ada County Highway District (December 4, 2019); and
    ii. Boise Fire Department (December 26, 2019).

**Standard Conditions of Approval**

11. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

12. Vision Triangles, as defined under Section 11-012-03 of the Boise City Code, shall remain clear of sight obstructions.
13. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

14. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or their authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.

15. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

16. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.

17. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

18. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must acquire construction permits and commence placement of permanent footings and structures on or in the ground.

19. Prior to the expiration of this conditional use permit, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.
December 4, 2019

To: Tamara Thompson
The Land Group, Inc.
426 E. Shore Drive, Suite 100
Eagle, ID 83616

Subject: BOI19-0227/CUP19-00087, CUP19-00088, CVA19-00070
11532 W. Joplin Road
Condition Use Permits for contractor’s office and yard and Variance for a gravel parking lot

The applicant submitted two Conditional Use Permit applications to change the use of the property to construction materials processing and reuse facility and to utilize the existing structures as a new construction contractor office, shop and yard. The applicant also submitted a variance application for a gravel parking lot.

A. Findings of Fact
   1. Joplin Road
      a. Existing Conditions: Joplin Road is improved with 2-travel lanes, 30 to 38-feet of pavement and no curb, gutter or sidewalk abutting the site. There is 55 to 68-feet of right-of-way for Joplin Road (28 to 40-feet from centerline). There is an existing 7-foot wide attached concrete sidewalk on a portion of the south side of Joplin Road.

      b. Policy:
         Industrial Roadway Policy: District Policy 7209.2.1 states that the developer is responsible for improving all commercial street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

         Street Section and Right-of-Way Policy: District Policy 7208.5 states that right-of-way widths for new commercial streets shall typically be 50 and 70-feet wide and that the standard street section will vary depending on the need for a center turn lane, bike lanes, volumes, percentage of truck traffic, and/or on-street parking.

         • A 36-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and on-street parking.

         • A 40-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and a center turn lane.

         • A 46-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and a center turn lane and bike lanes.

         Sidewalk Policy: District Policy 7209.5.6 requires concrete sidewalks at least 5-feet wide to be constructed on one side of all industrial streets. If a separated sidewalk is proposed, a parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of...
pedestrians. Consult the District’s planter width policy if trees are to be placed within the parkway strip.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

**Half Street Policy:** District Policy 7209.2.2 required improvements shall consist of pavement widening to one-half the required width, including curb, gutter and concrete sidewalk (minimum 5-feet), plus 12-feet of additional pavement widening beyond the centerline established for the street to provide an adequate roadway surface, with the pavement crowned at the ultimate centerline. A 3-foot wide gravel shoulder and a borrow ditch sized to accommodate the roadway storm runoff shall be constructed on the unimproved side.

**Driveway Location Policy:** District policy 7209.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector or arterial street intersection.

**Successive Driveways:** District Policy 7209.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

**Driveway Width Policy:** District policy 7209.4.3 restricts industrial driveways to a maximum width of 40-feet. Most industrial driveways will be constructed as curb-cut type facilities.

**Driveway Paving Policy:** Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7209.4.3, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway.

c. **Applicant Proposal:** The applicant has proposed to construct Joplin Road abutting the site as ½ of a 36-foot wide industrial street section, with pavement widening to total 30-feet, and curb and gutter within the existing right-of-way.

d. **Staff Comments/Recommendations:** The applicant’s proposal meets District Policy and should be approved, as proposed. The applicant should specifically be required to construct vertical curb. Sidewalk is only required on one side of an industrial street, and since there is sidewalk on the south side of Joplin Road, across from the site, sidewalk is not required.

2. **Driveways**

a. **Existing Conditions:** There are three 25-foot wide unpaved driveways onto Joplin Road from the site.

b. **Policy:**

**Driveway Location Policy:** District policy 7209.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector or arterial street intersection.
Successive Driveways: District Policy 7209.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

Driveway Width Policy: District policy 7209.4.3 restricts industrial driveways to a maximum width of 40-feet. Most industrial driveways will be constructed as curb-cut type facilities.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7209.4.3, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway.

Driveway Design Requirements: District policy 7209.4.3 states if an access point is to be gated, the gate or keypad (whichever is closer) shall be located a minimum of 50-feet from the near edge of the intersection and a turnaround shall be provided.

c. Applicant’s Proposal: The applicant has proposed to close the eastern most driveway with curb and gutter to match improvements on the either side. The applicant has also proposed to relocate the two remaining driveways to approximately 267-feet and 451-feet to the west of the east property line, widen them to 40-feet and 35-feet, respectively and construct them as curb-return type driveways.

d. Staff Comments/Recommendations: The applicant’s proposal meets District policy and should be approved, as proposed. The applicant should be required to pave the driveways their full width and at least 30-feet into the site beyond the edge of pavement of Jopin Road.

   a. Staff Comments/Recommendations: There is 33-feet of unopened/unmaintained right-of-way along the site’s north property boundary. The Master Street Map shows a new arterial roadway, that is unfunded, in the unopened/unmaintained right-of-way to connect to Cloverdale Road at Chinden Boulevard/SH 20/26.

   It is unlikely that this right-of-way will be improved, as the parcels to the north and the east have not redeveloped and are currently pond retention/gravel pits/concrete batch plants.

4. Landscaping
   Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

B. Site Specific Conditions of Approval
   1. Improve Joplin Road abutting the site as ½ of a 36-foot wide industrial street section, with pavement, vertical curb and gutter abutting the site.
2. Close the eastern most driveway with curb and gutter to match improvements on either side.

3. Construct one 40-foot wide curb return type driveway approximately 267-feet to the west of the east property line.

4. Construct one 35-foot wide curb return type driveway approximately 451-feet to the west of the east property.

5. Pave the driveways their full width at least 30-feet into the site beyond the edge of pavement of Joplin Road.

6. A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas.

7. A Traffic Impact Fee will be assessed by ACHD and will be due prior to issuance of a building permit.

8. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

9. Comply with the Standard Conditions of Approval as noted below.

C. Traffic Information

Trip Generation
This development is estimated to generate 38 vehicle trips per day for the office, shop and storage uses; and 4 vehicle trips per hour in the PM peak hour, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

Condition of Area Roadways: Traffic Count is based on Vehicles per hour (VPH)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Hour Traffic Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Highway 20/26 Chinden Boulevard</strong></td>
<td>0-feet</td>
<td>Principal Arterial</td>
<td>1,481</td>
</tr>
<tr>
<td>Joplin Road</td>
<td>1,059-feet</td>
<td>Local</td>
<td>N/A</td>
</tr>
</tbody>
</table>

** ACHD does not set level of service thresholds for State Highways.

Average Daily Traffic Count (VDT): Average daily traffic counts are based on ACHD’s most current traffic counts

- The average daily traffic count for Chinden Boulevard/SH 20/26 west of Glenwood Street was 30,816 on March 21, 2019.
- There are no current traffic counts for Joplin road.

D. Attachments

1. Vicinity Map
2. Site Plan
3. Standard Conditions of Approval
4. Appeal Guidelines
If you have any questions, please feel free to contact me at (208) 387-6293.

Sincerely,

[Signature]

Paige Bankhead, E.I.
Planner II
Development Services

cc: City of Boise Rep
Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.6, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant’s engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District’s Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District’s Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant’s authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.
Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

   a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

   b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

   c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

   d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager’s reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

   e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.
To: Planning and Development Services

From: Zach Conde, Senior Environmental Specialist
Public Works

Subject: CUP19-00087; Joplin Pond 11532 W Joplin Rd.; Pretreatment Comments

Bulk quantities of materials (hazardous/non-hazardous) utilized and stored on site, any hazardous process wastewater, other waste materials, and/or prohibited pollutants shall not be processed or stored in a manner that could result in discharge to sanitary sewer or storm water management facilities. Accidental spill protection measures shall be provided. Suitable and adequate oil/sediment interceptor(s) shall be provided for any/all sanitary sewer connected floor drains that will receive non-domestic process wastewater. Any outside storage of materials shall be managed in a manner protective of storm water detention/conveyance facilities.

For more information, or if you have any questions please contact Zach Conde, 208-608-7530 or email at zconde@cityofboise.org.

Conditional Use Design Review Application
SAR095 (Boise)
6.4
To: Planning and Development Services

From: Zach Conde, Senior Environmental Specialist
Public Works

Subject: CUP19-00088; Joplin Pond 11532 W Joplin Rd.; Pretreatment Comments

Bulk quantities of materials (hazardous/non-hazardous) utilized and stored on site, any hazardous process wastewater, other waste materials, and/or prohibited pollutants shall not be processed or stored in a manner that could result in discharge to sanitary sewer or storm water management facilities. Accidental spill protection measures shall be provided. Suitable and adequate oil/sediment interceptor(s) shall be provided for any/all sanitary sewer connected floor drains that will receive non-domestic process wastewater. Any outside storage of materials shall be managed in a manner protective of storm water detention/conveyance facilities.

For more information, or if you have any questions please contact Zach Conde, 208-608-7530 or email at zconde@cityofboise.org.

Conditional Use Design Review Application
SAR095 (Boise)
6.4
INTER-DEPARTMENT
CORRESPONDENCE

Date: 12/9/2019

To: Planning and Development Services

From: Jason Taylor, P.E., Assistant City Engineer
Public Works

Subject: CUP19-00087; Drainage/Stormwater Comments

DR01 A drainage plan must be submitted and approved by Public Works prior to issuance of a building permit.

DRHG W High groundwater at this site may preclude use of a subsurface stormwater system.

If you have any further questions, contact Brian Murphy at 208-608-7148 or bmurphy@cityofboise.org.
Date: 12/9/2019

To: Planning and Development Services

From: Jason Taylor, P.E., Assistant City Engineer
Public Works

Subject: CUP19-00088; Drainage/Stormwater Comments

DR01 A drainage plan must be submitted and approved by Public Works prior to issuance of a building permit or any new and impervious surfaces as outlined in the Public Works Stormwater Manual.

DR06 This area is subject to high groundwater. If subsurface stormwater disposal is being contemplated; the developer should coordinate with Central District Health for approval, prior to preparation of final plans.

If you have any further questions, contact Brian Murphy at 208-608-7148 or bmurphy@cityofboise.org.
Date: December 2, 2019

To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
Public Works Department

Subject: CUP19-00087; 11532 W. Joplin Road; Sewer Comments

Contact Public Works for sewer service information and Sewer Rating at 208-608-7150 for sewer fees.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
CITY OF BOISE

INTER-DEPARTMENT
CORRESPONDENCE

Date: December 5, 2019

To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
Public Works Department

Subject: CUP19-00088; 11532 W Joplin Road; Sewer Comments

Contact Public Works for sewer service information and Sewer Rating at 208-608-7150 for sewer fees.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
To: Planning and Development Services

From: Tom Marshall, Street Light Program Technician
Public Works Engineering

Subject: Street Light Comments
CUP19-00087: 11532 W Joplin Rd.

No comment.
If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.
City of Boise Solid Waste staff has reviewed the application for this project and has the following comment(s):

Republic Services, our contracted waste hauler, can supply 3, 6, or 8-yard dumpsters for trash and recycling.

Solid waste enclosures are required for all new commercial solid waste service locations.

Enclosures must be located and configured so there is at least 50’ of unobstructed access in front of the enclosure as measured from the center of the enclosure gates, extending to the width of the enclosure gates.

The site plan must be designed so that backing movements of the collection vehicle do not exceed 70’ in length, measured from the front of the enclosure to the edge of an intersecting drive aisle or paved area where the vehicle can turn around.

Collection vehicles cannot perform turning maneuvers while backing.

The link below provides information regarding trash enclosure design and location requirements:

https://www.cityofboise.org/media/7186/commercialenclosurerequirements.pdf

Please contact me with any questions at 208-608-7555 or rwalkins@cityofboise.org.
MEMO

TO:  David Moser
Planning and development Services

FROM:  Ron Johnson, Division Chief-Asst. Fire Marshal
Boise Fire Department

DATE:  12/26/2019
RE:  CUP19-00087

Fire Dept. Comments

Boise Fire Department has reviewed this application for a contractor office, shop, and yard and has no comments.

Please contact me at 208-570-6571 with any questions.
TO:      David Moser
Planning and development Services
FROM:    Ron Johnson, Division Chief-Asst. Fire Marshal
         Boise Fire Department
DATE:    12/26/2019
RE:      CUP19-00088

Fire Dept. Comments
Boise Fire Department has reviewed this application for Materials Processing and Reuse facility and has no comments.

Please contact me at 208-570-6571 with any questions.
CVA19-00067 / LeAnn Hume

Summary
Variance to encroach into the street side setback to construct a new single-family dwelling on 0.19 acres located at 422 N Bacon Dr in an R-1C (Single Family Residential) zone.

Prepared By
Ethan Mansfield, Associate Planner

Recommendation
Approval with conditions

Reason for the Decision
The request is consistent with Boise City Code and meets the approval criteria for a variance (11-03-04.14.C.7). An exceptional circumstance exists to justify the proposed variance. There is a public pathway and landscaping within the ACHD right-of-way adjacent to the subject property to the south, where the variance was requested; this is not a street because it is managed by Boise City Parks and Recreation (BCPR) as a bicycle/pedestrian pathway. The variance will not be materially detrimental to the public health, safety or welfare, or injurious to the property or improvements of other property owners. The pathway connecting the neighborhood to Eagle Rock Park and Chief Eagle Eye Reserve serves as a 50-foot buffer for the dwelling to the south. A 6-foot fence will screen the subject property from view of the public pathway. The development does not conflict with the spirit and intent of the Comprehensive Plan. The structure’s architectural style and location on the lot reflect Principle NAC3.1 and Goal NE-CCN1 in that they will complement the scale and character of the surrounding neighborhood. A substandard lot Design Review is required to ensure that the design of the home is consistent with the surrounding neighborhood and substandard lot development standards. The single-story design is critical for the future occupants to age in place, which increases the housing choices available for people at all life stages. This reflects Goal1.1 in the East End Neighborhood Plan.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
November 25, 2019

Boise City Planning Staff
City of Boise

Dear Staff:

This application is for construction of a new home at 422 N. Bacon Drive, Boise, and for variance of a street-side setback of the substandard corner lot from 15' to 5'. The property is zoned R-1C.

A special circumstance exists in that the side street to the lot exists legally but not physically, and so the owners seek to reduce the street-side setback from 15' to the 5' standard for interior lots. The sidewalk and grass area to that side of the house that serve as access to the hiking trails will not be impacted, and the existing sidewalk facing Bacon Drive will remain.

The new home will be compatible with the Comprehensive Plan, as it simply replaces the existing house in an established neighborhood.

Thank you,

[Signature]
Kenneth R. Reed
Architect
I have reviewed the proposed code variance regarding the project at 422 N. Bacon Drive, Boise. Based upon the plans presented to me, I do not object to the project as proposed.

Printed Name: Trevor Kenner (Boise Parks & Recreation)

Signature: [Signature]

Date: 11/19/2019

Physical Address: 451 N. Quarry View Place

Mailing Address: 1104 Royal Blvd., Boise, ID 83704
November 19, 2019

Re: 422 N. Bacon Drive Variance

Dr. Mr. Reed,

Boise Parks and Recreation maintains the landscape improvements within the right-of-way directly abutting the subject site to the south. The sidewalk and grass area provide neighborhood access to Eagle Rock Park (formerly known as Quarry View Park) and the trailhead at Chief Eagle Eye Reserve.

Boise Parks and Recreation Department has no objection to the proposed side yard variance. However, we would like to take this opportunity to inform you and your client(s) that this right-of-way area must not be encroached upon, nor shall any public access be impeded during future demolition or construction activities taking place at 422 N. Bacon Dr. This includes any cross-access, equipment and/or materials storage or staging in order to avoid potential damage to public assets (turf, sprinkler lines, etc.).

If it is anticipated that construction access is needed, please contact us as soon as possible to coordinate construction use licensing for the project, or visit:
https://www.cityofboise.org/departments/parks-and-recreation/licenses-and-permits/

Sincerely,

[Signature]

Trevor Kesner,
Park Planner
Boise Parks and Recreation
ilkesner@cityofboise.org
p. (208) 608-7646
I have reviewed the proposed code variance regarding the project at 422 N. Bacon Drive, Boise. Based upon the plans presented to me, I do not object to the project as proposed.

Printed Name: GINGER EAGLES

Signature: GINGER EAGLES Date: 11/30/2019

Physical Address: 425 N. BACON DR

Mailing Address:
I have reviewed the proposed code variance regarding the project at 422 N. Bacon Drive, Boise. Based upon the plans presented to me, I do not object to the project as proposed.

Printed Name: Emily Ringer
Signature: [Signature]
Date: 11/22/19
Physical Address: 45 Bacon Dr. Boise ID 83712
Mailing Address: Same
I have reviewed the proposed code variance regarding the project at 422 N. Bacon Drive, Boise. Based upon the plans presented to me, I do not object to the project as proposed.

Printed Name: Justin Pidgeon  
Address: 422 N. Bacon Dr.
Signature:  
Date: 11/18/19

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date: 

Printed Name:  
Address:  
Signature:  
Date:
1. Neighborhood Meeting Held (Date):

2. Neighborhood Association:

3. Comprehensive Planning Area:

4. This application is a request to construct, add or change the use of the property as follows:

   Reduce the current 15' side set back to 5' to construct a new one story home.

5. Size of Property:

   0.189 Acres  Square Feet

6. What Ordinance standards are you requesting a variance from:

   15 corner lot set back

7. What special circumstances or conditions apply to the land or use which do not generally apply to other lands or uses in the same zone or vicinity?

   The original street has been converted to a pedestrian access with several large mature trees and a sidewalk to access the preserve.

8. Why is a variance necessary for the enjoyment of your rights as a property owner?

   The design is for aging in place or a client with bad knees. Proposed back door is for storage.

9. Explain why this variance will not adversely affect the health, safety, or general welfare of the persons residing or working in the vicinity of the property:

   The existing tree encroaches into the current setback already. The new home will be one story matching the existing architecture of the area.

10. Explain any hardships associated with the property that were not the result of your own actions or were not known to you prior to the purchase or development of the property:

   The existing home is a one story one car garage w/ several mature trees. Current code is for a requring a 2 car garage and the existing trees should be preserved as well as the one story architect.

11. Adjacent property information:

   Building types and/or uses

   North: Residences  Zone: 
   South: legal street (pathway)  South: 
   East: public open space  East: 
   West: Residences  West: 

12. Any additional comments?

   We feel this design is sensitive to existing architecture of the subdivision and preserves the existing trees and functions for aging in place for a couple with adult children.

   The undersigned declares that the above provided information is true and accurate.

   The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongly issued and subject the undersigned any applicable civil and/or criminal penalties.

   Agent/Representative Signature:

   Date:
Planning Division Project Report

File Number: CVA19-00067
Applicant: LeAnn Hume
Property Address: 422 N Bacon Dr

Public Hearing Date: January 6, 2020
Heard by: Planning and Zoning Commission

Analyst: Ethan Mansfield, Associate Planner
Reviewed By: Céline Acord, Current Planning Manager

Public Notification
Neighborhood meeting conducted on: November 18, 2019
Radius notices mailed to adjacent properties on: December 20, 2019
Newspaper notification published on: December 21, 2019
Applicant posted notice on site on: December 20, 2019

Table of Contents
1. Project Data and Facts ................................................................. 2
2. Land Use .................................................................................. 2
3. Project Proposal ........................................................................ 3
4. Development Code .................................................................... 3
5. Comprehensive Plan ................................................................. 3
6. Transportation Data ................................................................... 3
7. Analysis ..................................................................................... 4
8. Approval Criteria ....................................................................... 6
9. Recommended Conditions of Approval ....................................... 7

Exhibits
Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Architect/Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

- **Current Land Use**
  - Single-Family Residence

- **Description of Applicant's Request**
  - Variance to encroach into the street side setback for the construction of a new single-family dwelling.

2. Land Use

- **Description and Character of Surrounding Area**
  - The surrounding area is medium density residential with detached single-family homes. Midcentury homes with sidewalks and mature landscaping define the neighborhood.

- **Adjacent Land Uses and Zoning**
  - **North** Single-Family Dwelling / R-1C
  - **South** Sunrise Dr, a public pathway connecting to Eagle Rock Park / R-1C
  - **East** Eagle Rock Park and Chief Eagle Eye Reserve / A-1 (Open Land)
  - **West** Bacon Dr, then a Single-Family Dwelling / R-1C

- **History of Previous Actions**
  - DRH19-00540 Associated Substandard Lot Design Review – Pending

- **Special Considerations**
  - The property is a 60' wide substandard corner lot.
3. Project Proposal

The applicant proposes to construct a 2,349 square foot single family home with an attached garage on a substandard corner lot. A variance is requested to encroach into the street-side yard setback.

Setbacks

<table>
<thead>
<tr>
<th>Yard</th>
<th>Required Building</th>
<th>Required Parking</th>
<th>Proposed Building</th>
<th>Proposed Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front (N Bacon Dr)</td>
<td>15’</td>
<td>20’</td>
<td>15’</td>
<td>20’</td>
</tr>
<tr>
<td>Street Side (E Sunrise Dr)</td>
<td>15’</td>
<td>20’</td>
<td>5’*</td>
<td>N/A</td>
</tr>
<tr>
<td>Side (north)</td>
<td>5’</td>
<td>3’</td>
<td>5’</td>
<td>5’</td>
</tr>
<tr>
<td>Rear (east)</td>
<td>15’</td>
<td>15’</td>
<td>37’+</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Subject of the variance request.

4. Development Code (Boise City Code Title 11)

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.14</td>
<td>Variance</td>
</tr>
<tr>
<td>11-04-03</td>
<td>Residential Districts</td>
</tr>
</tbody>
</table>

5. Comprehensive Plan (Blueprint Boise)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2: Citywide Visions and Policies</td>
<td>Principle NAC 3.1: Infill Design Principles</td>
</tr>
<tr>
<td>Chapter 4: North/East Planning Area Policies</td>
<td>Goal NE-CCN 1.4: Neighborhood Character</td>
</tr>
<tr>
<td>East End Neighborhood Plan</td>
<td>Goal Area 1: Land Use, Form &amp; Design</td>
</tr>
<tr>
<td></td>
<td>Goal 1.1: Compatibility</td>
</tr>
<tr>
<td></td>
<td>Goal 1.5: Preserve Historic Places</td>
</tr>
</tbody>
</table>

6. Transportation Data

Ada County Highway District (ACHD) did not provide any comments since the project will not generate any additional vehicle trips.
7. Analysis
The applicant requests a variance to encroach into the street-side setback to construct a new 2,350 square foot, single family dwelling on 0.19 acres located at 422 N Bacon Dr in an R-1C zone. The applicant requests to reduce the street-side yard (south) setback to 5 feet, a reduction from the 15 feet required by Boise City Code. The proposed single-story dwelling complies with front, inside, and rear yard setbacks and includes a two-car garage, which meets Boise City Code parking standards. While the lot meets the minimum area requirement for standard corner lots, the average lot width is just over 60 feet, which is less than the 70 feet required for corner lots. Therefore, a substandard lot review will also be required to ensure that the new single-family home is compatible with the surrounding neighborhood.

There is an exceptional circumstance associated with this property. Sunrise Dr, which abuts the lot on the south side, serves as a pedestrian pathway from the neighborhood to Eagle Rock Park and Chief Eagle Eye Reserve, east of and behind the subject property. This 50-foot-wide public right-of-way (ROW) was platted as part of the Warm Springs Park Subdivision in 1949 and is now primarily landscaping - just a 5-foot-wide ribbon of pavement connects the Bacon Dr to the park. Boise City Parks and Recreation (BCPR) maintains this public ROW, pursuant to a license agreement with ACHD. Sunrise Dr may have been originally conceived as a stub street to a proposed adjacent subdivision that
was never platted. Regardless of its history, it is used exclusively as a public pathway, not as a vehicular roadway.

A 6-foot fence clearly delineates the southern boundary of the subject property and screens the pathway from the property’s side yard. The applicant’s proposed design specifically preserves several mature trees on the property that may have been removed had another design been used. Furthermore, the existing structure, built in 1949, encroaches 4 feet into this side yard setback without apparent harm to the neighborhood or pathway users. Finally, several letters of no objection were signed by neighboring residents, as well as a letter of support from BCPR. Therefore, it seems the variance will not be detrimental to public welfare or injurious to adjacent property owners.

This variance will not conflict with the Comprehensive Plan. The proposed home will be reviewed through Design Review and its proposed architectural style and location on the lot reflect Principle NAC3.1 and Goal NE-CCN1 in that they will
complement the scale and character of the surrounding neighborhood. Many of the surrounding homes are one story and have 5-foot side yard setbacks. The home directly across Sunrise Dr to the south even encroaches into the public ROW. Similarly, this proposal is supported by Goal 1 of the recently completed East End Neighborhood Plan, which seeks to protect neighborhood character. Furthermore, the single-story design is critical for the future occupants to age in place, which increases the housing choices available for people at all life stages – Goal1.1 in the East End Neighborhood Plan.

Although the Planning Team is typically not supportive of variances for projects involving new construction, there is an exceptional circumstance related to the public ROW to the south of the subject parcel. Had this pathway been located within an easement, common lot, or a lot owned by BCPR, a 5-foot side yard setback would be required. As such, the Planning Team find the application to be consistent with the standards for approval.

8. Approval Criteria

Variance (Section 11-03-04.14)
A variance may be granted when it is found that:

i. There is either a hardship associated with the property itself or an exceptional circumstance relating to the intended use of the property that is not generally applicable in the district;

There is an exceptional circumstance that justifies the variance. A public pathway that connects the neighborhood to Eagle Rock Park and Chief Eagle Eye Reserve abuts the subject parcel on the south side. This pathway is built on public ROW – Sunrise Dr – and maintained by Boise City Parks and Recreation (BCPR). Had this been an easement, common lot, or a lot owned by BCPR, a 5-foot side yard setback would be required. However, since it is noted on the Warm Springs Park Subdivision Plat as a public roadway, 15 feet to living space is required by Boise City Code Section 11-04-03. Therefore, the exceptional circumstance is that the public pathway is located in the ROW adjacent to the subject property to the south; this is not a street because it is managed by Boise City Parks and Recreation (BCPR) as a bicycle/pedestrian pathway.

ii. Granting of the variance will not be in conflict with the Comprehensive Plan and will not affect a change in zoning; and,

Although the Comprehensive Plan does not specifically address variances, the proposed improvements align with several goals and policies within the Comprehensive Plan. The project will undergo a Design Review and its proposed architectural style and location on the lot reflect Principle NAC3.1 and Goal NE-CCN1 in that they will complement the scale and character of the surrounding neighborhood. Furthermore, the single-story design is critical for the future occupants
to age in place, which increases the housing choices available for people at all life stages – Goal 1.1 in the East End Neighborhood Plan.

iii. **Granting of the variance will not be materially detrimental to the public health, safety, or welfare, or injurious to the property or improvements of other property owners, or the quiet enjoyment thereof.**

The variance will not be materially detrimental to the public health, safety or welfare, or injurious to the property or improvements of other property owners. The pathway connecting the neighborhood to Eagle Rock Park and the Chief Eagle Eye Reserve serves as a 50-foot buffer for the next dwelling to the south. Furthermore, a fence will screen the subject property from view of the public pathway. Finally, the site design preserves mature trees that provide ecosystem services to the community and shade to not only this property, but those properties surrounding it.

**9. Recommended Conditions of Approval**

**Site Specific**

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received **November 25, 2019** and the updated site plan received **December 5, 2019**, except as expressly modified by the following conditions:

2. This variance allows for the reduction of the street side setback along Sunrise Drive to no less than 5’.

3. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW) and Boise City Parks and Recreation Department (BCPR) in the memos from:
   - i. BCPW Sewer dated **November 26, 2019**;
   - ii. BCPW Street Lights dated **November 27, 2019**; and
   - iii. BCPR dated **December 11, 2019**.

**Standard Conditions of Approval**

4. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

5. Vision Triangles, as defined under Section 11-012-03 of the Boise City Code, shall remain clear of sight obstructions.

6. All landscaping areas shall be provided with an irrigation system. Landscaping shall be maintained according to current accepted industry standards to promote good
plant health, and any dead or diseased plants shall be replaced. All landscape areas with shrubs shall have approved mulch such as bark or soil aid.

7. In compliance with Boise City Code, anyone planting, pruning, removing or trenching/excavating near any tree(s) on ACHD or State right-of-ways must obtain a permit from Boise City Community Forestry at least one (1) week in advance of such work by calling 208-608-7700. Species shall be selected from the Boise City Tree Selection Guide.

8. Deciduous trees shall be not less than 2" to 2 1/2" inch caliper size at the time of planting, evergreen trees 5' to 6' in height, and shrubs 1 to 5 gallons, as approved by staff. All plants are to conform to the American Association of Nurseryman Standards in terms of size and quality.

9. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

10. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or an authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.

11. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

12. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.

13. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

14. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of
the permit must acquire construction permits and commence placement of permanent footings and structures on or in the ground.

15. Prior to the expiration of this variance, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.

16. To reduce the noise impact of construction on nearby residential properties, all exterior construction activities shall be limited to the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. for Saturday and Sunday. Low noise impact activities such as surveying, layout and weather protection may be performed at any time. After the structure is enclosed with exterior walls and windows, interior construction of the enclosed floors can be performed at any time.
Boise Parks and Recreation has reviewed the referenced development applications and offers the following comments:

Boise Parks and Recreation Department maintains the landscape improvements within the right-of-way directly abutting the subject site to the south. The sidewalk and grass area provide direct neighborhood access to Eagle Rock Park (formerly known as Quarry View Park) and the trailhead at Chief Eagle Eye Reserve from Bacon Drive.

We have no objection to the proposed side yard variance. However, we would like to take this opportunity to assert that this right-of-way area must not be encroached upon, nor shall any public access be impeded during future demolition or construction activities taking place at 422 N. Bacon Dr. This includes any cross-access, equipment and/or materials storage or staging in order to avoid potential damage to public assets (turf, sprinkler lines, etc.).

If it is anticipated that construction access is needed, please contact us as soon as possible to coordinate construction use licensing for the project, or visit: https://www.cityofboise.org/departments/parks-and-recreation/licenses-and-permits/

Thank you.
Date: November 26, 2019

To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
Public Works Department

Subject: CVA19-00067; 422 N. Bacon Drive; Sewer Comments

Upon development of the property, connection to central sanitary sewer is required. Sewers are available onsite.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
Date: 27 November 2019

To: Planning and Development Services

From: Tom Marshall, Street Light Program Technician
Public Works Engineering

Subject: Street Light Comments
CVA19-00067 & DRH19-00540: 422 N Bacon Dr.

No comment.
If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208)608-7526
tmarshall@cityofboise.org

Making Boise the most livable city in the country.
CUP19-00086 / Le Soleil Child Care, LLC

Summary
Conditional use permit to operate a large child care center for 40 children in an existing building and a parking reduction at 302 W Idaho St in a R-OD (Residential Office with Design Review) zone.

Prepared By
Kevin Holmes, Associate Planner

Recommendation
Approval with conditions

Reason for the Decision
The child care facility and parking reduction complies with the approval criteria of B.C.C. Section 11-03-04.6 (Conditional Use Permit), Section 11-06-04 (Child Care Uses), and Section 11-07-03.3 (Parking Standards). The use of the property is compatible with the general neighborhood and will not adversely affect other property in the vicinity as it will provide an important service at a convenient location for residents and employees who live and work in the surrounding area. The child care facility is within an existing building in the Downtown planning area and there will be no exterior modifications. The site is large enough to accommodate the proposed use as required by Code. Traffic and other impacts associated with the use will be minimal as this site is along a transit corridor, and a child care facility of this size is best suited along an arterial roadway rather than internal to a neighborhood. Due to the close proximity of transit lines, the requested parking reduction is supported by Principle CC4.4(a) of the Comprehensive Plan which calls for creating incentives, such as reduced parking requirements, when specific Travel Demand Management parking techniques are implemented. Comments received from public agencies confirm the use will not place an undue burden on the transportation system or other services in the vicinity. The Comprehensive Plan supports this use as it provides an active use near key intersections and existing transit stops (Principle GDP-MU.1) and provides childcare facilities to serve the downtown employment centers and adjoining neighborhoods (Principle DT-NC 3.4).

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
NEW DAYCARE
LOADING / UNLOADING ZONE
EXISTING DETACHED SIDEWALK TO REMAIN
(EXISTING ON- STREET PARKING)

EXISTING CONCRETE PAVING TO REMAIN (ALLEY) 16' - 0"

EXISTING LANDSCAPE TO REMAIN
EXISTING STAIRS TO BASEMENT TO REMAIN
6' - 0"
9' - 0"

PROPOSED PLAY AREA, WITH USE AGREEMENT

PROPERTY LINE

PROPOSED VICINITY MAP

PROJECT SITE

ADDRESS: 302 WEST IDAHO STREET
BOISE, IDAHO 83702

ASSESSORS PARCEL NUMBER: R1013002590

JURISDICTION: CITY OF BOISE

ZONING: R-2OD LAND USE: DAYCARE

SITE AREA: ACRESAGE: 0.14 ACRES
SQUARE FOOTAGE: 6,098 SQUARE FEET

OVERALL SITE PLAN

C/L WEST IDAHO STREET (80’ R.O.W.)
C/L THIRD STREET (80’ R.O.W.)

PROPOSED PLAY AREA, WITH USE AGREEMENT

PROJECT SITE

VICTORY MAP

3.5.a Packet Pg. 209

Attachment: PZ_Project Report_January 6, 2020_CUP19-00086  (CUP19-00086 / Le Soleil Child Care, LLC)
Le Soleil Child Care, LLC – Exterior photos for Conditional Use Permit application

Building side - East

Law firm tenant’s entrance
Le Soleil Child Care, LLC – Exterior photos for Conditional Use Permit application

Building front - South
Building side - West
Building rear - North

Proposed loading area for d/o, p/u
Conditional Use Permit Application

Letter of Explanation

Le Soleil Child Care, LLC

302 W. Idaho Street,

Boise, ID 83702
Le Soleil Child Care, LLC Letter of Explanation

Project Overview and Philosophy

Le Soleil Child Care, LLC, represented by owner Justin Snyder, hereby submits this Conditional Use Permit application to the City of Boise to request the use of the existing building on parcel R1013002590 for use as a child care facility for up to 40 children open from 8am to 6pm, Monday-Friday.

The facility will serve children from infancy (6 weeks) through preschool age (until entering kindergarten), in a French-immersion setting and with a play-based and project-oriented curriculum that focuses on the needs and interests of individual students with large blocks of time dedicated to exploring and playing. The program will offer a unique educational experience for families interested in the many benefits of becoming bilingual in early childhood, with the only all-day French-immersion program for this age in the Boise area. Le Soleil will also provide a unique opportunity to families that live or work in the downtown core, where the city’s Comprehensive Plan recognizes a need to include more childcare programs. The program goals include fostering creativity and problem-solving skills in students, as well as teaching skills and values that are central to being contributing members of the local and global communities. In support of its mission, Le Soleil will, within one year of opening, offer up to five scholarship-funded enrollments to children from underserved communities such as those effected by homelessness or whose families have come to Boise as refugees. A significant part of this scholarship program will come through cooperation with Boise’s Interfaith Sanctuary. It is a core part of the program’s mission to make early childhood education accessible to members of the community from all walks of life, as this benefits everyone in the program and the community as a whole.
The long-term goal of Le Soleil is to become certified by the National Association for the Education of Young Children (NAEYC), which means following teacher-to-child ratios that are stricter than those required by the City of Boise and limiting class sizes to at most 8 infants, 12 toddlers (if children under 2 are present, this will be a lower number), and 20 preschoolers, with 7 staff members on-site when this capacity is met. Two teachers will be present with each age group, with another “floating” teacher to support the three groups with tasks such as snack preparation, breaks, and bathroom usage, as well as supervision when separate areas of the preschool are open for exploration by the children. Of teachers so far tentatively offered positions, all have education and experience regarding early childhood education and development (as well as French fluency) and come from diverse backgrounds in numerous countries.

**Indoor Space**

The existing indoor space will require almost no modification to work well as an early learning facility. As the facility is now, the only modifications will be to remove the barn-style doors to the proposed big movement space and atelier/living things space for increased line of site for supervision and ease of egress. A fire suppression and alarm system will be added to the building, since children under age 2 will be cared for in rooms with no direct exterior doors. Shown in “DWG. Floor Plan,” the space will be used in sections, with toddlers and infants having dedicated safe spaces for times when mixed-age play is not happening and to help with nap/quiet times. The preschool area will include a room for art and yoga as well as plant and fish care; a larger area with library and blocks; a home/farmer’s market dramatic play area; and an indoor space that will be used for big movement (especially during poor weather) and mixed use as needed. Removable gates may be used in the spaces between the infant/toddler and preschool
areas, between the art/yoga and living things rooms and the main space, and in the entryways to
the indoor play space, in order to ensure that proper ratios of teachers to children are met at all
times and to prevent children from entering any unattended area.

The restrooms on-site will have not only the existing toilets, but also smaller, non-
plumbed, training toilets in order to facilitate several children using the bathroom at any given
time. Handwashing between activities and before and after meals is an important part of the daily
routine, and the separate bathrooms for the older and younger children will facilitate this, as will
the existing sinks in the toddler and infant areas and the larger studio/living things area.

Families at Le Soleil will be asked to provide their children’s lunches, so the kitchen will
be used only for refrigeration, snack preparation, and preparing infants’ formula, milk, or other
meals and does not require a stove or oven. Dishwashing and sanitization will also occur in the
kitchen when ratios allow or after hours; laundry exists onsite to allow for emergency cleanups.

Outdoor Space

Outdoor play time is an essential part of early childhood learning, and Le Soleil will
encourage this exploration. The program has reached an agreement with the State of Idaho to use
the grounds of the historic Assay Office kitty-corner to the facility, as its dedicated outdoor
space, as shown in “DWG_Site Plan”. This park space is fenced and may be accessed by
crossing the lighted intersection of 3rd and Idaho Streets. Teachers will accompany children who
will, depending on age and developmental status, either be in a large stroller or walk in groups
holding a rope with handles to ensure safety. The teachers will carry handheld stop signs to use
as the children cross at the lighted crosswalk.
Parking, Pickup, and Dropoff

In order to meet City parking requirements for off-street spaces, office space such as the prior tenants are required to have 7 spaces available for a 2,100-sqf space. Our use requires only 4 spots to meet the City’s needs (one per 10 children), so continuing to allow a parking reduction for our new use will have even less of an impact on the surrounding area's parking than previous occupants. Our employee handbook—an excerpt of which can be found on “DOC_Employee Handbook”—details our policy of reimbursement for parking in nearby public parking lots, which have been found to have more than enough available parking spaces throughout the day for employee parking.

Le Soleil has done parking studies at peak times, with photographic evidence on “DOC_Parking Study” of available street parking which support the hypothesis that even at peak drop-off (8am-9am) and pickup (which will vary throughout the day depending on family needs) times, nearby parking will continue to be available to residents and other businesses on the block.

In order to facilitate the peak drop-off time, Le Soleil will use several tools. The family handbook (“DOC_Family Handbook”) includes an important policy (highlighted; pages 4 and 5) that will be reviewed with families as a condition of enrollment. This clause specifies that guardians are to respect all parking and traffic rules and lays out specifics of what that means, as well as consequences for enrollment for those who don’t comply. In response to a discussion with Christy Echevarria of the Imperial Plaza (across 3rd Street from the facility), specific language was added to both the family and employee handbooks that specifically prohibits parking in their lot, and Le Soleil has agreed to cooperate with neighbors to ensure that this is enforced.
Le Soleil Child Care, LLC Letter of Explanation

The proposed site plan ("DWG_Site Plan") shows the proposed addition of an accessible loading zone along the back alley for use by families. Our family handbook requires that only guardians with an infant (who usually require the most time) use this loading zone during the peak drop-off hour between 8am and 9am to keep the time spent signing in to a minimum. Families of older, more mobile children are asked to use safe, legal, on-street parking during this peak hour in order not to cause delays on streets or in our alley. As noted in “DOC_Parking Study,” plenty of temporary parking spots are available along the block during peak times, allowing for safe drop-off of older children (accompanied inside by their adult family member). Guardians are also asked that, during this peak period, they stay no longer than 15 minutes. In addition, Early Drop-off will be made available to a limited number of families to help spread out the drop-off times over an additional hour starting at 7am. Around 20-25% of those waitlisted currently plan to use Early Drop-Off. Pickup times vary much more widely based on family schedules, children’s age, and other factors, so the per-hour flow in the afternoons is anticipated to be significantly lower than the morning drop-off. During the rest of the day, almost no traffic is expected to be created by Le Soleil since 2-year-olds are normally discouraged from driving.

Considering our listed policies for families and employees and the research done into the actual parking use in the immediate vicinity of the building, Le Soleil will have a low impact on the usability of the roads and parking for neighboring residents and businesses. Parking studies and photos indicate that during the peak morning drop-off hour currently between 0 and 1 cars are normally parked on 3rd Street on the side of the building before the alley, in addition to a majority of spots being open on the south side of Bannock Street between 3rd and 4th Streets and on both Idaho and 4th Streets along the same side of the block as Le Soleil’s proposed facility.
Le Soleil Child Care, LLC Letter of Explanation

(without needing to cross any streets). Around 20% of families who have so far indicated interest in Le Soleil have more than one child who would attend, meaning that at capacity, around 32 cars will drop off and pick up children on a given day. If each family stays the maximum time of 15 minutes and 75% come within the 8am-9am hour (considering Early Drop-Off, but with no later arrivals), this equates to an average of 6 additional cars parked at a given time in the area, spread out over a single hour, in the worst-case scenario. Given our proposed loading zone from the alley (available to all families during off-peak times and infant families during the peak hour), this number is further decreased. From past experience with Petit Pois Daycare in Portland, OR, children are usually dropped off on average in 5-10 minutes, including parking time. This means that likely fewer than 4 cars at a given time will be added to current temporary on-street parking during our 1 peak hour, something which should have no negative impact on neighbors’ ability to use parking or on traffic flows.
### Property Information

#### Address

<table>
<thead>
<tr>
<th>Street Number:</th>
<th>Prefix:</th>
<th>Street Name:</th>
<th>Unit #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>302</td>
<td>W</td>
<td>IDAHO ST</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subdivision name:</th>
<th>Block:</th>
<th>Lot:</th>
<th>Section:</th>
<th>Township:</th>
<th>Range:</th>
<th>Zoning:</th>
</tr>
</thead>
<tbody>
<tr>
<td>B C T</td>
<td>39</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>2</td>
<td>R-OD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parcel Number:</th>
<th>Additional Parcel Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1013002590</td>
<td></td>
</tr>
</tbody>
</table>

#### Primary Contact

Who is responsible for receiving e-mail, uploading files and communicating with Boise City?

- [ ] Agent/Representative
- [ ] Applicant
- [ ] Owner

### Applicant Information

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justin</td>
<td>Snyder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le Soleil Child Care, LLC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2905 N 38th St</td>
<td>Boise</td>
<td>ID</td>
<td>83703</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:info@lesoleil.school">info@lesoleil.school</a></td>
<td>(208) 972-0923</td>
</tr>
</tbody>
</table>

### Agent/Representative Information

<table>
<thead>
<tr>
<th>Role Type:</th>
</tr>
</thead>
</table>
| [ ] Architect
| [ ] Land Developer
| [ ] Engineer
| [ ] Contractor
| [ ] Other |

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Owner Information

Same as Applicant?  
- [ ] No  
- [ ] Yes  

(If yes, leave this section blank)

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>James</td>
<td>Kissler</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>James A. Kissler LLC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1591 Sendero Ln</td>
<td>Boise</td>
<td>ID</td>
<td>83712</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:julie.kissler@paccra.com">julie.kissler@paccra.com</a></td>
<td>(208) 287-9485</td>
</tr>
</tbody>
</table>
1. Neighborhood Association: [Downtown Boise]

2. Comprehensive Planning Area: [Downtown]

3. This application is a request to construct, add or change the use of the property as follows:
The use will change the front 2,100 sqft tenant space of 302 W. Idaho Street from medical office to large child care facility (up to 40 children). Fire alarm and sprinkler system will be added to the building, but existing architecture to remain. Barn-

4. Size of Property: 6273 [Acres] [Square Feet]

5. Water Issues:

A. What are your fire flow requirements? (See International Fire Code):
   1500 gpm

B. Number of hydrants (show location on site plan):
   Note: Any new hydrants/hydrant piping require Suez Water approval.
   Number of Existing: _____________ Number of Proposed: _____________

C. Is the building "sprinklered"? [Yes] [No]

D. What volume of water is available? (Contact SUEZ (208) 362-7354):
   3000 gpm

6. Existing uses and structures on the property are as follows:
   One building, divided into 3 tenant spaces - medical office, law office, and a small, vacant section.

7. Is the project intended to be phased? Please explain:
   Work will take place upon approval of the City, directly preceding opening of the program. Program enrollment will ramp up over several months from initial enrollment of 10-12 daily students to 35-40 daily students.

8. Adjacent property information:

   Building types and/or uses | Zone
   ____________________________ | ____________
   North: Law Office | North: (R-OD) Residential Office w/Design
   South: Residential/office | South: (R-OD) Residential Office w/Design
   East: Retirement apartment | East: (R-OD) Residential Office w/Design
   West: Office space | West: (R-OD) Residential Office w/Design
## 3.5.a

### Proposed Structures

#### A. Number of Structures: [Blank]

**Use:** Existing structure to be shared

**Square footage of proposed structures or additions (if 5+ floors, attach narrative with chart):**

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
<th>1st Floor</th>
<th>2nd Floor</th>
<th>3rd Floor</th>
<th>4th Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**B. Maximum proposed structure height(s):** [Blank]

**C. Number of stories:** 0

**D. Number of seats (if restaurant, tavern or lounge):** 0

**E. Number of residential units (if applicable):** 0

### Existing Structures

**Square footage of existing structures or additions (if 5+ floors, attach narrative with chart):**

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
<th>1st Floor</th>
<th>2nd Floor</th>
<th>3rd Floor</th>
<th>4th Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2750</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Building Exterior

**Materials**

<table>
<thead>
<tr>
<th>Roof:</th>
<th>[Blank]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls:</td>
<td>[Blank]</td>
</tr>
<tr>
<td>Windows/Doors:</td>
<td>[Blank]</td>
</tr>
<tr>
<td>Fascia, Trim, etc:</td>
<td>[Blank]</td>
</tr>
<tr>
<td>Other:</td>
<td>[Blank]</td>
</tr>
</tbody>
</table>

**Colors**

### Setbacks

*Note: Plans that are not graphically dimensioned will not be accepted.*

<table>
<thead>
<tr>
<th>Building Required</th>
<th>Building Proposed</th>
<th>Parking Required</th>
<th>Parking Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 1:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. Site Design:

Site Percentage Devoted to
Building Coverage: ___________________________ %
Landscaping: ___________________________ %
Paving: ___________________________ %
Other Uses: ___________________________ %
Describe Other Uses: ___________________________

14. Parking:

<table>
<thead>
<tr>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible Spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Parking Spaces:</td>
<td>4</td>
</tr>
<tr>
<td>Bicycle Spaces:</td>
<td>0</td>
</tr>
</tbody>
</table>

Proposed compact spaces: 

Are you proposing off-site parking?  
☐ Yes  ☐ No

If yes, how many spaces? ___________________________

Are you requesting shared parking or a parking reduction?  
☐ Yes  ☐ No

If yes, how many spaces? ___________________________

Restricted parking?  
☐ Yes  ☐ No

15. Landscaping:

A. Are there any prominent trees or areas of vegetation on the property?  
☐ Yes  ☐ No

B. Type: Small hedges, ivy, shrubs, grass, 3 mature deciduous trees.

C. Size: Hedges ~2’, ivy up sides of building, trees on outside of separated

D. General Location: On south and east sides of building.

16. Mechanical Units:

Number of Units: ___________________________

Unit Location: ___________________________

Type: ___________________________

Height: ___________________________

Proposed Screening Method: ___________________________
17. Solid Waste:
   A. Type of trash receptacles:
      - [ ] Individual Can/Residential
      - [ ] 3 Yd. Dumpster
      - [ ] 6 Yd. Dumpster
      - [ ] 8 Yd. Dumpster
      - [ ] Compactor

   B. Number of trash receptacles:

   C. Proposed screening method:
      Building rear - existing

   D. Is the proposed location accessible for collection?
      (Contact Boise Public Works at 384-3901.)
      [ ] Yes  [ ] No

   E. Is recycling proposed?
      [ ] Yes  [ ] No

18. Irrigation Ditches/Canals:
   A. Are there any irrigation ditches or canals on or adjacent to the property?
      [ ] Yes  [ ] No

   B. Location:

   C. Size:

19. Fencing:
<table>
<thead>
<tr>
<th>Proposed</th>
<th>Existing to Remain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>Height:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
</tbody>
</table>

20. Loading Facilities (if proposed, for commercial uses only):
   Number:
   Location:
   Size:
   Screening:

21. Drainage:
   Proposed method of on-site retention:

22. Floodways & Hillslides:
   A. Is any portion of this property located in a Floodway or a 100-year Floodplain?
      [ ] Yes  [ ] No

   B. Does any portion of this parcel have slopes in excess of 15%?
      [ ] Yes  [ ] No

   Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

23. Airport Influence Area:
   Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)
      [ ] No  [ ] Area A  [ ] Area B  [ ] Area B1  [ ] Area C
Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant’s responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate. The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: 
Date: 

Attachment: PZ_Project Report_January 6, 2020_CUP19-00086 (CUP19-00086 / Le Soleil Child Care, LLC)
Planning Division Project Report

File Number CUP19-00086
Applicant Justin Snyder / Le Soleil School, LLC
Property Address 302 W Idaho St

Public Hearing Date January 6, 2020
Heard by Planning and Zoning Commission

Analyst Kevin Holmes, Associate Planner
Reviewed By Céline Acord, Current Planning Manager

Public Notification
Neighborhood meeting conducted on: November 18, 2019
Radius notices mailed to properties within 300 feet on: December 20, 2019
Newspaper notification published on: December 21, 2019
Applicant posted notice on site on: December 10, 2019

Table of Contents
1. Project Data and Facts................................................................. 2
2. Land Use.................................................................................. 2
3. Project Proposal.......................................................................... 3
4. Development Code...................................................................... 3
5. Comprehensive Plan................................................................. 4
6. Transportation Data.................................................................... 4
7. Analysis...................................................................................... 4
8. Approval Criteria.......................................................................... 5
9. Recommended Conditions of Approval........................................ 7

Exhibits
Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Applicant</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Urban Renewal District</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Tenant commercial building previously occupied by office use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description of Applicant’s Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>A conditional use permit for a large child care center for up to 40 children and a request for a parking reduction.</td>
</tr>
</tbody>
</table>

2. Land Use

**Description and Character of Surrounding Area**

The area has a Downtown Mixed Use land use designation and is comprised of a mix of commercial and residential uses with medical offices, single family homes, offices, and a large condominium building in the nearby vicinity.

**Adjacent Land Uses and Zoning**

<table>
<thead>
<tr>
<th>North</th>
<th>Offices and a public alley / R-OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>Idaho Street and 3rd Street then offices and property owned by the State of Idaho/ R-OD &amp; A-1DD (Open Lands, Park with Downtown Design Review)</td>
</tr>
<tr>
<td>East</td>
<td>12 story, 68-unit condo building &amp; associated parking lot / R-OD</td>
</tr>
<tr>
<td>West</td>
<td>Offices / R-OD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History of Previous Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
</tbody>
</table>
Special Considerations
The site is located within the P2 Parking Overlay District.

3. Project Proposal
The proposed child care will be located within an existing 2,966 square foot building. No exterior changes are being proposed.

Child Care

<table>
<thead>
<tr>
<th>Area Requirement</th>
<th>Required (sq. ft.)</th>
<th>Existing (sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Space (35 square feet/child)</td>
<td>1,400</td>
<td>2,966</td>
</tr>
<tr>
<td>Outdoor Space (100 square feet/child)</td>
<td>4,000</td>
<td>N/A*</td>
</tr>
</tbody>
</table>

*There is no on-site outdoor space proposed. However, the facility is proposing to utilize the grounds of the State Historical Preservation Office directly to the south for an outdoor play area. This property is 1.79 acres and accessible by public sidewalks.

Parking
Large child care centers are required one parking space per 10 children.

<table>
<thead>
<tr>
<th>Required</th>
<th>Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total parking spaces:</td>
<td>4</td>
</tr>
<tr>
<td>Accessible spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Compact spaces allowed:</td>
<td>1</td>
</tr>
<tr>
<td>Bicycle parking spaces:</td>
<td>1**</td>
</tr>
<tr>
<td>Off-site parking requested?</td>
<td>No</td>
</tr>
</tbody>
</table>

*Subject to parking reduction request.
**Providing the minimum bicycle parking will be included as a recommended condition of approval.

4. Development Code ([Boise City Code Title 11](#))

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.6</td>
<td>Conditional Use Specific Procedures</td>
</tr>
<tr>
<td>11-04-04</td>
<td>Office Districts</td>
</tr>
<tr>
<td>11-06-04.1(B)</td>
<td>Child Care Use Regulations</td>
</tr>
<tr>
<td>11-07-03</td>
<td>Off-Street Parking Requirements</td>
</tr>
<tr>
<td>11-07-03.3(3)</td>
<td>Reduction or Increase of Parking Requirements</td>
</tr>
</tbody>
</table>
5. Comprehensive Plan *(Blueprint Boise)*

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 3: Community Structure &amp; Design</td>
<td>Principle GDP-MU.1: Relationship of Uses</td>
</tr>
<tr>
<td>Chapter 4: Planning Area Policies</td>
<td>Principle DT-NC 3.4: Childcare Facilities</td>
</tr>
<tr>
<td></td>
<td>Principle CC4.4: Parking</td>
</tr>
</tbody>
</table>

6. Transportation Data
The Ada County Highway District (ACHD) provided standard comments and conditions of approval. Traffic impacts should be minimal as the development is not estimated to generate additional vehicle trips per day. The use is located within an existing office tenant space along the Idaho Street transit corridor. The existing on-street parking and drop-off/pick-up area on site will provide adequate room for the orderly drop-off and pick-up of children.

7. Analysis
Le Soleil Child Care is requesting a conditional use permit for a child care center with up to 40 children and 7 employees within an existing 2,966 square-foot building. The former office building is large enough to accommodate the proposed number of children as City Code allows for up to one child for every 35 square feet of gross floor area; approximately 75 square feet per child is available within this building. City Code requires 100 square-feet of outside play area per child; this requirement may be waived or modified if it is shown that there are connecting public sidewalks to an open space area. The applicant proposes to utilize the 1.79-acre grounds of the State Historical Preservation Office (SHPO), directly to the south approximately 150 feet away along public sidewalks. The applicant has provided a letter from SHPO agreeing to this arrangement.

The applicant is proposing to care for up to 40 children which requires 4 parking...
spaces per City Code (1 space per 10 children). A parking reduction is requested as only one off-street pick-up/drop-off space is provided north of the building along the public alley. The location of this child care center supports a reduction in parking. The subject property is located in a highly walkable and bikeable area of Downtown. There are multiple public parking lots/garages within walking distance and numerous transit routes within a two-block radius, including a bus stop directly in front of the property. Due to the close proximity of these transit lines, the requested parking reduction is supported by Principle CC4.4(a) of the Comprehensive Plan which calls for creating incentives, such as reduced parking requirements, when specific Travel Demand Management parking techniques are implemented. The applicant has supplied a parking study which demonstrates that there is available on-street parking at peak drop-off and pick-up times. In addition, the Ada County Highway District (ACHD) estimates that the proposed use will not generate any additional vehicle trips per day.

The child care center will not negatively impact other properties in the vicinity as it will occupy an existing building and the majority of activity will remain indoors. The proposed facility is located in the Downtown planning area, a regional hub that supports a mix of services and amenities to the area and has the highest concentration of employment in Idaho. Child care facilities are specifically identified as a service to be encouraged in the Downtown area by Principle DT-CC 3.4 of the Comprehensive Plan. This proposal will also provide an active use near key intersections and existing transit stops as supported by Principle GDP-MU.1(c).

8. Approval Criteria

Conditional Use Permit (11-03-04.6(C7))

i. **The location is compatible to other uses in the general neighborhood:**

   The use of the property is compatible with the general neighborhood and adjacent uses. The proposed child care facility will provide an important service at a convenient location for residents and employees who live and work in the surrounding area. The site is directly bordered by office uses, with residential properties to the south and east across 3rd St and Idaho St. The child care center will have minimal impacts on surrounding properties as it will be located within an existing building and will utilize existing open space immediately to the south as an outdoor play area. Furthermore, no changes to the exterior of the building are proposed. A pick-up and drop-off space is provided along the public alley and numerous transit routes are located within a two-block radius of the subject property. As such, the requested parking reduction is compatible with the neighboring uses and existing transportation infrastructure.
ii. The proposed use will not place an undue burden on transportation and other public facilities in the vicinity;

No correspondence was received from commenting agencies indicating the proposed use and the requested parking reduction would be a burden on transportation or other public facilities in the vicinity. The use will provide adequate vehicular access for drop-off/pick-up of the children.

iii. The site is large enough to accommodate the proposed use and all yards, open spaces, pathways, walls, fences, parking, loading, landscaping, and such other features as are required by this Code;

The site is large enough to accommodate the proposed use. The Development Code requires 35 square feet of indoor gross floor area per child and approximately 75 square feet per child will be provided, as up to 40 children are proposed within a 2,966-square foot space. City Code also requires 100 square feet of outdoor space per child; this requirement may be waived or modified if it is shown that there are connecting public sidewalks to an open space area. The applicant proposes to utilize the 1.79-acre grounds of the State Historical Preservation Office, directly to the south approximately 150 feet away along public sidewalks. While the site is not large enough to fit the four required parking spaces, adequate on-street parking and vehicular access for drop-off/pick-up of the children along the public alley is provided. A condition of approval will require a minimum of one bicycle parking space also be provided.

iv. The proposed use, if it complies with all conditions imposed, will not adversely affect other property of the vicinity;

The proposed use will not adversely affect other property in the vicinity. The child care is proposed within an existing building in an urban residential office area. The facility will utilize an existing outdoor area across the street to the south which is buffered from other uses by roadways. Traffic associated with the use will be minimal as this site is along a transit corridor, and a child care facility of this size is best suited along an arterial roadway rather than internal to a neighborhood. The request to reduce the required amount of parking will not adversely impact surrounding properties as the subject property is located in a highly walkable and bikeable area of the Downtown that supports alternative forms of transportation, including public transit. There are also multiple public parking lots and garages within close walking distance.

v. The proposed use is in compliance with the Comprehensive Plan.

The proposed use is supported by the Comprehensive Plan as it will provide an active use near key intersections and existing transit stops as encouraged by Principle GDP-MU.1. There are numerous transit routes within a two-block radius, including a bus
stop directly in front of the property. Due to the close proximity of these transit lines, the requested parking reduction is supported by Principle CC4.4(a) of the Comprehensive Plan which calls for creating incentives, such as reduced parking requirements, when specific Travel Demand Management parking techniques are implemented. Finally, due to the density of employment in the area, child care facilities are specifically identified as a service to be encouraged in the Downtown area by Principle DT-CC 3.4 of the Comprehensive Plan.

9. Recommended Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received November 26, 2019, except as expressly modified the following conditions:

2. The use shall not exceed 40 children at any one time.

   NOTE: The maximum number of children may be reduced by other reviewing agencies.

3. One bicycle parking space meeting the standards of the Boise Development Code shall be provided.

4. The applicant shall comply with the requirements of the Boise City Building Department dated November 27, 2019.

5. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW) in the memos from:
   
   i. Sewer dated November 29, 2019; and  
   ii. Street Lights dated December 2, 2019; and  
   iii. Drainage dated December 12, 2019; and  

   Contact BCPW at 208-384-3900 for specific comments or questions.

6. Compliance with the requirements of the Boise Fire Department.

7. Compliance with the requirements of the Ada County Highway District in the memo dated December 12, 2019.
Standard Conditions of Approval

8. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

9. Vision Triangles, as defined under Section 11-012-03 of the Boise City Code, shall remain clear of sight obstructions.

10. All landscaping areas shall be provided with an underground irrigation system. Landscaping shall be maintained according to current accepted industry standards to promote good plant health, and any dead or diseased plants shall be replaced. All landscape areas with shrubs shall have approved mulch such as bark or soil aid.

11. In compliance with the Boise City Code, anyone planting, pruning, removing or trenching/excavating near any tree(s) on ACHD or State right-of-ways must obtain a permit from Boise City Community Forestry at least one (1) week in advance of such work by calling 208-608-7700. Species shall be selected from the Boise City Tree Selection Guide.

12. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

13. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or an authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.

14. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

15. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.
16. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

17. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must commence the use permitted by the permits in accordance with the conditions of approval.

18. Prior to the expiration of this conditional use permit, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.
December 12, 2019

To: Justin Snyder
   Le Soleil Child Care, LLC
   2905 N. 38th Street
   Boise, ID 83703

Subject: BOI19-0387 / CUP19-00086
   302 W. Idaho Street
   Le Soleil Child Care expansion

In response to your request for comment, the Ada County Highway District (ACHD) staff has reviewed the submitted application and site plan for the item referenced above. It has been determined that ACHD has no site specific conditions of approval for this application.

**There is No Impact Fee Due for this application and an ACHD inspection is not required.**

If you have any questions, please feel free to contact me at (208) 387-6335.

Sincerely,

Austin Miller
Planner II
Development Services

cc: City of Boise, via e-mail
Traffic Information

This development is not estimated to generate additional vehicle trips per day, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

Condition of Area Roadways: Traffic Count is based on Vehicles per hour (VPH)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Hour Traffic Count</th>
<th>PM Peak Hour Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idaho Street</td>
<td>50-feet</td>
<td>Minor Arterial</td>
<td>545</td>
<td>Better than “E”</td>
</tr>
<tr>
<td>3rd Street</td>
<td>122-feet</td>
<td>Collector</td>
<td>148</td>
<td>Better than “D”</td>
</tr>
</tbody>
</table>

* Acceptable level of service for a two-lane one-way street is “E” (1,700 VPH).
* Acceptable level of service for a two-lane collector is “D” (425 VPH).

Average Daily Traffic Count (VDT): Average daily traffic counts are based on ACHD’s most current traffic counts

- The average daily traffic count for Idaho Street east of 3rd Street was 6,017 on May 1, 2019.
- The average daily traffic count for 3rd Street north of Idaho Street was 3,336 on April 1, 2018.
Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.6, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant’s engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District’s Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District’s Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant’s authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.
Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

   a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

   b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

   c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

   d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager’s reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

   e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.
TO: Planning and Development Services
FROM: Joe Bruce
DATE: 11/27/2019
RE: CUP19-00086 (302 W Idaho Street)

BUILDING COMMENTS

1. A building permit with plans prepared by a licensed architect will be required.
2. If more than 10 children that are 2 ½ years of age occupy this daycare, a second exit might be required per the code section listed below (Reference: 2015 IBC). Please list the number and ages of children that this daycare will provide care for on the building permit application.

   **1006.2.2.4 Day care means of egress.**
   Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2 ½ years of age or less, shall have access to not less than two exits or exit access doorways.

3. A fire alarm system might be required if the occupant load exceeds 50.

If you have any questions, please contact me.

Joe Bruce
Assistant Building Official
Office: (208)608-7093
jbruce@cityofboise.org
To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
Public Works Department

Subject: CUP19-00086; 302 W. Idaho Street; Sewer Comments

No comment.

If you have any further questions, please contact Mike Sheppard at 608-7504.
INTER-DEPARTMENT
CORRESPONDENCE

Date: 12/9/2019

To: Planning and Development Services

From: Jason Taylor, P.E., Assistant City Engineer
      Public Works

Subject: CUP19-00086; Drainage/Stormwater Comments

No Comments

If you have any further questions, contact Brian Murphy at 208-608-7148 or bmurphy@cityofboise.org.
City of Boise Solid Waste staff has reviewed the application for this project and has the following comment(s):

All solid waste containers must be stored on or along the property which they service.

Space along the alley may be used for staging the solid waste containers on the appropriate collection day(s).

The link below provides information regarding trash enclosure design and location requirements:

https://www.cityofboise.org/media/7186/commercialenclosuresrequirements.pdf

Please contact me with any questions at 208-608-7555 or rwalkins@cityofboise.org.
CITY OF BOISE

INTER-DEPARTMENT CORRESPONDENCE

Date: 2 December 2019

To: Planning and Development Services

From: Tom Marshall, Street Light Program Technician
       Public Works Engineering

Subject: Street Light Comments
CUP19-00086: 302 W Idaho St.

No comment.
If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208)608-7526
tmarshall@cityofboise.org

Making Boise the most livable city in the country.

I:\PWA\Subjects\Review Comments\CU\CU Streetlight comment template 2019_with letterhead_Cloverdale Rd.
CUP19-00085 / South Beck & Baird

Summary
Modification to a previously approved conditional use permit to expand the office use and the associated parking lot on 0.32 acres located at 2002 S Vista Ave in an R-3D (Multi-Family Residential with Design Review) zone.

Prepared By
Nicolette Womack, Associate Planner

Recommendation
Approval with conditions

Reason for the Decision
The applicant’s proposal complies with Boise City Code Section 11-03-04.6 (Conditional Use Permit) and is compatible with the general neighborhood which consists of multi-family housing, duplexes, and single-family homes, some of which have also been converted to office and commercial uses abutting Vista Ave. The site has housed the office use since 2000. The additional office space will not place an undue burden on transportation and other public facilities in the vicinity as it will be a minor change in use that will have a negligible impact on the current traffic volumes. The site is large enough to accommodate the office use as required by Code. The project’s compliance with the Citywide Design Standards & Guidelines will be ensured through the required Design Review permit. The expanded office use will not conflict with the neighboring properties as the additional parking will reduce the office use’s demand for on-street parking. The relocation and conversion of the existing detached garage and additional landscaping will screen the parking lot expansion from the right-of-way. The use is also supported by the Comprehensive Plan as Goal EC 3.1 supports a business environment that encourages the retention, growth, and profitability of existing businesses to benefit the city and its citizens. The expanded office space for the business will accommodate future growth within their existing location. The reuse and minor modifications to the existing home is in alignment with Goal ES 9.5 which promotes adaptive reuse of buildings and Goal CB-NC 2 which calls for protecting character-defining features such as the unique architecture in the Central Bench. The curb, gutter and sidewalks extension along Palouse St is in compliance with Goal CC 7.1(a) and Goal CB-C 1.1 which calls for requiring sidewalks as part of development approvals. The redesign of the parking lot complies with Principle GDP-MU.4, Principle GDP-C.4 and Principle GDP-CG.4 which calls for locating the parking behind the building and concentrating access points along city gateways streets such as Vista Ave.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDSOnline.
MITIGATION REQUIREMENTS

All trees on the site are to be preserved. It is required that trees and underground utilities be marked and that tree mitigation be completed in a way that avoids damaging any underground utilities. 

MINIMUM MITIGATION PLAN:

1. All trees identified in the site plan shall be preserved. 
2. Tree preservation plans are to be submitted to the City of Idaho for approval before any excavation occurs. 
3. Tree mitigation plans are to be submitted to the City of Idaho for approval before any excavation occurs. 
4. Tree mitigation plans are to be submitted to the City of Idaho for approval before any excavation occurs. 

CONDITIONAL USE MODIFICATION

11/21/2019

L1.4

Packet Pg. 255


Call before you dig. Know what's below.

South Landscape Architecture P.C.
Dba South Beck & Baird Landscape Architecture P.C.
2002 S. Vista Ave
Boise, ID 83705
208.342.2999 Office
sla@slaboise.com
www.slaboise.com
EXISTING GARAGE - NORTH ELEVATION
EXISTING GARAGE - WEST ELEVATION
EXISTING GARAGE - SOUTH ELEVATION
EXISTING OFFICE - NORTH ELEVATION
EXISTING OFFICE - WEST ELEVATION
EXISTING OFFICE - SOUTH ELEVATION
EXISTING OFFICE - EAST ELEVATION
November 25, 2019

2002 S. Vista Ave – CUP MOD

Commissioners & Staff,

South, Beck and Baird is pleased to present this narrative for the referenced project. The objective of the application is to provide additional parking and allow our business to fully utilize the existing building while maintaining the residential feel of the neighborhood. Our business has occupied the subject property since 2000 and has recently merged with a second landscape architecture firm. As currently configured, parking options are limited to staff use only. We are asking the City to allow us to reconfigure the parking, provide a total of 11 parking stalls, relocate the existing garage toward Vista Avenue, upgrade the garage into a conditioned office space, add onto the garage for storage space, close and landscape the existing driveway entrance off of Vista Avenue, and allow utilization of the conditioned basement in the existing building.

The subject parcel, Ada County Assessor’s parcel #R8043000164, is located on the southeast corner of Vista Avenue and Palouse St, addressed as 2002 S. Vista Avenue. The parcel is Lot 11, of the Sorensen Subdivision, located in T3N, R23, Sec 22 and is 0.32 acres in size. It is currently zoned R3D. Adjacent properties consist of 3-story apartments to the south, a professional office and apartment building to the north, a private residence to the east and a professional office and private residence to the west. Vista Avenue is a principle arterial and Palouse St is a local road.

The City approved CUP 00-00081 in August, 2000 converting a 1,950 sf residence into a professional office building. The ground floor is approximately 1,125 sf and a 825 sf basement. The existing garage is approximately 360 sf. At that time, and as currently configured, the parking count was six spaces, with one accessible stall (illustrated on Sheet L1.0). This limited the business to utilizing only the ground floor for business purposes. The existing basement has been utilized as storage only. This limitation was adequate for a landscape architecture design business with two (2) staff. Today, South Beck & Baird has 5 staff and expects to grow. We now come before the City to modify the current CUP.

In order to fully utilize the existing building, including upgrading the basement to include office space, additional parking is required and an additional emergency egress window must be added in the basement. The existing property consists of the office building and a two-car garage with mature landscape. In order to provide adequate parking for a growing business, reconfiguration of the property is necessary. The existing garage is set back from the street (Vista Avenue), to the east and south of the building. Access to the garage currently is a single-car driveway. Access to the current parking is from a drive entrance on Palouse. We anticipate the Ada County Highway District (ACHD) will require pedestrian improvements on Palouse St. These will include extending the 5’ concrete sidewalk to the east property line, also wrapping the driveway entrance radius to...
provide an accessible route from Vista Avenue to the office building entrance. We propose to relocate the existing garage forward, matching the front office building face (Vista Ave.). Though the garage will no longer be used for parking, the garage doors will continue to face the street. The intended use of the relocated garage to be conditioned useable office space. This relocation allows parking to be fully hidden from Vista Avenue and increase parking to 11 stalls, with one accessible stall and 2 compact stalls (8’ width x 20’ depth). The proposed parking meets the City’s parking requirement of 1 stall per 300 sf office space. As proposed, the total office space including the upgraded garage is 2,490 sf. The driveway on Vista will be removed and landscaping provided. The area between the southside of the office building and the relocated garage will become a patio/outdoor conference area (which was previously located behind the garage).

The mechanical unit for the office building is adjacent to the rear door and will be fully screened by mature landscaping and a fence between the building and relocated garage which will match the existing 6’ wood fencing on the property perimeter south and east.

Trash service is via Republic Services bins and will be screened from view by the garage and existing fence to the south. The bins are taken to Palouse Street weekly by staff.

All storm drainage will be retained on-site utilizing permeable pavers and the landscape areas adjacent to the pavement. We will be retaining and utilizing as much existing asphalt pavement as possible in the parking addition. Areas will have to be removed and replaced with permeable pavers to address storm drainage retention. All remaining asphalt paving will be seal coated upon project completion. There will be no concrete curbing along the perimeter of the parking areas in an effort to retain the residential feel of the surrounding neighborhood.

These improvements impact the existing mature landscaping on the property. There are a number of existing mature trees, including 3 large sycamores (London Plane Tree). The relocation of the garage and added parking behind the garage will necessitate removing of two of the sycamores. These trees were mature when the original CUP was approved. Nearly twenty years later, their health is beginning to decline. Each windstorm brings down branches regardless of routine pruning. There are a number of branches extending to the south that are becoming a hazard to the adjacent property. Removal is prudent and necessary. As indicated on the proposed landscape plan (Sheet L1.2), we will be planting a number of trees to mitigate the impact. The landscaping adjacent to the neighboring properties will provide a high level of screening and visual interest with the seasons.

We appreciate the opportunity to make application to modify our existing Conditional Use Permit and look forward to working with staff throughout the process. If you have any questions or need additional information while processing this application, please call or email. Thank you for your consideration on this matter.

Sincerely,

Jay A. Gibbons, PLA, ASLA
South, Beck and Baird Landscape Architecture
BEFORE THE HEARING EXAMINER
OF
BOISE CITY, IDAHO

In the Matter of the Application of
Tom South
For File Number: CUP00-00081

Newspaper notice published on July 15, 2000
Radius notice mailed to Adjoining Properties on July 21, 2000

The above-entitled application came before the Boise City Hearing Examiner on the 2nd day of August, 2000. Testimony and evidence was presented by Applicant and Staff.

Now, therefore, the undersigned makes the following Findings of Fact, Conclusions of Law and proposed decision:

FINDINGS OF FACT

I
The applicant is the owner of the following described real property:

915 W. Jefferson

II
Applicant has requested the following action:
Conditional Use approval to convert an existing single family home into an office in an R-3D (Multi-Family with Design Review) zone.

III
At hearing on the merits:
Consent, no opposition. Staff supported and provided statutory requirements.

CUP00-00078 – Findings of Fact, Conclusions of Law, and Decision – Page 1
IV

CONCLUSIONS OF LAW

A. Applicant's request does comply with relevant statutes, Codes and Comprehensive Plan.

B. Staff and Applicant, on the record, waived all statutes, codes and Ordinance provided waiting periods and appeals.

DECISION

Now, therefore, in consideration of the foregoing Findings of Fact and Conclusions of Law, it is hereby ordered that the application be, and hereby is,

Approved - with conditions.

Dated the 8th day of August, 2000.

__________________________________________
Jay L. Webb, Hearing Examiner

V

cc:
Tom South/915 W. Jefferson/Boise, ID 83702

CUP00-00078 - Findings of Fact, Conclusions of Law, and Decision - Page 2
The decision of the Hearing Examiner may be appealed to the Boise City Planning and Zoning Commission within ten (10) days from the date of this decision. The appeal must be written, accompanied by the appropriate fee, and submitted to the Boise City Planning and Development Department prior to the deadline set forth herein.

**Conditions of Approval**

1. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or his authorized representative, and an authorized representative of the City of Boise. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon the City of Boise.

2. Any change by the applicant in the planned use of the property which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant or its successors in interest advises the City of its intent to change the planned use of the property described herein unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.

3. An Occupancy Permit will not be issued by the Building Department until all of these condition(s) have been complied with. In the event a condition(s) cannot be met by desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond will be required in the amount of 110% of the value of the condition(s) which are incomplete.

4. Construction, use and property development shall be in compliance with plans and specifications on file with the Boise City Planning and Development Department dated received on **June 27, 2000** except as may be modified by the Boise City Design Review Committee or Staff.

5. This conditional use shall be valid for a period not to exceed eighteen (18) months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must:

   A. Acquire an occupancy permit; or

   B. Commence the use permitted by the permits in accordance with the conditions of approval; or

   C. For projects which require platting, the plat must be recorded within this period. The Commission may also fix the time or period within which the permit shall be completed, perfected or bonded. If the conditions of approval shall not be completed or bonded within such period, said permit shall lapse.
6. Prior to the expiration of this conditional use, the Commission may, upon written request by the holder, grant a one-year time extension. A maximum of three (3) extensions may be granted.

7. The Boise Fire Department has reviewed this application and has no objection per application #PRE00-00005. Any deviation from this plan is subject to fire department approval. For further information contact David S. Miller, 384-3827.

8. Fire department vehicular access shall be provided to within 150' of all portions of all buildings. All fire department access roads and fire lanes are to be a minimum of 20' wide and shall be capable of supporting 70,000 lbs. Fire department access roads and fire lanes shall have a minimum outside turning radius of 48' and inside radius of 28'.

9. Specific building construction requirements of the Uniform Building and Uniform Fire Codes will apply. However, these provisions are best addressed at building permit application. All conditions of the Ada County Highway District shall be complied with.

10. Comply with requirements of Ada County Highway District per staff report dated July 10, 2000 (attached).

11. Vision Triangles as defined in Section 11-01-03 and Section 11-10-04.4G. of the Boise City Zoning Ordinance shall remain clear of all sight obstructions.

12. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW) for drainage, sewers, street lights and subdivisions per Department comments. Please contact BCPW at 384-3900. All items required by BCPW shall be included on the plans/specifications that are submitted for a Building Permit. Please note that any changes or modifications by the owner to the approved plans, must be submitted to the Public Works Department for approval.

13. This approval does not include approval of any signage. A separate Sign Permit will be required from the Planning and Development Services Department prior to installation of sign(s).

14. All landscaping shall be maintained in a healthy and attractive condition.

15. All parking areas and driveways shall be paved, marked and provided with approved wheel restraints, and shall be designed and laid out to conform to the minimum standards required by the Boise City Zoning Ordinance.

16. Exterior lighting fixtures must be designed and located so as
17. Trash receptacles, on-grade and roof-top mechanical and electrical equipment shall be screened from public view by use of an approved sight-obscuring fence and/or hedging.

18. This project is in a Design Review District and shall be subject to review and approval by the Design Review Committee or Staff.

19. Construction, use and property development shall be in conformance with all applicable requirements of the Boise City Code.

20. Failure to abide by any condition of this Conditional Use Permit shall be grounds for revocation by the Boise City Planning and Zoning Commission.
Project Information

Is this a Modification application? [ ] Yes [ ] No  File number being modified: CUP 00-00081

1. Neighborhood Association:
   [ ] Vsta

2. Comprehensive Planning Area:
   [ ] Central Bench

3. This application is a request to construct, add or change the use of the property as follows:
   Staff/client Parking addition, relocation of existing garage to increase parking and to allow use of existing building basement as office space, condition garage to change from storage to office use/conference room and add a room to

4. Size of Property:
   [ ] 0.32 Acres [ ] Square Feet

5. Water Issues:
   A. What are your fire flow requirements? (See International Fire Code):
      1500 gpm
   B. Number of hydrants (show location on site plan):
      Note: Any new hydrants/hydrant piping require Suez Water approval.
      Number of Existing: [ ] 1 Number of Proposed: [ ] 1
   C. Is the building “sprinklered”? [ ] Yes [ ] No
   D. What volume of water is available? (Contact SUEZ (208) 362-7354):
      2000 gpm

6. Existing uses and structures on the property are as follows:
   Professional office use with building/basement and 2-car garage

7. Is the project intended to be phased? Please explain:
   No

8. Adjacent property information:
   Building types and/or uses

<table>
<thead>
<tr>
<th>Zone</th>
<th>Building types and/or uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>North: Office &amp; Residential</td>
<td>(R-3D) Multi_Family Residential w/De</td>
</tr>
<tr>
<td>North: Residential (sfd &amp; South</td>
<td>(R-3D) Multi_Family Residential w/De</td>
</tr>
<tr>
<td>East: Residential</td>
<td>(R-3D) Multi_Family Residential w/De</td>
</tr>
<tr>
<td>West: Office &amp; Residential</td>
<td>(R-3D) Multi_Family Residential w/De</td>
</tr>
</tbody>
</table>
A. Number of Structures: 1  Use: Conditioned office space/storage

Square footage of proposed structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

B. Maximum proposed structure height(s): 30

C. Number of stories: 1

D. Number of seats (if restaurant, tavern or lounge): 0

E. Number of residential units (if applicable): 0

10. Existing Structures:

Square footage of existing structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th>Gross Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
</tr>
<tr>
<td>2nd Floor</td>
</tr>
<tr>
<td>3rd Floor</td>
</tr>
<tr>
<td>4th Floor</td>
</tr>
</tbody>
</table>

11. Building Exterior:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof: Cedar Shake</td>
<td>Brown</td>
</tr>
<tr>
<td>Walls: Brick/siding</td>
<td>Red/yellow</td>
</tr>
<tr>
<td>Windows/Doors: Wood</td>
<td>Green</td>
</tr>
<tr>
<td>Fascia, Trim, etc: Wood</td>
<td>Green</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

12. Setbacks:

Note: Plans that are not graphically dimensioned will not be accepted.

<table>
<thead>
<tr>
<th>Building Required</th>
<th>Building Proposed</th>
<th>Parking Required</th>
<th>Parking Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front: 20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear: 15</td>
<td>15</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Side 1: 20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2: 5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. Site Design:

<table>
<thead>
<tr>
<th>Building Coverage:</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Landscaping:</td>
<td>46</td>
</tr>
<tr>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Paving:</td>
<td>42</td>
</tr>
<tr>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Other Uses:</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

Describe Other Uses:

14. Parking:

<table>
<thead>
<tr>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible Spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Parking Spaces:</td>
<td>6</td>
</tr>
<tr>
<td>Bicycle Spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Proposed compact spaces:</td>
<td></td>
</tr>
</tbody>
</table>

Are you proposing off-site parking?  
○ Yes  ○ No
If yes, how many spaces?

Are you requesting shared parking or a parking reduction?  
○ Yes  ○ No
If yes, how many spaces?

Restricted parking?  
○ Yes  ○ No

15. Landscaping:

A. Are there any prominent trees or areas of vegetation on the property?  
○ Yes  ○ No

B. Type:  (3) Mature Trees

C. Size:  36" caliper

D. General Location: (2) south, (1) east

16. Mechanical Units:

<table>
<thead>
<tr>
<th>Number of Units:</th>
<th>1</th>
</tr>
</thead>
</table>

Unit Location:  south entry

Type:  AC condenser

Height:  30"

Proposed Screening Method:  Wood fencing/plantings
A. Type of trash receptacles:

- [ ] Individual Can/Residential
- [ ] 3 Yd. Dumpster
- [ ] 6 Yd. Dumpster
- [ ] 8 Yd. Dumpster
- [ ] Compactor

B. Number of trash receptacles: 2

C. Proposed screening method: Fencing/plantings

D. Is the proposed location accessible for collection? (Contact Boise Public Works at 384-3901.)

- [ ] Yes
- [x] No

E. Is recycling proposed?

- [ ] Yes
- [x] No

18. Irrigation Ditches/Canals:

A. Are there any irrigation ditches or canals on or adjacent to the property? [x] Yes  

B. Location: East property line

C. Size: 2’ wide x 1’ deep

19. Fencing:

<table>
<thead>
<tr>
<th>Proposed</th>
<th>Existing to Remain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Wood</td>
<td>Wood</td>
</tr>
<tr>
<td>Height: 6’</td>
<td>6’</td>
</tr>
<tr>
<td>Location: Between buildings &amp; existing</td>
<td>south &amp; east property line</td>
</tr>
</tbody>
</table>

20. Loading Facilities (if proposed, for commercial uses only):

<table>
<thead>
<tr>
<th>Number</th>
<th>Location</th>
<th>Size</th>
<th>Screening</th>
</tr>
</thead>
</table>

21. Drainage:

Proposed method of on-site retention: permeable paver parking stalls

22. Floodways & Hillsides:

A. Is any portion of this property located in a Floodway or a 100-year Floodplain? [x] Yes  

B. Does any portion of this parcel have slopes in excess of 15%? [x] Yes  

Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

23. Airport Influence Area:

Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)

- [ ] No
- [ ] Area A  
- [ ] Area B  
- [ ] Area B1  
- [ ] Area C
Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant’s responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate. The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: ____________________________
Date: ____________________________
Planning Division Project Report

File Number CUP19-00085
Applicant Jay Gibbons / South Beck & Baird
Property Address 2002 S Vista Ave

Public Hearing Date January 6, 2019
Heard by Planning and Zoning Commission

Analyst Nicolette Womack, Associate Planner
Reviewed By Céline Acord, Current Planning Manager

Public Notification
Neighborhood meeting conducted on: October 22, 2019
Radius notices mailed to properties within 300 feet on: December 20, 2019
Newspaper notification published on: December 21, 2019
Applicant posted notice on site on: December 20, 2019

Table of Contents
1. Project Data and Facts........................................................................................................... 2
2. Land Use.................................................................................................................................. 2
3. Project Proposal ...................................................................................................................... 3
4. Development Code .................................................................................................................. 3
5. Comprehensive Plan .............................................................................................................. 3
6. Transportation Data ............................................................................................................... 4
7. Analysis .................................................................................................................................. 4
8. Approval Criteria .................................................................................................................... 6
9. Recommended Conditions of Approval .............................................................................. 7

Exhibits
Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Owner</td>
</tr>
<tr>
<td>Architect/Representative</td>
</tr>
<tr>
<td>Location of Property</td>
</tr>
<tr>
<td>Size of Property</td>
</tr>
<tr>
<td>Zoning</td>
</tr>
<tr>
<td>Land Use Designation</td>
</tr>
<tr>
<td>Planning Area</td>
</tr>
<tr>
<td>Neighborhood Assoc./Contact</td>
</tr>
</tbody>
</table>

Current Land Use
Professional Office Building

Description of Applicant's Request
The applicant requests to expand the office use and the associated parking lot.

2. Land Use

Description and Character of Surrounding Area
This is a mixed-use area adjacent to Vista Ave. which transitions into a compact residential neighborhood, moving away from Vista Ave. The project is surrounded by multi-family housing, duplexes, and single-family homes, some of which have been converted to office and commercial uses.

Adjacent Land Uses and Zoning

<table>
<thead>
<tr>
<th>North</th>
<th>Palouse St. then Office and Multi-Family Housing / R-3D</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>Multi-Family Housing / R-3D</td>
</tr>
<tr>
<td>East</td>
<td>Single-Family Home / R-3D</td>
</tr>
<tr>
<td>West</td>
<td>Vista Ave. then Duplex &amp; Single-family Home / R-3D</td>
</tr>
</tbody>
</table>

History of Previous Actions

| CUP00-00081 & DRH00-00171 | Convert single-family home to office – Approved |

Special Considerations
None
3. Project Proposal

Structure(s) Design

Number and Proposed Use of Buildings

| First Floor | Office, 1,125 square feet |
| Basement   | Office, 825 square feet   |
| Detached Garage | Office, 540 square feet   |
| Total       | 2,490 square-feet         |

Number of Stories / Maximum Building Height

One story

Fencing

A 6’ high solid cedar fence wraps the east and south property lines.

Setbacks

<table>
<thead>
<tr>
<th>Yard</th>
<th>Required Building</th>
<th>Proposed Building</th>
<th>Proposed Parking</th>
<th>Required Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front (west, Vista Ave.)</td>
<td>15’</td>
<td>15’</td>
<td>20’</td>
<td>50’</td>
</tr>
<tr>
<td>Street Side (north, Palouse St.)</td>
<td>15’</td>
<td>18’</td>
<td>20’</td>
<td>37’</td>
</tr>
<tr>
<td>Side (south)</td>
<td>5’</td>
<td>7’</td>
<td>5’</td>
<td>5’</td>
</tr>
<tr>
<td>Rear (east)</td>
<td>15’</td>
<td>73’</td>
<td>15’</td>
<td></td>
</tr>
</tbody>
</table>

Parking

<table>
<thead>
<tr>
<th>Required</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total parking spaces:</td>
<td>9</td>
</tr>
<tr>
<td>Accessible spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Number of compact spaces allowed:</td>
<td>3</td>
</tr>
<tr>
<td>Bicycle parking spaces:</td>
<td>1</td>
</tr>
<tr>
<td>Parking Reduction requested?</td>
<td>No</td>
</tr>
<tr>
<td>Off-site Parking requested?</td>
<td>No</td>
</tr>
</tbody>
</table>

4. Development Code (Boise City Code Title 11)

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.06</td>
<td>Specific Procedures: Conditional Use Permit Modification</td>
</tr>
<tr>
<td>11-04-03</td>
<td>Residential Districts</td>
</tr>
<tr>
<td>11-07-03</td>
<td>Off-Street Parking and Loading Standards</td>
</tr>
</tbody>
</table>

5. Comprehensive Plan (Blueprint Boise)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2: Citywide Vision and Policies</td>
<td>Goal ES9.5</td>
</tr>
<tr>
<td></td>
<td>Goal EC3.1</td>
</tr>
<tr>
<td></td>
<td>Goal CC7.1(a)</td>
</tr>
</tbody>
</table>
6. Transportation Data

The Ada County Highway District (ACHD) estimates this development to generate 22 additional vehicle trips per day (13 existing); 3 additional vehicle trips per hour in the PM peak hour (2 existing), based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition. The office expansion will be a minor change in use that will have a negligible impact on the current traffic volumes.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Traffic Count</th>
<th>Level of Service*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vista Avenue</td>
<td>102’</td>
<td>Principal Arterial</td>
<td>1,003</td>
<td>Better than “E”**</td>
</tr>
<tr>
<td>Palouse Street</td>
<td>128’</td>
<td>Local</td>
<td>410</td>
<td>N/A**</td>
</tr>
</tbody>
</table>

*Acceptable level of service for a five-lane principal arterial is “E” (1,780 VPH). The average daily traffic count for Vista Avenue south of Overland Road was 22,706 on 9/12/19.

**Local Streets do not have acceptable level of service standards. The average daily traffic count for Palouse Street east of Vista Avenue was 410 on 3/15/17.

The applicant is proposing closing the existing access to Vista Ave. Palouse St. will be the only access to the new parking lot. Conditions of approval require the applicant close the existing driveway onto Vista Ave. with vertical curb, gutter and sidewalk. The applicant will also be required to construct a 5-foot wide sidewalk on Palouse St. abutting the site.

7. Analysis

The applicant requests a modification to a previously approved conditional use permit to expand the office use and the associated parking lot on 0.32 acres located at 2002 S Vista Ave in an R-3D (Multi-Family Residential with Design Review) zone. The existing building contains an office on the first floor (approx. 1,125 square feet) with the basement utilized for only storage. This was approved in 2000 under CUP00-00081 and was adequate space for only two staff members. Section 11-03-04.06C(8b) of the Development Code requires Commission Level approval to request a greater than 20 percent increase in building square footage. The applicant is proposing upgrading the basement to include an additional 825 square feet of office space. Conversion and relocation of the existing detached garage to office is also proposed, with an expansion to 540 square feet. The expansion will provide adequate space for the current five staff members and additional room for future growth.
Expansion to the existing parking lot is also proposed to support the additional office space. The 2,490 total square feet of office space requires 9 parking spaces. The new parking lot will include 10 parking spaces, one of which is ADA Accessible, and will be located behind the building improving the overall aesthetics of the streetscape. Two bike parking spaces are also provided. Curb, gutter and sidewalks will also be extended along Palouse St. With the relocation of the existing detached garage closing the Vista Ave. access, the only site access will be off Palouse St.
An assessment of the current tree canopy cover of the parcel was provided. The included tree mitigation plan inventories the existing trees, many of which were classified as damaged and/or dying and thus did not require mitigation. Any healthy desirable trees with a four-inch caliper or greater that are removed are required to be replaced with an equal replacement of total caliper inches lost. A total of 18 caliper inches were required to be mitigated. The proposal exceeds the requirement by providing a total of 28 caliper inches mitigated.

As submitted, the proposal complies with all parking and building setbacks. Ample justification supports these modifications as they are carefully designed to reflect the existing character of the business with adequate buffering provided. A condition of approval will require Design Review approval to ensure compliance with the Citywide Design Standards & Guidelines. The use is compatible with the general neighborhood which consists of multi-family housing, duplexes, and single-family homes, some of which have also been converted to office and commercial uses abutting Vista Ave.

8. Approval Criteria

Conditional Use Permit (11-03-04.6(C7))

i. The location is compatible to other uses in the general neighborhood;

The expansion of the office use and associated parking lot is compatible with the general neighborhood which consists of multi-family housing, duplexes, and single-family homes, some of which have also been converted to office and commercial uses abutting Vista Ave. The site has housed the office use since 2000, only minor exterior building modifications are proposed. The relocation and conversion of the existing detached garage and additional landscaping will screen the proposed parking lot expansion from the right-of-way.

ii. The proposed use will not place an undue burden on transportation and other public facilities in the vicinity;

Comments received from public agencies confirm the proposed use will not place an undue burden on the transportation system or other services in the vicinity. Boise City Public Works and ACHD had no concerns or conditions of approval. The office expansion will be a minor change in use that will have a negligible impact on the current traffic volumes.

iii. The site is large enough to accommodate the proposed use and all yards, open spaces, pathways, walls, fences, parking, loading, landscaping, and such other features as are required by this Code;

The site is large enough to accommodate the proposed use. As submitted, the proposal complies with all parking and building setbacks. The 2,490 total square feet
office space requires 9 parking spaces. The new parking lot will include 10 parking spaces, one of which is ADA Accessible. Two bike parking spaces are also provided. Curb, gutter and sidewalks will also be extended along Palouse St. An assessment of the parcels current tree canopy cover was provided, many of which were classified as damaged and/or dying and thus did not require mitigation. A total of 18 caliper inches were required to be mitigated. The proposal exceeds the requirement by providing a total of 28 caliper inches mitigated.

iv. The proposed use, if it complies with all conditions imposed, will not adversely affect other property of the vicinity;

The proposed use will not adversely affect other property in the vicinity. The project exceeds the required on-site parking for the existing and proposed uses. The additional parking will reduce the office uses demand for on-street parking. The modifications have been carefully designed to reflect the existing character of the business. The site has housed the office use since 2000, and only minor exterior building modifications are proposed. The relocation and conversion of the existing detached garage and additional landscaping will screen the proposed parking lot expansion from the right-of-way.

v. The proposed use is in compliance with the Comprehensive Plan.

The use is supported by the Comprehensive Plan as Goal EC 3.1 supports a business environment that encourages the retention, growth, and profitability of existing businesses to benefit the city and its citizens. This is an existing Boise business that began using the site with only 2 employees, they have since expanded to 5 employees. Approval of the application would allow the business to accommodate future growth within their existing location. The reuse and minor modifications to the existing home is in alignment with Goal ES9.5 which promotes adaptive reuse of buildings and Goal CB-NC2 which calls for protecting character-defining features such as the unique architecture in the Central Bench. The curb, gutter and sidewalks extension along Palouse St is in compliance with Goal CC 7.1(a) and Goal CB-C 1.1 which calls for requiring sidewalks as part of development approvals. The redesign of the parking lot complies with Principle GDP-MU.4, Principle GDP-C.4 and Principle GDP-CG.4 which calls for locating the parking behind the building and concentrating access points along city gateways streets such as Vista Ave.

9. Recommended Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received November 25, 2019 and revised plans received December 23, 2019, except as expressly modified the following conditions:

CUP19-00085 | Boise City Planning & Zoning Commission | January 6, 2020 | Page 7 of 10
2. Design Review approval is required.

3. Required to comply with all previous conditions of approval within CUP00-00081, unless specifically modified by this application.

Agency Requirements

4. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW) in the memos from:
   
   i. Sewer dated November 29, 2019; and
   ii. Pretreatment dated December 2, 2019; and
   iii. Solid Waste dated December 2, 2019; and

Contact BCPW at 208-384-3900 for specific comments or questions.

5. Compliance with the memo from the Ada County Drainage District No. 3 dated December 5, 2019.

6. Compliance with the memo from the Boise Project Board of Control dated December 11, 2019.

7. Compliance with the memo from the Boise City Building Department dated November 27, 2019.

8. Compliance with the memo from the Boise City Fire Department dated December 26, 2019.

9. Compliance with the memo from the Ada County Highway District dated December 17, 2019.

Standard Conditions of Approval

10. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

11. Vision Triangles, as defined under Section 11-012-03 of the Boise City Code, shall remain clear of sight obstructions.

12. All landscaping areas shall be provided with an underground irrigation system. Landscaping shall be maintained according to current accepted industry standards to promote good plant health, and any dead or diseased plants shall be replaced. All landscape areas with shrubs shall have approved mulch such as bark or soil aid.
13. In compliance with Boise City Code, anyone planting, pruning, removing or trenching/excavating near any tree(s) on ACHD or State right-of-ways must obtain a permit from Boise City Community Forestry at least one (1) week in advance of such work by calling 208-608-7700. Species shall be selected from the Boise City Tree Selection Guide.

14. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

15. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or an authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.

16. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

17. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.

18. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

19. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must acquire construction permits and commence placement of permanent footings and structures on or in the ground.

20. Prior to the expiration of this conditional use permit, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.
21. To reduce the noise impact of construction on nearby residential properties, all exterior construction activities shall be limited to the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. for Saturday and Sunday. Low noise impact activities such as surveying, layout and weather protection may be performed at any time. After each floor of the structure or building is enclosed with exterior walls and windows, interior construction of the enclosed floors can be performed at any time.
December 17, 2019

To: James Mihan & Jay Gibbons, via email
South Beck & Baird
2002 S. Vista Avenue
Boise, ID 83705

Subject: BOI19-0393/ CUP19-00085
2002 S. Vista Avenue

The applicant is requesting approval of a conditional use permit to expand the building’s office use from 1,125 square feet to 2,490 square feet. This will be done by utilizing the basement in the existing building, relocating and converting the existing garage to office space and constructing an addition onto the garage for storage space.

A. Findings of Fact
1. Vista Avenue
   a. Existing Conditions: Vista Avenue is improved with 5-travel lanes, vertical curb, gutter and 5-foot wide sidewalk abutting the site. There is 80-feet of right-of-way for Vista Avenue (42-feet from centerline).

   There is an existing driveway from the site onto Vista Avenue located near the south property line.

   b. Policy:
      Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

      Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District’s planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide. Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

      A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

      Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be
required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

**Access Policy:** District policy 7205.4.7 states that direct access to principal arterials is typically prohibited. If a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. If it is necessary to take access to the higher classified street due to a lack of frontage, the minimum allowable spacing shall be based on Table 1b under District policy 7205.4.7, unless a waiver for the access point has been approved by the District Commission. Driveways, when approved on a principal arterial shall operate as a right-in/right-out only, and the District will require the construction of a raised median to restrict the left turning movements.

c. **Applicant’s Proposal:** The applicant is not proposing any street improvements to Vista Avenue abutting the site.

The applicant is proposing to close the existing driveway from the site onto Vista Avenue located near the south property line with landscaping.

d. **Staff Comments/Recommendations:** Vista Avenue is fully improved; therefore, no street improvements or additional dedicated right-of-way are required with this application.

The applicant should be required to close the existing driveway from the site onto Vista Avenue located near the south property line with vertical curb, gutter and 7-foot wide sidewalk.

The applicant should be required to repair or replace any damaged or deficient facilities along Vista Avenue abutting the site.

2. **Palouse Street**

a. **Existing Conditions:** Palouse Street is improved with 2-travel lanes with approximately 20-feet of vertical curb, gutter and 5-foot wide sidewalk and rolled curb, gutter and no sidewalk abutting the remainder of the site. There is 50-feet of right-of-way for Palouse Street (25-feet from centerline).

There is an existing 24-foot wide curb-cut type driveway from the site onto Palouse Street located 108-feet east of Vista Avenue.

b. **Policy:**

**Local Roadway Policy:** District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Street Section and Right-of-Way Policy: District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

**Sidewalk Policy:** District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.
The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District’s Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

**Minor Improvements Policy:** District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

**Driveway Location Policy:** District policy 7207.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector or arterial street intersection.

**Successive Driveways:** District Policy 7207.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

c. **Applicant’s Proposal:** The applicant is proposing to construct 5-foot wide concrete sidewalk on Palouse Street abutting the site, tying into the existing improvements.

The applicant is proposing to use the existing 24-foot wide curb-cut type driveway from the site onto Palouse Street located 108-feet east of Vista Avenue.

d. **Staff Comments/Recommendations:** The applicant’s proposal to construct 5-foot wide concrete sidewalk on Palouse Street meets District policy and should be approved as proposed.

The applicant’s proposed driveway location does not meet District policy which requires driveways to be located a minimum of 150-feet from the nearest arterial street intersection. However, staff recommends a modification of policy to allow the driveway onto Palouse Street to remain because it is an existing driveway for an existing business that will remain. This is a 28% modification to the dimensional standards and is approved at the discretion of the Development Services Manager.

The applicant should be required to repair or replace any damaged or deficient facilities along Palouse Street abutting the site.

**B. Site Specific Conditions of Approval**
1. Close the existing driveway from the site onto Vista Avenue located near the south property line with vertical curb, gutter and 7-foot wide sidewalk.

2. Construct 5-foot wide concrete sidewalk on Palouse Street abutting the site, tying into the existing improvements.

3. Repair or replace any damaged or deficient facilities along Vista Avenue and Palouse Street abutting the site.

4. A Traffic Impact Fee will be assessed by ACHD and will be due prior to issuance of a building permit. Please contact the ACHD Planner (see below) for information regarding impact fees.

5. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

6. Comply with the Standard Conditions of Approval as noted below.

C. Traffic Information
Trip Generation
This development is estimated to generate 22 additional vehicle trips per day (13 existing); and 3 additional vehicle trips per hour in the PM peak hour (2 existing), based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

Condition of Area Roadways: Traffic Count is based on Vehicles per hour (VPH)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Hour Traffic Count</th>
<th>PM Peak Hour Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vista Avenue</td>
<td>102-feet</td>
<td>Principal Arterial</td>
<td>1,003</td>
<td>Better than “E”</td>
</tr>
<tr>
<td>Palouse Street</td>
<td>128-feet</td>
<td>Local</td>
<td>410</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Acceptable level of service for a five-lane principal arterial is “E” (1,780 VPH).

Average Daily Traffic Count (VDT): Average daily traffic counts are based on ACHD’s most current traffic counts
- The average daily traffic count for Vista Avenue south of Overland Road was 22,706 on September 12, 2019.
- The average daily traffic count for Palouse Street east of Vista Avenue was 410 on March 15, 2017.

D. Attachments
1. Vicinity Map
2. Site Plan
3. Standard Conditions of Approval
4. Appeal Guidelines
If you have any questions, please feel free to contact me at (208) 387-6218.

Sincerely,

Dawn Battles
Planner
Development Services

cc: City of Boise (Nicolette Womack), via email
Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.6, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.
Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

   a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

   b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

   c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

   d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager’s reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

   e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.
December 5, 2019

BOISE CITY PLANNING &
DEVELOPMENT DEPARTMENT
150 North Capitol Boulevard
Boise, Idaho 83701-0500

RE: CUP19-00085
2002 S. Vista Avenue

Ladies and Gentlemen:

The above-referenced application to reconfigure the parking, relocate, upgrade, and add on to the existing garage, and close and landscape the existing driveway entrance off of Vista at the above-referenced location has been received in this office. This law firm represents the interests of Ada County Drainage District No. 3 (the “District”). The project site lies within the District’s boundaries.

Providing all drainage will continue to be retained onsite, the District has no comment on the project located at 2002 S. Vista Avenue.

The District is responsible for ensuring that its system complies with conditions of a National Pollution Discharge Elimination System (“NPDES”) permit issued by the Environmental Protection Agency to the District and other co-permittees, with regard to the quality of storm water runoff.

Approval of any proposed development is based upon the following conditions. Any proposed development must meet the storm water requirements of “ACHD” (if proposal is for a residential subdivision), or Boise City (if the proposal is for commercial, industrial, multi-family housing, or residential with private streets). This includes any and all requirements pertaining to on-site water detention, water quality treatment, and operation and maintenance. The project may also require a permit from the United States Army Corps of Engineers under their Section 404 permit program. If the work requires a permit from the Corps, the applicant will need to obtain their approval before starting work.
These requirements are outlined in the ACHD Policy Manual and the Boise City Storm Water Management and Discharge Control Ordinance, the Boise City Storm Water Design Standards Manual, and the Boise City Operation and Maintenance Guidance document.

The objectives of these requirements are to adequately control the quantity and quality of storm water runoff into the District’s system and public waters. Compliance with these requirements will also address discharge limitations of “no net increase” in sediment and bacteria, required by the Lower Boise River Total Maximum Daily Load and the Idaho Department of Environmental Quality’s “no net increase” policy.

Additionally, the District must be notified of any conditions that result in a significant change to the quantity or quality of the storm water runoff from this site.

If you have any questions or comment concerning the above, please feel free to contact me. Thank you for your assistance.

Very truly yours,

ELAM & BURKE
A Professional Association

Sent without signature
to avoid delay

Ryan P. Armbruster

RPA/ksk

c: District Commissioners
   Steve Sweet
   Dean Callen

4846-3711-3006, v. 1
09 December 2019

Boise City Planning & Development Services
150 North Capitol Boulevard
P O Box 500
Boise, Idaho 83701-0500

RE: James Mihan
2002 S Vista Ave.
Boise, ID 83707
New York Irrigation District
Hyatt Laterl 20+00 B Rotation
Sec. 22, T3N, R2E, BM.

CUP19-00085

Boise City Planning:

There are no Boise Project facilities located on the above-mentioned property, however it does in fact possess a valid water right.

Local irrigation/drainage ditches that cross this property, in order to serve neighboring properties, must remain unobstructed and protected by an appropriate easement.

If you have any further questions or comments regarding this matter, please do not hesitate to contact me at (208) 344-1141.

Sincerely,

Thomas Rithalter
Assistant Projec: Manager, BPBC

tbr/tr

cc Clint McCormick
Terri Hasson
File

Watermaster, Div; 2 BPBC
Secretary-Treasurer-NYID
Boise Fire Department has reviewed the application for expanded parking and office use at 2002 S. Vista Ave. and has no comments.

If you have any questions, please contact me at 208-570-6571
TO: Planning and Development Services  
FROM: Joe Bruce  
DATE: 11/27/2019  
RE: CUP19-00085 (2002 S Vista Ave)

BUILDING COMMENTS

1. A building permit with plans prepared by a licensed architect will be required.
2. The garage expansion would be required to have a 1-hour fire-resistance rated wall per 2015 IBC table 602 if located < 10 feet from the property line. The site plan shows a dimension of 7'-0" to the existing wood fence (see sheet L1.1)

If you have any questions, please contact me.

Joe Bruce  
Assistant Building Official  
Office: (208)608-7093  
jbruce@cityofboise.org
Covered Parking Garages – All water from non-atmospheric sources (i.e., transported on vehicles) or indirect atmospheric sources (i.e., blown through openings and windows) that flows through covered parking garages or commercial structures may go to the sanitary sewer disposal system through an approved sand/oil/grease interceptor. Sewer connection fees and monthly service fees apply. Garages with parking floors at or below the 100 year flood plain elevation are subject to specific sewer connection requirements; contact the Public Works Engineering for specific requirements. If there is no feasible alternative for disposal of water from internal parking garages via the sanitary sewer then this water may be allowed into a storm sewer system. Adequate treatment prior to storm water discharge and proper disposal of waste and wash water will still be required to comply with the City’s Storm Water Discharge Ordinance.

For more information, or if you have any questions please contact Zach Conde, 208-608-7530 or email at zconde@cityofboise.org.
Date: November 29, 2019

To: Planning and Development Services

From: Mike Sheppard P.E., Civil Engineer II
       Public Works Department

Subject: CUP19-00085; 2002 S. Vista Avenue; Sewer Comments

If the proposed structure contains plumbing fixtures, connection to central sanitary sewer is required. Sewers are available onsite.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
City of Boise Solid Waste staff has reviewed the application for this project and has no comments. Solid waste is OK as planned, and site is approved for cart service.

The link below provides information regarding trash enclosure design and location requirements:

https://www.cityofboise.org/media/7186/commercialenclosurerequirements.pdf

Please contact me with any questions at 208-608-7555 or rwalkins@cityofboise.org.
Date: 3 December 2019

To: Planning and Development Services

From: Tom Marshall, Street Light Program Technician
Public Works Engineering

Subject: Street Light Comments

This project is within the defined Historical Lighting District and
ornamental-style street lighting is required along the following street
frontages:

1. At the corner of Vista & Palouse

Street light plans must be submitted and approved by Public Works prior
to issuance of a building permit.

As per Idaho Power requirements the lights along the following street
frontages must be installed on a metered service. Meter service cabinet
location to be in the right of way or in a developer designated City Street
Light Easement. They shall meet the requirements of the Idaho Standards
for Public Works Construction, Standard Drawings, and the Boise City
Standard Revisions for ISPWC Division 1102 Street Lights. See Streetlight
Approved Fixtures and Materials for a list of approved meter service
cabinets.

1. You can tie into existing lights in the field or install a new meter
cabinet.

New Street Light installations shall conform to the current version of the
Boise Standard Revisions, Idaho Standards for Public Works Construction
(ISPWC) using approved LED fixtures listed in Streetlight Approved Fixtures and Materials.

Developer shall not connect, or allow any subcontractor to connect any irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices to any street lighting circuits. Any and all irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices shall be connected directly to Idaho Power at an Idaho Power approved location.

All electrical work must be completed by a licensed journeyman electrician, as per state code to include underground conduit, wire, pole base, light pole, fixture and meter cabinets. The electrician must be present at all inspections and all work shall be performed to the current National Electrical Code.

If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208)608-7526
tmmarshall@cityofboise.org

Making Boise the most livable city in the country.

I:\PWA\Subjects\Review Comments\CUs\CU Streetlight comment template 2019_with letterhead_Cloverdale Rd.
TO: Fire Flow Reviewing Authority

DATE: October 30, 2019

SUBJECT: 2002 S. Vista Ave.

COMMENTS:

Our records indicate the following water pressure and volume at: 2002 S. Vista Ave.:

Pressure at average demand is 55 psi
Flow of 2,000 gpm at 20 psi residual pressure
At fire hydrant 350 on the corner of Vista and Palouse

This information represents the water system under maximum-day conditions. The pressures and flows are subject to change, however, depending on system demand and changes in system operations. This document shall be attached to the architectural plan sets, both for "Fire Department reviewed" and "Construction Approved" sets. It is provided for uniformity in fire sprinkler design criteria.

If you have further questions or need information on the volume of water for a conditional use application or design review, please feel free to call.

Sincerely,

SUEZ
PUD19-00038, CAR19-00030 & SUB19-00066 / Dark Horse Associates, LLC

Summary
The applicant requests a conditional use permit for a planned residential development comprised of 14 single family homes on 1.90 acres located at 9831 & 9819 W Shields Ave in a pending R-2D/DA (Medium Density Residential with Design Review and Development Agreement) zone. A minor modification to the Development Agreement is also included, as well as a Preliminary Plat for a residential subdivision comprised of 2 common and 14 buildable lots.

Prepared By
Nicolette Womack, Associate Planner

Recommendation
Approval with conditions

Reason for the Decision
Planned Unit Development
The project complies with Boise City Code Section 11-03-04.7 (Planned Unit Development). The project is compatible with the surrounding neighborhood, as it has a similar residential density and like-yard setbacks. Only internal setback, lot size and width reductions are proposed. Correspondence received from commenting agencies confirm the use will not place an undue burden on the transportation system or other services in the vicinity. The site is large enough to accommodate the use as required by the Development Code. The proposed development will not adversely affect other property in the vicinity as it meets the density, height, and parking requirements of the zone and Development Agreement. The public road extensions will connect multiple developments, furthering the overall connectivity of the neighborhood. The development is in compliance with the Comprehensive Plan as Goal CC1.1 encourages infill development in order to reduce vehicle miles traveled and avoid costly extensions of transportation infrastructure. The public road extensions are in compliance with Goal CC2 and NW-C 1.3 which promote an interconnected network of complete streets to alleviate traffic congestion and improve connectivity in existing neighborhoods. The lot layout also complies with the adjacent R-1C zoning standards. This is consistent with Goal NAC3.1 (a) as it complements the scale and character of the surrounding neighborhood. Lastly, the dedication of the public pathway to the Spoils Bank Canal in the south east corner of the property is in compliance with Principle GDP-N.1(a) which promotes providing pathways to connect different areas of the neighborhood.

Development Agreement Modification
The project complies with Boise City Code Section 11-03-04.2 (Development Agreement). The modifications to the Development Agreement are in compliance with the Comprehensive Plan as the public road extensions are still included in the agreement.
This in compliance with Goal CC2 and NW-C 1.3 which promote an interconnected network of complete streets to alleviate traffic congestion and improve connectivity in existing neighborhoods. Although the previous townhome design was also in compliance with the Comprehensive Plan, modifying the Development Agreement to allow this proposal would also comply with the adjacent R-1C zoning. This is consistent with Goal NAC3.1(a) as it complements the scale and character of the surrounding neighborhood as well. The modifications are in the best interests of the public convenience and general welfare and comply with the original intent of the Development Agreement which was to establish a road network and an appropriate maximum number of units for this development. The design has reduced the overall number of units from the original proposal, mirroring the surrounding neighborhood. This also maintains and preserves compatibility with the surrounding zoning and development.

**Subdivision**

As further detailed in the project report, the project complies with Boise City Code Section 11-03-04.4 (Subdivisions Plat). As conditioned, the submitted preliminary and final plat are consistent with the Development Code and the Comprehensive Plan.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDSOnline.
North of adjacent property to the west looking southeast across subject property.

North of the subject property looking south.
North of adjacent property to the east looking southwest across the property.

North of property looking northwest across the street.
On property looking north across the street.

On property looking northeast across the street
November 25, 2019

City of Boise
Planning & Development Services
150 Capitol Blvd.
Boise, Idaho 83702

RE: PUD Application for 9831 & 9819 Shields Ave, Boise

To whom it may concern:

Dark Horse Associates, LLC (Dark Horse) as applicant and applicant representative for the properties at the above referenced addresses hereby applies for a planned unit development (PUD) to accompany its subdivision of those properties, consisting of 1.89 acres, into 14 single family residential building lots.

The current intent of this development is to provide affordable housing through the efforts of Leap Charities, LLC, which has already completed two affordable projects on this street. In an effort to achieve the lowest price per lot possible (in the interest of ultimate home affordability), we are also including this PUD application to allow for the slightly smaller lot sizes and lot frontage widths. Even with these minor deviations, the overall density will remain below the maximum allowed by the current zoning.

The single family nature of the development meets the intent of the R-1C zoning. While the average lot width and average lot size are just shy of the R1C requirements, the overall density of the project is below the maximum density allowed in R-1C. Additionally, all side, front, and rear setbacks will conform to the R-1C standard. One amenity of this development that led to the narrower lot widths along the southern boundary was the dedicated pathway to the Spoils Bank Canal for the enjoyment of, not only the subdivision residents, but the general public at large. Another component of this development that led to the narrower lot widths and smaller lot sizes was the staff’s understandable desire to provide east-west connectivity via public right-of-way as well as interior roadways that met public ROW standards. We gladly provided both of these elements in the subdivision plan; however, these two changes caused a slight decrease in the overall lot averages.

This development has the additional amenity of being very close to the Optimists Youth Sports Complex, a 51-acre park located at 9889 W. Hill Rd Pwky. The park features sports fields, open play areas, a fishing pond and public art.

We are excited to bring another responsible development project to the City of Boise and look forward to working together to ensure the success of this project moving forward.

Thank you for your consideration.

Wendy Klahr
Hi Nicolette! I have written comments below:

Wendy D. Klahr
Washington Broker, Kelly Right RE of Seattle
Washington Attorney at Law
Idaho Associate Broker, Kelly Right Real Estate
Ph: 425.200.4422
Ph: 208.284.2430
wdklahr@gmail.com
Zillow Premier Agent

On Wed, Dec 11, 2019 at 8:06 AM Nicolette Womack <nwomack@cityofboise.org> wrote:

Wendy,

I am writing to follow up on our phone call. I need to the following questions addressed to complete my review. I need any revised plans by Tuesday, December 17th.

1. Is perimeter fencing proposed? If so how tall and what type? **Horizontal Slat Fence around perimeter. Less than 6’ - probably 4-5’**.

2. What are the street names for the internal streets? **N/S is Gardner Ln, E/W is Kate Dr**

3. Lot 6 of Block 1 and Lot 6 of Block 2 would be required to provide a 20’ street side setback on the south side. Would you like to request a reduction to that? This is possible as it’s internal to the project within the PUD. **Yes please. We would like to reduce this setback to a side setback standard.**
4. Will on street parking be available? If so, how many spaces? **On street parking will not be used in the parking calculations. While people may, in reality, park on the street, all parking required by code will be contained within each lot.**

5. Has the Subdivision name been reserved with Ada County? Submit email for inclusion in the record. **Subdivision Name has not been reserved. We will submit request asap. What is the process for changing the name of the sub if Bart wants to?**

6. Micro-paths are required a five-foot wide landscape area on both sides of the path and be maintained either by the abutting property owner or homeowners association. Please revise to include the east landscape buffer on this subject property. You may choose to shift the lots on the south side accordingly. It’s important to note fencing along micro-paths if solid cannot exceed 4’ in height. **We only drew it this way because we were told this was one of the options - I wish we hadn't been told this - could have saved some money for this affordable project on having to redraw it. I'll get this submitted and sent over to you asap.**

Let me know if you have additional questions.

Thank you,

Nicolette Womack  
Assoc. Planner, Current Planning & Subdivisions  
Planning and Development Services  
Office: 208-608-7090  |  Fax: 208-384-3753  
nwomack@cityofboise.org

Making Boise the most livable city in the country.
DEVELOPMENT AGREEMENT

This Agreement entered into this 1st day of July, 2019, by and between the City of Boise City, hereinafter referred to as “City,” and Dark Horse Associates, LLC, the owner of the real property described herein (Exhibit A) and the Applicant for Boise City rezone case number CAR19-00003, hereafter referred to as “Developer.”

RECITALS

WHEREAS, the Developer has applied to the City for a conditional rezone to R-2D/DA of the property described herein (Exhibit A) for the purpose of reserving space appropriate for future right-of-way and up to 8 attached townhomes under application to be made in the future; and

WHEREAS, the City, pursuant to Boise City Code Section 11-03-04.2 and Idaho Code §67-6511A, has the authority to conditionally rezone the property and to enter into a development agreement for the purpose of allowing, by agreement, a specific development to proceed in a specific area and for a specific purpose or use which is appropriate in the area, but for which the requested zoning may not be consistent with the Idaho Code and the Boise City Code; and

WHEREAS, the City’s Planning & Zoning Commission and City Council have held public hearings as prescribed by law with respect to the zoning and planned development of the Property and this Agreement; and

WHEREAS, it is the intent and desire of the parties hereto that development of the Property proceed as provided herein, subject to the terms and conditions of this Agreement and the amendments hereto.
NOW THEREFORE, in consideration of the above recitals and the mutual consideration as reflected in the covenants, duties and obligations herein set forth, the sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **Description and Location of Property; Size of Property; Present Zoning:** This conditional R-2D/DA zone shall apply to the property owned by Developer, hereinafter referred to as “the Property” and specifically legally described in “EXHIBIT A.” The commonly-associated address of the property is 9819 & 9831 W Shields Ave, Boise ID 83714, which are identified as the following parcel(s) R7334190815 AND R7334190820 (Exhibit A). The property is approximately 1.896 acres. The property was formerly zoned by Boise City as R-1C.

2. **Use Permitted by this Agreement:** The uses allowed pursuant to this conditional rezone as reflected in this Agreement are the future dedication of right-of-way for a road to parallel the existing canal on adjacent property, AND the construction of up to 8 attached townhomes under appropriate application to be submitted in the future. Such future development shall only occur on Parcels D as proposed under ROS19-00008 AND ROS19-00009. Developer agrees that this Agreement specifically allows only the uses described and specifically incorporated herein under the conditional R-2D/DA zone. No change in the uses specified in this Agreement shall be allowed without modification of this Agreement pursuant to the requirements of the Boise City Code. In the event the Developer changes or expands the use permitted by this Agreement without formal modification of this Agreement as allowed by the Boise City Code, the Developer shall be in default of this Agreement.

3. **Construction of Use in Conditional Zone:** The development and site work shall be constructed in accordance with a Conceptual Site Plan (Exhibit B), to be submitted in the future, but shall nonetheless be consistent with the Development Standards set forth below as well as the original conditions of approval (Exhibit C).
Development Standards: The following items, requirements, and conditions shall be applied to the rezoning the Property to a R-2D/DA zone.

A. General: The future development shall incorporate right-of-way no less than 41’ wide, with sidewalk, curb, and gutter on at least one side of the right-of-way. The right-of-way, which shall be dedicated to the Ada County Highway District and constructed to its standards, shall traverse the property east to west with the southern boundary of the right-of-way being approximately 127’ north of and parallel to the existing southern boundary of the property.

B. Development Type and Density: The development shall consist of the right-of-way and up to 8 attached townhomes, which shall be subject to future application and design review. The overall density of the subject property shall not exceed 16 dwelling units.

C. Property Ingress and Egress: Access to the future townhomes shall be taken from the future right-of-way.

D. Landscaping: Developer shall construct a pathway running from the proposed right-of-way directly south to the southern boundary of the property for future greenbelt access. The exact location and design of this pathway shall be determined with any subsequent development application associated with this area of the project.

Failure to construct the development consistent with this Agreement and the Boise City Zoning Ordinance or construction in variance with this Agreement, including the amendment of this Agreement, shall result in a default of this Agreement by the Developer.

4. **Default:** In the event the Developer, her/his heirs or assigns or subsequent owners of the property or any other person acquiring an interest in the property, fails to faithfully comply with all of the terms and conditions included in this Agreement, this Agreement may be
modified or terminated by the Boise City Council upon compliance with the requirements of the Boise City Code.

A. In the event the Boise City Council determines that this Agreement shall be modified, the terms of this Agreement shall be amended and the Developer shall comply with the amended terms. Failure to comply with the amended terms shall result in default.

B. In the event the Boise City Council, after compliance with the requirements of the Boise City Code, determines that this Agreement shall be terminated as a result of the default, the zoning of the property shall revert to R-1C. All uses of the Property which are not consistent with R-1C zoning or otherwise approved by the City of Boise shall cease.

C. A waiver by the City of any default by the Developer of any one or more of the covenants or conditions hereof shall apply solely to the breach and breaches waived and shall not bar any other rights or remedies of the City or apply to any subsequent breach of any such or other covenants and conditions.

5. **Consent to Rezone:** Developer, Developer's heirs, successors, assigns and personal representatives, by entering into this Agreement, does hereby agree that in the event there shall be a default in the terms and conditions of this Agreement in connection with the Property, after compliance with the requirements of Boise City Code, that this Agreement shall serve as consent to a rezone of the Property to R-1C zoning, as provided in Idaho Code §67-6511A.

6. **Notices:** Any and all notices required to be given by either of the parties hereto, shall be in writing and be deemed delivered upon personal service, if hand-delivered, or when mailed in the United States mail, certified, return receipt requested, addressed as follows:

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 4 of 11
a.) To the City:
Director, Planning and Development Services Department
City of Boise City
P.O. Box 500
Boise, Idaho 83701-0500

b.) To the Developer:
Dark Horse Associates, LLC
Attn: Wendy Klahr
47150 SE 162nd St
North Bend, WA 98045

Either party shall give notice to the other party of any change of their address for the purpose of this section by giving written notice of such change to the other in the manner herein provided. Developer expressly agrees to notify any successors and assigns of the need to provide City with a current address. In the event any successor or assign fails to provide an address, City obligations of mailing shall be deemed accomplished by use of the address on file with the County Tax Assessor.

7. **Attorney Fees:** Should any litigation be commenced between the parties hereto concerning this Agreement, the prevailing party shall be entitled, in addition to any other relief as may be granted, to court costs and reasonable attorney’s fees as determined by a Court of competent jurisdiction. This provision shall be deemed to be a separate contract between the parties and shall survive any default, termination or forfeiture of this Agreement.

8. **Time Is of the Essence:** The parties hereto acknowledge and agree that time is strictly of the essence with respect to each and every term, condition and provision hereof, and that
the failure to timely perform any of the obligations hereunder shall constitute a breach of and a default under this Agreement by the party so failing to perform.

9. **Binding Upon Successors:** This Agreement shall be binding upon and inure to the benefit of the parties' respective successors, assigns and personal representatives, including City's corporate authorities and their successors in office. This Agreement shall be binding on the owner of the property, each subsequent owner and each other person acquiring an interest in the property. This Agreement shall run with the land.

10. **Requirement for Recordation:** The Developer shall record this document, including all Exhibits, prior to the formal adoption of CAR19-00003 by the Boise City Council. Failure to comply with this section shall be deemed a default of this Agreement by the Developer. If for any reason after such recordation the Boise City Council fails to adopt CAR19-00003, City shall execute and record an appropriate instrument of release of this Agreement.

11. **Effective Date:** This Agreement shall not be effective until CAR19-00003 has been approved and published by the City.

12. **Expiration:** This Agreement shall automatically expire 5 (five) years from the date of approval unless the Developer elects to extend this Agreement for an additional period of 5 (five) years, which election shall be made in writing and recorded appropriately. Upon expiration, the property shall revert to the original zoning and all shall be as it was.

13. **Invalid Provisions:** If any provision of this Agreement is held not valid, such provision shall be deemed to be excised there from and the invalidity thereof shall not affect any of the other provisions contained herein.
IN WITNESS WHEREOF, the parties have hereunto caused this Agreement to be executed, on the day and year first above written.

Dated this 82nd day of Aug., 2019.

BOISE CITY

By: ____________________________

David H. Bieter, Mayor

ATTEST:

Lynda Lowry, City Clerk

DEVELOPER

By: ____________________________

Wendy Klahr, Manager/Member
ACKNOWLEDGMENT

STATE OF IDAHO  )
) ss.
County of Ada  )

On this 22nd day of August, 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared David Bieter, known or identified to me to be the Mayor of the City of Boise City, the municipal corporation that executed the within and foregoing instrument, or the person who executed the instrument on behalf of said municipal corporation, and acknowledged to me that such municipal corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[Signature]
Notary Public for Idaho
Residing at: Boise, ID
My commission expires: 12/11/20

STATE OF IDAHO  )
) ss.
County of Ada  )

On this 1st day of July, 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared Wendy Klahr, manager of Dark Horse Associates, LLC, known or identified to me to be the person that executed the foregoing said instrument, and acknowledged to me that he/she executed the same.

[Signature]
Notary Public for Idaho
Residing at: North Bend, WA
My Commission expires: 11/07/21

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 8 of 11
Exhibit A
Property Legal Description

Lot 15 in Block 3, Randall Acres Subdivision No. 8, according to the plat thereof, filed in Book 13 of Plats at page(s) 805-806, records of Ada County, Idaho.

AND

Lot 16 in Block 3, Randall Acres Subdivision No. 8, according to the plat thereof, filed in Book 13 of Plats at page(s) 805-806, records of Ada County, Idaho.
Exhibit B
Conceptual Site Plan

Future Roadway

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 10 of 11
Exhibit C
Action Letter from Boise City Council
(attached)
June 5, 2019

Wendy Klahr
Dark Horse Associates, LLC
47150 SE 162nd Street
North Bend, WA 98045
wdklaehr@gmail.com
(sent via email)

Re: CAR19-00003 / 9819 & 9831 W. Shields Avenue

Dear Ms. Klahr:

This letter is to inform you of the action taken by the Boise City Council on your request to rezone 1.89 acres from R-1C (Single Family Residential – 8 units/acre) to R-2D/DA (Medium Density Residential with Design Review and Development Agreement).

The Boise City Council, at their meeting of May 21, 2019, approved your request as per the recommendations and findings of the Planning and Zoning Commission formally adopted by the Boise City Council on June 4, 2019. Attached is the Reason for the Decision.

This final decision by the Boise City Council includes the notice to the applicant of the applicant’s rights to request a regulatory taking analysis pursuant to Idaho Code 67-8003.

It will be necessary for the Boise City Council to present three readings of the proposed ordinance before the completion of the rezone.

If you have any questions, please contact Leon Letson at (208) 608-7085 or lleston@cityofboise.org.

Sincerely,

Cody Riddle
Deputy Planning Director
Boise City Planning and Development Services Dept.

CR/sj

CC: North West Neighbohood Association / Richard Llewellyn / lexnet@gmail.com (sent via email)
Reason for the Decision

The requested rezone meets the approval criteria of B.C.C. Section 11-03-04.B(7)(c). It is consistent with the Comprehensive Plan. The property is designated “Compact” on the Land Use Map and R-2D is a permissible implementing zone in this designation. Furthermore, there are several principles within the Comprehensive Plan that encourage new housing that complements the surrounding neighborhood and does not require the costly extension of infrastructure (Principles NAC3.1(a) and CC1.1). Single family homes surround the subject property and all necessary utilities and infrastructure are readily available to the site. Principle NAC3.2 supports residential infill and redevelopment in areas identified as suitable for change within the “Areas of Stability and Change” maps. This area of the Northwest Planning Area has been identified as anticipated for “Significant New Development/Redevelopment.” The new public streets proposed with the development agreement are supported by Principles CC2.1(a), CC2.1(b), GDPN.1(a) and NW-C1.3 because they offer improved connectivity to the broader neighborhood. The rezone is also in the best interest of the public. The property is currently zoned R-1C (Single Family Residential), which has a maximum density of 8 units per acre. The change in zoning will accommodate additional residents that can take advantage of existing services, infrastructure and amenities in the area. The development agreement included in the application will ensure compatibility with the surrounding neighborhood is maintained.

Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received February 26, 2019, including the revised Development Agreement received March 25, 2019, except as expressly modified by the following conditions:

2. Prior to the rezone being scheduled for consideration by the City Council, the applicant shall complete the development agreement associated with the subject property as required by the following conditions and approved by the City Attorney.

   a. Language concerning the proposed future right of way width should be modified to reflect a minimum of 41’, vs. 36’ to accommodate a complete public roadway, including travel lanes, on-street parking, curb, gutter, and attached sidewalks.

   b. The agreement shall reference the approved site plan and include an exhibit of this plan.

   c. Upon approval of the rezone, the applicant shall submit a final revised copy of the development agreement for review and ordinance passage.
d. Within one year of the date City Council approves the rezone, the development agreement shall be recorded. The three required readings of the ordinance will not be scheduled until recordation has occurred. Failure to record the development agreement within the one-year time frame shall automatically render approval of this rezone null and void.
DEVELOPMENT AGREEMENT

This Agreement entered into this 1st day of July, 2019, by and between the City of Boise City, hereinafter referred to as "City," and Dark Horse Associates, LLC, the owner of the real property described herein (Exhibit A) and the Applicant for Boise City rezone case number CAR19-00003, hereafter referred to as "Developer."

RECITALS

WHEREAS, the Developer has applied to the City for a conditional rezone to R-2D/DA of the property described herein (Exhibit A) for the purpose of reserving space appropriate for future right-of-way and up to 8 attached townhomes under application to be made in the future; and

WHEREAS, the City, pursuant to Boise City Code Section 11-03-04.2 and Idaho Code §67-6511A, has the authority to conditionally rezone the property and to enter into a development agreement for the purpose of allowing, by agreement, a specific development to proceed in a specific area and for a specific purpose or use which is appropriate in the area, but for which the requested zoning may not be consistent with the Idaho Code and the Boise City Code; and

WHEREAS, the City’s Planning & Zoning Commission and City Council have held public hearings as prescribed by law with respect to the zoning and planned development of the Property and this Agreement; and

WHEREAS, it is the intent and desire of the parties hereto that development of the Property proceed as provided herein, subject to the terms and conditions of this Agreement and the amendments hereto.
NOW THEREFORE, in consideration of the above recitals and the mutual consideration as reflected in the covenants, duties and obligations herein set forth, the sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **Description and Location of Property: Size of Property: Present Zoning:** This conditional R-2D/DA zone shall apply to the property owned by Developer, hereinafter referred to as “the Property” and specifically legally described in “EXHIBIT A.” The commonly-associated address of the property is 9819 & 9831 W Shields Ave, Boise ID 83714, which are identified as the following parcel(s) R7334190815 AND R7334190820 (Exhibit A). The property is approximately 1.896 acres. The property was formerly zoned by Boise City as R-1C.

2. **Use Permitted by this Agreement:** The uses allowed pursuant to this conditional rezone as reflected in this Agreement are the future dedication of right-of-way for a road to parallel the existing canal on adjacent property, AND the construction of up to two (2) townhomes under appropriate application to be submitted in the future. Such future development shall only occur on Parcels D as proposed under ROS19-00008 AND ROS19-00009. Developer agrees that this Agreement specifically allows only the uses described and specifically incorporated herein under the conditional R-2D/DA zone. No change in the uses specified in this Agreement shall be allowed without modification of this Agreement pursuant to the requirements of the Boise City Code. In the event the Developer changes or expands the use permitted by this Agreement without formal modification of this Agreement as allowed by the Boise City Code, the Developer shall be in default of this Agreement.

3. **Construction of Use in Conditional Zone:** The development and site work shall be constructed in accordance with a Conceptual Site Plan (Exhibit B), to be submitted in the future, but shall nonetheless be consistent with the Development Standards set forth below as well as the original conditions of approval (Exhibit C).

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 2 of 11
Development Standards: The following items, requirements, and conditions shall be applied to the rezoning the Property to a R-2D/DA zone.

A. General: The future development shall incorporate right-of-way no less than 41’ wide, with sidewalk, curb, and gutter on at least one side of the right-of-way. The right-of-way, which shall be dedicated to the Ada County Highway District and constructed to its standards, shall traverse the property east to west with the southern boundary of the right-of-way being approximately north of and parallel to the existing southern boundary of the property.

B. Development Type and Density: The development shall consist of the right-of-way and up to 14 detached SPR, attached townhomes, which shall be subject to future application and design review. The overall density of the subject property shall not exceed 16 dwelling units.

C. Property Ingress and Egress: Access to the future townhomes shall be taken from the right-of-way.

D. Landscaping: Developer shall construct a pathway running from the proposed right-of-way directly south to the southern boundary of the property for future greenbelt access. The exact location and design of this pathway shall be determined with any subsequent development application associated with this area of the project.

Failure to construct the development consistent with this Agreement and the Boise City Zoning Ordinance or construction in variance with this Agreement, including the amendment of this Agreement, shall result in a default of this Agreement by the Developer.

4. Default: In the event the Developer, her/his heirs or assigns or subsequent owners of the property or any other person acquiring an interest in the property, fails to faithfully comply with all of the terms and conditions included in this Agreement, this Agreement may be
modified or terminated by the Boise City Council upon compliance with the requirements of the Boise City Code.

A. In the event the Boise City Council determines that this Agreement shall be modified, the terms of this Agreement shall be amended and the Developer shall comply with the amended terms. Failure to comply with the amended terms shall result in default.

B. In the event the Boise City Council, after compliance with the requirements of the Boise City Code, determines that this Agreement shall be terminated as a result of the default, the zoning of the property shall revert to R-1C. All uses of the Property which are not consistent with R-1C zoning or otherwise approved by the City of Boise shall cease.

C. A waiver by the City of any default by the Developer of any one or more of the covenants or conditions hereof shall apply solely to the breach and breaches waived and shall not bar any other rights or remedies of the City or apply to any subsequent breach of any such or other covenants and conditions.

5. Consent to Rezone: Developer, Developer’s heirs, successors, assigns and personal representatives, by entering into this Agreement, does hereby agree that in the event there shall be a default in the terms and conditions of this Agreement in connection with the Property, after compliance with the requirements of Boise City Code, that this Agreement shall serve as consent to a rezone of the Property to R-1C zoning, as provided in Idaho Code §67-6511A.

6. Notices: Any and all notices required to be given by either of the parties hereto, shall be in writing and be deemed delivered upon personal service, if hand-delivered, or when mailed in the United States mail, certified, return receipt requested, addressed as follows:

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 4 of 11
a.) To the City:
Director, Planning and Development Services Department
City of Boise City
P.O. Box 500
Boise, Idaho 83701-0500

b.) To the Developer:
Dark Horse Associates, LLC
Attn: Wendy Klahr
47150 SE 162nd St
North Bend, WA 98045

Either party shall give notice to the other party of any change of their address for the purpose of this section by giving written notice of such change to the other in the manner herein provided. Developer expressly agrees to notify any successors and assigns of the need to provide City with a current address. In the event any successor or assign fails to provide an address, City obligations of mailing shall be deemed accomplished by use of the address on file with the County Tax Assessor.

7. **Attorney Fees:** Should any litigation be commenced between the parties hereto concerning this Agreement, the prevailing party shall be entitled, in addition to any other relief as may be granted, to court costs and reasonable attorney’s fees as determined by a Court of competent jurisdiction. This provision shall be deemed to be a separate contract between the parties and shall survive any default, termination or forfeiture of this Agreement.

8. **Time Is of the Essence:** The parties hereto acknowledge and agree that time is strictly of the essence with respect to each and every term, condition and provision hereof, and that
the failure to timely perform any of the obligations hereunder shall constitute a breach of
and a default under this Agreement by the party so failing to perform.

9. **Binding Upon Successors:** This Agreement shall be binding upon and inure to the benefit
   of the parties’ respective successors, assigns and personal representatives, including City’s
corporate authorities and their successors in office. This Agreement shall be binding on
the owner of the property, each subsequent owner and each other person acquiring an
interest in the property. This Agreement shall run with the land.

10. **Requirement for Recordation:** The Developer shall record this document, including all
    Exhibits, prior to the formal adoption of CAR19-00003 by the Boise City Council. Failure
to comply with this section shall be deemed a default of this Agreement by the Developer.
    If for any reason after such recordation the Boise City Council fails to adopt CAR19-00003,
    City shall execute and record an appropriate instrument of release of this Agreement.

11. **Effective Date:** This Agreement shall not be effective until CAR19-00003 has been
    approved and published by the City.

12. **Expiration:** This Agreement shall automatically expire 5 (five) years from the date of
    approval unless the Developer elects to extend this Agreement for an additional period of
    5 (five) years, which election shall be made in writing and recorded appropriately. Upon
    expiration, the property shall revert to the original zoning and all shall be as it was.

13. **Invalid Provisions:** If any provision of this Agreement is held not valid, such provision
    shall be deemed to be excised there from and the invalidity thereof shall not affect any of
    the other provisions contained herein.

9819 & 9831 W Shields Ave, Boise ID 83714 | Development Agreement | CAR19-00003 | 6 of 11
IN WITNESS WHEREOF, the parties have hereunto caused this Agreement to be executed, on the day and year first above written.
Dated this ___ day of __________, 2019.

BOISE CITY
By: ____________
David H. Bieter, Mayor

ATTEST:

Lynda Lowry, City Clerk

DEVELOPER
By: ____________
Wendy Klahr, Manager/Member
ACKNOWLEDGMENT

STATE OF IDAHO )
) ss.
County of Ada )

On this 22nd day of August, 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared David Bieter, known or identified to me to be the Mayor of the City of Boise City, the municipal corporation that executed the within and foregoing instrument, or the person who executed the instrument on behalf of said municipal corporation, and acknowledged to me that such municipal corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Tracy Hall Johnson
Notary Public for Idaho
Residing at: Boise, ID
My commission expires: 12/11/20

STATE OF IDAHO )
) ss.
County of Ada )

On this 1st day of July, 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared Wendy Klahr, manager of Dark Horse Associates, LLC, known or identified to me to be the person that executed the foregoing said instrument, and acknowledged to me that he/she executed the same.

Susan L. Cooley
Notary Public for Idaho
Residing at: Nampa, ID
My Commission expires: 11/07/21
Exhibit A
Property Legal Description

Lot 15 in Block 3, Randall Acres Subdivision No. 8, according to the plat thereof, filed in Book 13 of Plats at page(s) 805-806, records of Ada County, Idaho.

AND

Lot 16 in Block 3, Randall Acres Subdivision No. 8, according to the plat thereof, filed in Book 13 of Plats at page(s) 805-806, records of Ada County, Idaho.
Exhibit C
Action Letter from Boise City Council
(attached)
June 5, 2019

Wendy Klahr
Dark Horse Associates, LLC
47150 SE 162nd Street
North Bend, WA 98045
wdklahr@gmail.com
(sent via email)

Re: CAR19-00003 / 9819 & 9831 W. Shields Avenue

Dear Ms. Klahr:

This letter is to inform you of the action taken by the Boise City Council on your request to rezone 1.89 acres from R-1C (Single Family Residential – 8 units/acre) to R-2D/DA (Medium Density Residential with Design Review and Development Agreement).

The Boise City Council, at their meeting of May 21, 2019, approved your request as per the recommendations and findings of the Planning and Zoning Commission formally adopted by the Boise City Council on June 4, 2019. Attached is the Reason for the Decision.

This final decision by the Boise City Council includes the notice to the applicant of the applicant’s rights to request a regulatory taking analysis pursuant to Idaho Code 67-8003.

It will be necessary for the Boise City Council to present three readings of the proposed ordinance before the completion of the rezone.

If you have any questions, please contact Leon Letson at (208) 608-7085 or lleston@cityofboise.org.

Sincerely,

Cody Riddle
Deputy Planning Director
Boise City Planning and Development Services Dept.

CR/sj

CC: North West Neighborhood Association / Richard Llewellyn / jecky5@gmail.com (sent via email)
Reason for the Decision

The requested rezone meets the approval criteria of B.C.C. Section 11-03-04.B(7)(c). It is consistent with the Comprehensive Plan. The property is designated "Compact" on the Land Use Map and R-2D is a permissible implementing zone in this designation. Furthermore, there are several principles within the Comprehensive Plan that encourage new housing that complements the surrounding neighborhood and does not require the costly extension of infrastructure (Principles NAC3.1(a) and CC1.1). Single family homes surround the subject property and all necessary utilities and infrastructure are readily available to the site. Principle NAC3.2 supports residential infill and redevelopment in areas identified as suitable for change within the "Areas of Stability and Change" maps. This area of the Northwest Planning Area has been identified as anticipated for "Significant New Development/Redevelopment." The new public streets proposed with the development agreement are supported by Principles CC2.1(a), CC2.1(b), GDPN.1(a) and NW-C1.3 because they offer improved connectivity to the broader neighborhood. The rezone is also in the best interest of the public. The property is currently zoned R-1C (Single Family Residential), which has a maximum density of 8 units per acre. The change in zoning will accommodate additional residents that can take advantage of existing services, infrastructure and amenities in the area. The development agreement included in the application will ensure compatibility with the surrounding neighborhood is maintained.

Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received February 26, 2019, including the revised Development Agreement received March 25, 2019, except as expressly modified by the following conditions:

2. Prior to the rezone being scheduled for consideration by the City Council, the applicant shall complete the development agreement associated with the subject property as required by the following conditions and approved by the City Attorney.

   a. Language concerning the proposed future right of way width should be modified to reflect a minimum of 41', vs. 36' to accommodate a complete public roadway, including travel lanes, on-street parking, curb, gutter, and attached sidewalks.

   b. The agreement shall reference the approved site plan and include an exhibit of this plan.

   c. Upon approval of the rezone, the applicant shall submit a final revised copy of the development agreement for review and ordinance passage.
d. Within one year of the date City Council approves the rezone, the development agreement shall be recorded. The three required readings of the ordinance will not be scheduled until recordation has occurred. Failure to record the development agreement within the one-year time frame shall automatically render approval of this rezone null and void.
### Property Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Number</td>
<td>9819</td>
</tr>
<tr>
<td>Prefix</td>
<td>W</td>
</tr>
<tr>
<td>Street Name</td>
<td>SHIELDS AVE</td>
</tr>
<tr>
<td>Subdivision name</td>
<td>RANDALL ACRES SUB NO 08</td>
</tr>
<tr>
<td>Block</td>
<td>3</td>
</tr>
<tr>
<td>Lot</td>
<td>16</td>
</tr>
<tr>
<td>Section</td>
<td>14</td>
</tr>
<tr>
<td>Township</td>
<td>4</td>
</tr>
<tr>
<td>Range</td>
<td>1</td>
</tr>
<tr>
<td>Zoning</td>
<td>R-1C</td>
</tr>
<tr>
<td>Parcel Number</td>
<td>R7334190820</td>
</tr>
<tr>
<td>Additional Parcel Numbers</td>
<td>R7334190815</td>
</tr>
</tbody>
</table>

### Primary Contact

Who is responsible for receiving e-mail, uploading files and communicating with Boise City?

- [ ] Agent/Representative
- [ ] Applicant
- [ ] Owner

### Applicant Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Wendy</td>
</tr>
<tr>
<td>Last Name</td>
<td>Klahr</td>
</tr>
<tr>
<td>Company</td>
<td>Dark Horse Associates, LLC</td>
</tr>
<tr>
<td>Address</td>
<td>47150 SE 162nd St</td>
</tr>
<tr>
<td>City</td>
<td>North Bend</td>
</tr>
<tr>
<td>State</td>
<td>WA</td>
</tr>
<tr>
<td>Zip</td>
<td>98045</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:wdklahr@gmail.com">wdklahr@gmail.com</a></td>
</tr>
<tr>
<td>Phone Number</td>
<td>(208) 284-2430</td>
</tr>
<tr>
<td>Cell</td>
<td>(208) 284-2430</td>
</tr>
</tbody>
</table>

### Agent/Representative Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Wendy</td>
</tr>
<tr>
<td>Last Name</td>
<td>Klahr</td>
</tr>
<tr>
<td>Company</td>
<td>Dark Horse Associates, LLC</td>
</tr>
<tr>
<td>Address</td>
<td>47150 SE 162nd St</td>
</tr>
<tr>
<td>City</td>
<td>North Bend</td>
</tr>
<tr>
<td>State</td>
<td>WA</td>
</tr>
<tr>
<td>Zip</td>
<td>98045</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:wdklahr@gmail.com">wdklahr@gmail.com</a></td>
</tr>
<tr>
<td>Phone Number</td>
<td>(208) 284-2430</td>
</tr>
<tr>
<td>Cell</td>
<td>(208) 284-2430</td>
</tr>
</tbody>
</table>

### Owner Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same as Applicant?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

(If yes, leave this section blank)

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>Last Name</td>
<td></td>
</tr>
<tr>
<td>Company</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip</td>
<td></td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
</tr>
<tr>
<td>Phone Number</td>
<td></td>
</tr>
<tr>
<td>Cell</td>
<td></td>
</tr>
<tr>
<td>Fax</td>
<td></td>
</tr>
</tbody>
</table>
1. Neighborhood Meeting Held (Date):
   11/18/2019

2. Neighborhood Association:
   North West

3. Comprehensive Planning Area:
   Northwest

4. This application is a request to construct, add or change the use of the property as follows:
   Create 14 single family lots on what is currently 1.89 vacant land consisting of 8 single family lots.

5. Size of Property:
   1.89 Acres
   Square Feet

6. Water Issues:
   A. What are your fire flow requirements? (See International Fire Code):
      1000 gpm

   B. Number of hydrants (show location on site plan):
      Note: Any new hydrants/hydrant piping require Suez Water approval.
      Number of Existing: 0
      Number of Proposed: 1

   C. Is the building "sprinklered"?
      Yes
      No

   D. What volume of water is available? (Contact SUEZ (208) 352-7354):
      1000 gpm

7. Existing uses and structures on the property are as follows:
   None-Vacant Land

8. Are there any hazards on the property?
   (Such as canals, hazardous material spills, soil or water contamination.) If so, describe them and give their locations:
   None.

9. Adjacent property information:

<table>
<thead>
<tr>
<th>Building types and/or uses</th>
<th>Number of</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>North: Residential</td>
<td>1</td>
<td>(R-1C) Single Family Resider</td>
</tr>
<tr>
<td>South: Residential</td>
<td>1</td>
<td>(R-1C) Single Family Resider</td>
</tr>
<tr>
<td>East: Residential</td>
<td>1</td>
<td>(R-1C) Single Family Resider</td>
</tr>
<tr>
<td>West: Residential</td>
<td>1</td>
<td>(R-1C) Single Family Resider</td>
</tr>
</tbody>
</table>
A. Number of **Proposed** non-residential structures: 0

Square footage of proposed non-residential structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th></th>
<th>Gross Square Feet</th>
<th>Net Leasable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4th Floor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

B. Maximum Proposed Height:

C. Number of stories: 0

D. Number of **EXISTING** non-residential structures to remain: 0

Square footage of existing non-residential structures or additions (if 5+ floors, attach narrative with chart):

<table>
<thead>
<tr>
<th></th>
<th>Gross Square Feet</th>
<th>Net Leasable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4th Floor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

E. Existing Structure Height(s):

F. Number of Stories: 0

11. **Residential Structures:**

A. Number of **Proposed** residential units (if applicable): 14

B. Size of Proposed residential structures (if applicable):

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Units</th>
<th>Square Foot per Unit</th>
<th>Total Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Bedroom</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two-Bedroom</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Three-Bedroom</td>
<td>7</td>
<td>1400</td>
<td>9800</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>1600</td>
<td>11200</td>
</tr>
<tr>
<td>Total Number</td>
<td>14</td>
<td>0</td>
<td>21000</td>
</tr>
</tbody>
</table>

C. Number of **Existing** units to remain: 0

D. Maximum Proposed Structure Height(s): 30

E. Number of Stories: 2
A. Percentage of site devoted to building coverage: 30
B. Percentage of site devoted to landscaping: 30
C. Percentage of site devoted to paving: 15
D. Percentage of site devoted to other uses: 25
E. Describe other use: Patios, pathways, drainage beds, residential personal area

13. Loading Facilities, if proposed (For Commercial uses only):

<table>
<thead>
<tr>
<th>Number</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Parking:

<table>
<thead>
<tr>
<th>A. Handicapped Spaces:</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>B. Parking Spaces:</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>C. Bicycle Spaces:</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D. Proposed Compact Spaces:</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

F. Are you proposing off-site parking?  

Option: Yes or No

If yes, how many spaces?

G. Are you requesting shared parking or a parking reduction?

Option: Yes or No

If yes, how many spaces?

Note: If you are requesting shared parking or a parking reduction, you must submit a survey of persons using and working on the premises and any additional information demonstrating that use by the regular employees and visitors to the premises will require fewer off-street parking spaces than required by the Zoning Ordinance.

15. Setbacks (Plans that are not graphically dimensioned will not be accepted.)

<table>
<thead>
<tr>
<th>Building</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Parking</th>
<th>Proposed</th>
<th>Required</th>
</tr>
</thead>
</table>

| Front: | | |
|--------| | |
| Rear:  | | |
| Side 1: | | |
| Side 2: | | |

16. Waivers Requested:

A. Lot size:  

Option: Yes or No  
Description: less than 5000sqft per lot

B. Internal Setbacks:  

Option: Yes or No  
Description: |

C. Frontage:  

Option: Yes or No  
Description: less than 50’ per lot
17. Sidewalks:
    Proposed: [ ] Attached  [ ] Detached
    Adjacent: [ ] Attached  [ ] Detached

18. Amenities:
    Number: 
    Description: Proximity to large public park. Pathway to the Spoils Bank Canal for public use.

19. Density:
    Allowed Density: 
    Proposed Density: 

20. Building Exterior:
    Materials                      Colors
    Roof:  Composition           Varied
    Walls:  Container            Varied
    Windows/Doors:  Wood/Metal/Vinyl  Varied
    Fascia, Trim etc.:  Wood      Varied

    Seepage beds per engineering drawing

22. Floodways & Hillsides:
    A. Is any portion of this property located in a Floodway or a 100-year Floodplain?  [ ] Yes  [ ] No
    B. Does any portion of this parcel have slopes in excess of 15%?  [ ] Yes  [ ] No

Note: If the answer to either of the above is yes, you will be required to submit an additional Floodplain and/or Hillside application and additional fee. You must submit the additional required application(s) for review at the same time as this request.

23. Airport Influence Area:
    Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)
        [ ] No  [ ] Area A  [ ] Area B  [ ] Area B1  [ ] Area C
A. PUBLIC Street Layout Review

The impacts of proposed development on adjacent land uses and transportation facilities must be considered. A "Traffic Impact Study" (TIS) will be generally required by the Ada County Highway District, if the proposed development contains no more than 100 dwelling units (includes hotels and motels as well as private dwelling units), more than 30,000 square feet of commercial use, or more than 50,000 square feet of industrial or institutional use, or has associated it with special circumstances deemed by ACHD to warrant an impact study. A copy of this study must be submitted with this application.

Is a Traffic Impact Study required?
- Yes  
- No

B. PRIVATE Street Layout Review

The impacts of proposed development on adjacent land uses and transportation facilities must be considered. A "Traffic Impact Study" (TIS) prepared by a traffic engineer will be required by Public Works and Planning & Development Services for the interior roadway and parking system. This requirement may be waived when it can be shown by the applicant that no section of on-site roadway will exceed 240 vehicle trips per day.

Is a Traffic Impact Study required?
- Yes  
- No

Are you proposing public street connection to adjacent properties?
- Yes  
- No

25. Solid Waste:

A. Type of trash receptacles:
- Individual Can/Residential
- 3 Yd Dumpster
- 6 Yd Dumpster
- 8 Yd Dumpster
- Compactor

B. Number of trash receptacles:

C. Proposed screening method:

D. Is the proposed location accessible for collection? (Contact Boise Public Works at 384-3901.)
- Yes  
- No

E. Is recycling proposed?
- Yes  
- No

Verification of Legal Lot or Parcel Status

Acceptance of this application does not validate the legal status of any lot or parcel. Prior to submitting for a Building Permit you must have a Verification of Legal Parcel Status form signed by the Boise City Subdivision Department. It is the applicant's responsibility to provide deeds and/or other documentation to the Subdivision Department. See Verification of Legal Lot or Parcel Worksheet for submittal requirements.

The undersigned declares that the above provided information is true and accurate. The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: ____________________________

Date: ____________________________
## Property Information

### Address

<table>
<thead>
<tr>
<th>Street Number:</th>
<th>Prefix:</th>
<th>Street Name:</th>
<th>Unit #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9819 / 1831</td>
<td></td>
<td>Shields Ave</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subdivision name:</th>
<th>Block:</th>
<th>Lot:</th>
<th>Section:</th>
<th>Township:</th>
<th>Range:</th>
<th>Zoning:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parcel Number:</th>
<th>Additional Parcel Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Primary Contact

Who is responsible for receiving e-mail, uploading files and communicating with Boise City?
- [x] Applicant
- [ ] Owner
- [ ] Agent/Representative

### Applicant Information

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wendy</td>
<td>Klahr</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Horse Associates LLC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td>17150 SE 162nd St</td>
<td>North Bend</td>
<td>WA</td>
<td>98045</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:nklahr@gmail.com">nklahr@gmail.com</a></td>
<td>208-284-2430</td>
</tr>
</tbody>
</table>

### Agent/Representative Information

Role Type:
- [ ] Architect
- [x] Land Developer
- [ ] Engineer
- [ ] Contractor
- [ ] Other

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sam</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Owner Information

Same as Applicant? [x] Yes

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-mail:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Neighborhood Meeting Held (Date):

2. Neighborhood Association:

3. Comprehensive Planning Area:

4. This application is a request to construct, add or change the use of the property as follows:

   Slight change to Dev Agreement. Fewer lots. Standard SFR lots rather than townhome lots. Still to include connectivity & primary access.

5. Type of Request:
   - Rezone
   - Annexation & Rezone

6. Current Zone:

7. Requested Zone:

8. Size of Property:
   - Acres
   - Square Feet

9. Existing uses and structures on the property are as follows:

   [Blank space for additional information]
10. Are there any existing land uses in the general area similar to the proposed use?
   If so, describe them and give their locations:

11. On what street(s) does the property have frontage?

12. Adjacent property information:
    Uses:          Zone:
    North:        North:  
    South:        South:  
    East:         East:   
    West:         West:   

13. Why are you requesting annexation into the City of Boise?

14. What use, building or structure is intended for the property?

15. What changes have occurred in the area that justify the requested rezone?

16. What Comprehensive Plan policies support your request?

The undersigned declares that the above provided information is true and accurate.
The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: 

Date: 12/18/19
### Property Information

<table>
<thead>
<tr>
<th><strong>Address</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street Number:</strong> 9831</td>
<td><strong>Prefix:</strong> W</td>
</tr>
<tr>
<td><strong>Subdivision name:</strong> RANDALL ACRES SUB NO 08</td>
<td><strong>Street Name:</strong> SHIELDS AVE</td>
</tr>
<tr>
<td><strong>Parcel Number:</strong> R7334190815</td>
<td><strong>Additional Parcel Numbers:</strong> R7334190820</td>
</tr>
</tbody>
</table>

### Primary Contact

**Who is responsible for receiving e-mail, uploading files and communicating with Boise City?**

- [ ] Agent/Representative
- [ ] Applicant
- [ ] Owner

### Applicant Information

| **First Name:** Wendy | **Last Name:** Klahr |
| **Company:** Dark Horse Associates, LLC |  |
| **Address:** 47150 SE 162nd St | **City:** North Bend |
| **State:** WA | **Zip:** 98045 |
| **E-mail:** wdklahr@gmail.com | **Phone Number:** (208) 284-2243 |
| **Cell:** (208) 284-2430 | **Fax:** |

### Agent/Representative Information

| **First Name:** Wendy | **Last Name:** Klahr |
| **Company:** Dark Horse Associates, LLC |  |
| **Address:** 47150 SE 162nd St | **City:** North Bend |
| **State:** WA | **Zip:** 98045 |
| **E-mail:** wdklahr@gmail.com | **Phone Number:** (208) 284-2243 |
| **Cell:** (208) 284-2430 | **Fax:** |

### Owner Information

**Same as Applicant? [ ] No [ ] Yes**

| **First Name:** | **Last Name:** |
| **Company:** |  |
| **Address:** | **City:** |
| **State:** | **Zip:** |
| **E-mail:** | **Phone Number:** |
| **Cell:** | **Fax:** |
2. Proposed Subdivision/Condominium Name:

Zephyr Subdivision

Note: Must be approved by the Ada County Surveyor.

3. Cross Reference Files:

Please list all previously approved or currently associated file(s):

4. Subdivision/Condominium Features:

Number of buildable lots/units: 14
Buildable lots/units per acre: 7.4
Number of common lots/units: 0
Zoning Classification:
Total acres in subdivision: 1.89

5. Building Program:

Number of Existing Buildings: 0
Number of Existing Buildings to Remain: 0

Type of Existing Buildings:
- Residential
- Commercial
- Industrial
- Mixed Use

If Residential What Type?
- Single Family
- Townhouse
- Duplex
- Multi-Family

Type of Proposed Buildings:
- Residential
- Commercial
- Industrial
- Mixed Use

If Residential What Type?
- Single Family
- Townhouse
- Duplex
- Multi-Family

6. Waivers or Modifications:

Are any waivers/modifications being requested from the Subdivision Ordinance?

- Yes
- No

If yes, please include a detailed explanation in your letter. An additional waiver/modification review fee must be paid at the time of submittal.

7. Private Streets:

Are private streets proposed?

- Yes
- No

If yes, please provide justification in the letter of explanation. An additional private street review fee must be paid at the time of submittal.
8. Public Streets:
Number of new public streets proposed: ___________

9. Floodways & Hillsides:
Is any portion of this property located in a Floodway or a 100-year Floodplain?  
[ ] Yes  [ ] No

Does any portion of this parcel have slopes in excess of 15%?  
[ ] Yes  [ ] No

Note: If the answer to either of the above is yes, you will be required to submit an additional #112 Floodplain and/or #114 Hillside application and additional fee.

11. Airport Influence Area:
Is the subject site located within the Airport Influence Area? (If yes, please mark which area.)  
[ ] No  [ ] Area A  [ ] Area B  [ ] Area B1  [ ] Area C

The undersigned declares that the above provided information is true and accurate.
The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature:

Date:

Planning Division Project Report

**Applicant**
Wendy Klahr / Dark Horse Associates, LLC

**Property Address**
9831 & 9819 W. Shields Ave.

**Public Hearing Date**
January 6, 2020

**Heard by**
Planning and Zoning Commission

**Analyst**
Nicolette Womack, Associate Planner

**Reviewed By**
Céline Acord, Current Planning Manager

**Public Notification**
Neighborhood meeting conducted on: November 18, 2019
Radius notices mailed to properties within 300 feet on: December 20, 2019
Newspaper notification published on: December 21, 2019
Applicant posted notice on site on: December 17, 2019

**Table of Contents**
1. Project Data and Facts................................................................. 2
2. Land Use.................................................................................. 2
3. Project Proposal........................................................................ 3
4. Development Code..................................................................... 3
5. Comprehensive Plan................................................................. 4
6. Transportation Data................................................................. 4
7. Analysis..................................................................................... 4
8. Approval Criteria......................................................................... 7
9. Recommended Conditions of Approval.................................... 9

**Exhibits**
Agency Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Architect/Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td><strong>Zoning</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vacant</strong></td>
</tr>
</tbody>
</table>

**Description of Applicant’s Request**

The applicant requests a conditional use permit for a planned residential development comprised of 14 detached single-family homes. A minor modification to the Development Agreement is also included, as well as a Preliminary Plat for a residential subdivision comprised of 2 common and 14 buildable lots.

2. Land Use

**Description and Character of Surrounding Area**

The area is mostly residential with a mix of product types which include single-family residential and manufactured homes. To the south is the Spoils Bank Canal.

**Adjacent Land Uses and Zoning**

<table>
<thead>
<tr>
<th>North</th>
<th>Shields Ave., then Single-Family Residential / R-1C</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>Spoils Bank Canal, then Single-Family Residential / R-1C</td>
</tr>
<tr>
<td>East</td>
<td>Single-Family Residential / R-1C</td>
</tr>
<tr>
<td>West</td>
<td>Single-Family Residential / R-1C</td>
</tr>
</tbody>
</table>

**History of Previous Actions**

| CAR19-00003 | Request to rezone from R-1C to R-2D/DA for 16 units. Development Agreement for future public roadway and PUD & Subdivision. - Approved, Ordinance Pending |

3. Project Proposal

Structure(s) Design

<table>
<thead>
<tr>
<th>Number and Proposed Use of Buildings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14 detached single-family homes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Stories / Maximum Building Height</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-family homes / Under 35’ in height</td>
<td></td>
</tr>
</tbody>
</table>

Fencing

A 6-foot tall horizontal slat fence will be located along the perimeter.

PUD Required Amenities

A pathway easement will be dedicated for public pedestrian use and access to the Spaulding Bank Canal in the southeast corner of the subject property. Public access to the nearby Optimist Youth Sports Complex is also within 0.23 miles from the site.

Setbacks

<table>
<thead>
<tr>
<th>Yard</th>
<th>Building Required</th>
<th>Building Proposed</th>
<th>Parking Required</th>
<th>Parking Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front (internal along Gardener Ln. and Kate Dr.)</td>
<td>15’</td>
<td>15’</td>
<td>20’</td>
<td>20’</td>
</tr>
<tr>
<td>Interior Side</td>
<td>5’</td>
<td>5’</td>
<td>3’</td>
<td>3’</td>
</tr>
<tr>
<td>Street Side (internal along Kate Dr.)</td>
<td>15’</td>
<td>5’*</td>
<td>20’</td>
<td>5’*</td>
</tr>
<tr>
<td>Rear (perimeter)</td>
<td>15’</td>
<td>15’</td>
<td>15’</td>
<td>15’</td>
</tr>
</tbody>
</table>

*Interior setback reduction requested through Planned Unit Development.

Parking

Two off-street parking spaces will be provided with each new single-family home. The required off-street parking will be set back 20’ from the edge of the back of sidewalk along the Gardener Ln. and Kate Dr., accommodating guest parking within the driveway apron. Gardener Ln. will accommodate one side of on-street parking. Kate Dr. will accommodate on-street parking on both sides.

4. Development Code ([Boise City Code Title 11](#))

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.2</td>
<td>Development Agreement Specific Procedures</td>
</tr>
<tr>
<td>11-03-04.4</td>
<td>Subdivision Plat Specific Procedures</td>
</tr>
<tr>
<td>11-03-04.7</td>
<td>Planned Unit Development Specific Procedures</td>
</tr>
<tr>
<td>11-04-03</td>
<td>General Purpose of Residential Districts</td>
</tr>
<tr>
<td>11-07-03</td>
<td>Off-Street Parking &amp; Loading Standards</td>
</tr>
<tr>
<td>11-07-06.5</td>
<td>Planned Unit Development Standards</td>
</tr>
<tr>
<td>11-09-03</td>
<td>Subdivision Design Standards</td>
</tr>
</tbody>
</table>
5. Comprehensive Plan *(Blueprint Boise)*

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
</table>
| Chapter 2: City Wide Visions and Policies | Goal CC1.1  
Goal CC2  
Goal NAC3.1 (a)  
Goal NAC3.2 |
| Chapter 3: Community Structure and Design | Principle GDP-N.1 (a) |
| Chapter 4: Northwest Planning Area Policies | Goal NW-C1.3 |

6. Transportation Data

The Ada County Highway District (ACHD) estimates this development to generate 133 additional vehicle trips per day; 14 additional vehicle trips per hour in the PM peak hour, based on the *Institute of Transportation Engineers Trip Generation Manual, 10th edition*.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Traffic Count</th>
<th>Level of Service*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horseshoe Bend Road</td>
<td>0’</td>
<td>Collector</td>
<td>415</td>
<td>Better than “D”**</td>
</tr>
<tr>
<td>Shields Avenue</td>
<td>200’</td>
<td>Local</td>
<td>17</td>
<td>N/A**</td>
</tr>
</tbody>
</table>

*Acceptable level of service for a three-lane collector is “D” (530 VPH). Average daily traffic counts for Horseshoe Bend Road, south of Hill Road, was 7,527 on 10/10/18.  
**ACHD does not set level of service thresholds for local streets. However, general guidance is fewer than 1,000 VDT with a maximum of 2,000 VDT. Average daily traffic counts for Shields Avenue, east of Horseshoe Bend Road, were 485 on 3/07/19.

The applicant is proposing one access off Shields Ave. for the new Gardener Ln. (north/south). Gardener Ln. is an internal road to the subdivision with a 27’ wide street section. Parking will be restricted to one side only, due to its limited width. ‘NO PARKING’ signs will be required on one side of the road. Kate Drive (east/west) is proposed as a 33’ wide street section with a stub street to the east and west property lines. A sign at the end of each stub street is required which states ‘THIS ROAD WILL BE EXTENDED IN THE FUTURE’. Shields Ave. abutting the site, Gardener Ln., and Kate Drive will be improved with curb, gutter and 5’ wide attached sidewalk.

7. Analysis

The applicant requests a conditional use permit for a planned residential development comprised of 14 single family homes on 1.90 acres located at 9831 & 9819 W Shields Ave in a pending R-2D/DA (Medium Density Residential with Design Review and Development Agreement) zone. A minor modification to the Development Agreement is also included, as well as a Preliminary Plat for a residential subdivision comprised of 2 common and 14 buildable lots. The site is bordered by single-family homes on various sized lots.
Development Agreement

Earlier in 2019, the applicant received approval to rezone the property from R-1C to R-2D/DA for 16 units (CAR19-00003). Also included was a Development Agreement which identified future public roadways and an area for a future PUD and Subdivision to be comprised of 8 attached townhomes. These standards are not in effect until after completion of the three readings of the proposed ordinance which is anticipated to occur by the end of January 2020. As this is only a preliminary plat proposal, another application for final plat review will need to occur, which will take place well after the effective date of the ordinance.

The applicant proposes to modify the Development Agreement in order to allow 4 single-family homes in the area previously designated for 8 attached townhomes. The ongoing redevelopment of this area has provided opportunities to connect multiple developments with a future public roadway network. Compliance with the previously approved road network is also included in this proposal.

Planned Unit Development

The proposal includes construction of 14 single-family homes. Site access will be provided by way of two new public rights of way, Gardener Ln. and Kate Dr. Due to the limited width of Gardener Ln., on-street parking will be restricted to one side only. Kate Dr. will include on-street parking on both sides. A note on the final plat is required noting the parking restriction and ‘No Parking’ signs shall be installed. Curb, gutter and 5’ sidewalk will be included on both side of the new rights of way and extended along Shields Ave.
abutting the site. Two off-street parking spaces will be provided with each new single-family home and will be set back 20' from the front property lines, accommodating guest parking within the driveway apron.

The site is large enough to accommodate the 14 detached single-family homes on the property, which is within the allowed density of the R-2 zone (14.5 dwelling units/acre) and the restrictions outlined within the Development Agreement. The planned unit development is requesting waivers to the dimensional standards and has proposed reducing only the interior street side setback (20') to an interior side setback (5') as noted in the previous setback table. It also includes reduced lot sizes of approximately 3,950 sq. ft. minimum for interior lots and 3,906 sq. ft. minimum for corner lots, rather than the required 5,000 sq. ft. interior lots and 7,000 sq. ft. corner lots. The lot widths will also be reduced to 48' for interior lots and 50' for corner lots rather than the required lot width of 50' for interior lots and 70' for corner lots in the R-2 zone. The Planning Team is in support of these requests as they are interior to the development and create more useable building envelopes, without adversely impacting the adjacent properties. These requests also allow development of the property in a pattern consistent with the existing R-1C zoning. Lastly, the development is over one acre in size, requiring two amenities. A pathway easement will be dedicated for public pedestrian use and access to the Spoils Bank Canal in the south east corner of the subject property. Public access to the nearby Optimist Youth Sports Complex is also within 0.23 miles from the site.

**Summary**

With the recommended conditions of approval, the proposed development will be compatible with the area as it is surrounded by a variety of uses and meets or exceed the perimeter setback requirements.
8. Approval Criteria

Planned Unit Development (11-03-04.07(C7))

i. The location is compatible to other uses in the general neighborhood;

The project is compatible with the surrounding neighborhood. The project includes single-family residential and is bordered by single-family homes on various sized lots and will have compatible like-yard setbacks. Only internal setback, lot size and width reductions are proposed. While this development is indeed a change in use for the adjacent properties, features within the design such as like-yards perimeter setbacks and perimeter fencing will provide appropriate transitions between the neighboring properties.

ii. The proposed use will not place an undue burden on transportation and other public facilities in the vicinity;

The project will need to comply with ACHD requirements. Correspondence received from commenting agencies confirm the proposed use will not place an undue burden on the transportation system or other services in the vicinity. The public street extensions have been approved by the Boise City Fire Department. Due to the limited width of Gardener Ln., on-street parking will be restricted to one side only. A note on the face of the final plat is required noting the parking restriction and ‘No Parking’ signs shall be installed. As indicated in attached comments, no public agency has voiced opposition to this request. The standard conditions of each have been included as conditions of approval.

iii. The site is large enough to accommodate the proposed use and all yards, open spaces, pathways, walls, fences, parking, loading, landscaping, and such other features as are required by this Code;

The site is large enough to accommodate the use as only 14 units are proposed. Generally, the property has a maximum density of 27 dwelling units within the R-2 zone. However, the Development Agreement limited to the proposal to a max of 16 units. Adequate parking will be provided as each single-family home will provide two off-street parking spaces, additional apron space and on-street parking spaces. The proposed development complies with all exterior setback requirements of the R-2 zone. Five-foot wide attached sidewalks, curb and gutter will be extended along Shields Ave. and along the new public roads. Perimeter fencing will also be provided. Two amenities are required as the development is over one acre in size. A dedicated public pathway to the Spoils Bank Canal will be provided in the south east corner of the subject property. Public access to the nearby Optimist Youth Sports Complex is also within 0.23 miles from the site.
iv. The proposed use, if it complies with all conditions imposed, will not adversely affect other property of the vicinity;

The proposed development will not adversely affect other property in the vicinity, as the proposal complies with the conditions of the Development Agreement as modified. The homes will also comply with the height requirements of the R-2 zone and match all like-yards perimeter setbacks of the adjacent properties. While this development is indeed a change in use for the adjacent properties, the public road extensions will connect multiple developments furthering the overall connectivity of the neighborhood.

v. The proposed use is in compliance with the Comprehensive Plan.

The proposed development is in compliance with the Comprehensive Plan as Goal CC1.1 encourages infill development in order to reduce vehicle miles traveled and avoid costly extensions of transportation infrastructure. The public road extensions are in compliance with Goal CC2 and NW-C 1.3 which promote an interconnected network of complete streets to alleviate traffic congestion and improve connectivity in existing neighborhoods. The single-family homes included in this proposal would also comply with the adjacent R-1C zoning standards. This is consistent with Goal NAC3.1(a) as it complements the scale and character of the surrounding neighborhood as well. The dedication of the public pathway to the Spoils Bank Canal in the southeast corner of the property is in compliance with Principle GDP-N.1(a) which promotes providing pathways to connect different areas of the neighborhood.

Rezone (11-03-04.3B(7c))

i. Is in compliance with the Comprehensive Plan.

The modifications to the Development Agreement are in compliance with the Comprehensive Plan as the public road extensions are still included in the agreement. This is in compliance with Goal CC2 and NW-C 1.3 which promote an interconnected network of complete streets to alleviate traffic congestion and improve connectivity in existing neighborhoods. Although the previous townhome design was also in compliance with the Comprehensive Plan, modifying the Development Agreement to allow this proposal would also comply with the adjacent R-1C zoning. This is consistent with Goal NAC3.1(a) as it complements the scale and character of the surrounding neighborhood as well.

ii. Is in the best interests of the public convenience and general welfare.

The modifications to the Development Agreement are in the best interests of the public convenience and general welfare. The modifications comply with the original intent of the Development Agreement which was to establish a road network and an appropriate maximum number of units for this development. The design has
reduced the overall number of units from the original proposal, mirroring the surrounding neighborhood. The public road extensions will connect multiple developments furthering the overall connectivity of the neighborhood.

iii. Maintains and preserves compatibility of surrounding zoning and development.

The project maintains and preserves compatibility with the surrounding zoning and development. The ongoing redevelopment of this area has provided opportunities to connect multiple developments with a future public roadway network. Compliance with the previously approved road network included in the Development Agreement will ensure compatibility with the surrounding neighborhood is maintained. The modified design will include single-family homes on R-1C typical lots adjacent to single-family homes on R-1C lots.

9. Recommended Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received November 26, 2019, and the revised plans on December 16, 2019, except as expressly modified the following conditions:

2. CAR19-00003 shall be effective and published before final plat submittal.

3. The following Development Agreement requirements shall be met:

   a. Upon approval of the rezone, the applicant shall submit a final signed copy of the Development Agreement for review and ordinance passage.

   b. Within one year of the date City Council approves the rezone, the Development Agreement shall be recorded. The three required readings of the ordinance will not be scheduled until recordation has occurred. Failure to record the Development Agreement within the one-year time frame shall automatically render approval of this modification null and void.

   c. The Development Agreement shall be revised to reference and attach the updated site plan received on December 16, 2019.

Agency Requirements

4. The applicant shall comply with the requirements of the following agencies as identified in their submitted memos:
5. The applicant shall comply with the requirements of the Boise City Public Works Department (BCPW). The following is a list of department comments by division:

   a. Drainage (November 27, 2019);
   b. Sewer (November 29, 2019);
   c. Sewer Irrigation (November 29, 2019);
   d. Solid Waste (November 29, 2019); and
   e. Street Lights (December 3, 2019).

Please contact BCPW at 208-608-7150. All items required by BCPW shall be included on the plans/specifications that are submitted for a Building Permit. Please note that any changes or modifications by the owner to the approved plans must be submitted to the Public Works Department for approval.

6. The applicant shall comply with all requirements of the Boise Fire Department comments received December 26, 2019. Any deviation from this plan is subject to Fire Department approval. For additional information, contact Ron Johnson at 208-570-6500.

7. The applicant shall comply with all requirements of the Boise City Building Department comments received December 3, 2019.

Subdivision:

8. The following notes shall be placed on the face of the Final Plat stating:

   a. The development of this property shall be in compliance with the Boise Development Code or as specifically approved by PUD19-00038 and SUB19-00066.

   b. Minimum building setbacks shall be in accordance with the City of Boise applicable zoning and subdivision regulations, unless otherwise approved by PUD19-00038, at the time of issuance of individual building permits.

   c. This development is subject to the Covenants, Conditions, and Restrictions (CC&R’s) that pertain to this development, to be filed and recorded in the Ada County Recorder’s Office.

   d. Parking shall be restricted to only one side of Gardener Ln. These areas will be signed for “No Parking”.

   No Parking
e. The pedestrian pathway easement shall be dedicated to the public for pedestrian use and access.

9. The Mylar shall include the following endorsements or certifications (I.C. Title 50, Chapter 13). These must be executed prior to submitting the Final Plat for recording with the Ada County Recorder’s Office.
   
a. Signatures of owners or dedicators,
   b. Certificate of the Surveyor,
   c. Certificate of the Central District Health Department,
   d. Acceptance of the Commissioners of the Ada County Highway District,
   e. Certificate of the Boise City Engineer,
   f. Certificate of the Boise City Clerk,
   g. Certificate of the Ada County Surveyor, and
   h. Signature of the Ada County Treasurer.

10. The subdivision name shall be reserved and shall not be changed unless there is a change in ownership, at which time, the new owner(s) shall submit their new name to the Ada County Engineer for review and reservation. Should a change in name occur the applicant shall submit, in writing from the Ada County Engineer, the new name to the Planning and Development Services Department and re-approval by the Council of the "Revised" Final Plat shall be required. The developer and/or owner shall submit all items including fees, as required by the Planning and Development Services Department, prior to scheduling the "Revised" Final Plat for public hearing.

11. Correct street names as approved by the Ada County Street Name Committee shall be placed on the plat (B.C.C. 11-09-03.4E).

12. A letter of acceptance for water service from the utility providing service is required (B.C.C. 11-09-04.3).

13. Developer shall provide utility easements as required by the public utility providing service (B.C.C. 11-09-03.6).

14. Developer shall provide a letter from the United States Postal Service stating, "The Developer and/or Owner has received approval for location of mailboxes by the United States Postal Service."

   Contact: Dan Frasier, Postmaster
   770 S. 13th St.
   Boise, ID 83708-0001
   Phone No. (208) 433-4301
   Fax No. (208) 433-4400
15. A letter from the appropriate school district is required stating, “The Developer has made arrangements to comply with all requirements of the School District.”

16. The developer shall make arrangements to comply with all requirements of the Boise City Fire Department and verify in one of the following ways:

   a. A letter from the Boise City Fire Department stating that all conditions for water, access, and/or other requirements have been satisfied, OR
   b. A non-build agreement has been executed and recorded with a note on the face of the Final Plat identifying the instrument number.

   NOTE: “No Parking” signs shall be installed in accordance with the requirements of the International Fire Code (BCC 7-0-32, IFC 503.8). Contact the Boise City Fire Department for sign placement and spacing. Developer may either construct prior to final platting or post bond in the amount of 110% of the estimated costs with the Boise City Planning and Development Services Department.

17. Covenants, homeowners’ association by-laws or other similar deed restrictions, which provide for the use, control and maintenance of all common areas, storage facilities, recreational facilities or open spaces, shall be reviewed and approved by the Boise City Attorney. After recordation of the Final Plat and CC&R’s, no building permit shall be accepted until a copy of the recorded CC&R’s has been submitted to the Boise City Attorney.

18. Prior to the City Engineer’s Certification of the Final Plat and prior to earth disturbing activities, an erosion and sediment control (ESC) permit must be obtained. An ESC plan conformance to the requirements of the Boise City Code, is to be submitted to the Erosion Control Program Manager for review and approval. No grading or earth disturbing activities may start until an approved ESC permit has been issued.

19. Prior to submitting the Mylar of the Final Plat to Boise City, all the conditions of approval must be satisfied. Approvals must be provided on agency letterhead.

20. Prior to submitting the Mylar of the Final Plat to Boise City, the following endorsements or certifications must be executed:

   a. Signatures of owners or dedicators,
   b. Certificate of the Surveyor,
   c. Certificate of the Central District Health Department,
   d. Acceptance of the Commissioners of the Ada County Highway District.

21. Developer shall comply with B.C.C. 11-03-04.4 which specifies the limitation on time for filing and obtaining certification. Certification by the Boise City Engineer shall be made within two years from date of approval of the Final Plat by the Boise City Council.
a. The developer may submit a request for a time extension, including the appropriate fee, to the Boise City Planning and Development Services Department for processing. Boise City Council may grant time extensions for a period not to exceed one year provided the request is filed, in writing, at least 20 working days prior to the expiration of the first two-year period, or expiration date established thereafter.

b. If a time extension is granted, the Boise City Council reserves the right to modify and/or add condition(s) to the original Preliminary or Final Plat to conform with adopted policies and/or ordinance changes.

c. The Final Plat shall be recorded with the Ada County Recorder within one year from the date of the Boise City Engineer’s signature. If the Final Plat is not recorded within the one-year time frame it shall be deemed null and void.

22. No Building Permit for the construction of any new structure shall be accepted until the Final Plat has been recorded pursuant to the requirements of B.C.C. 11-09-04.1. If a Non-Building Agreement is approved by Boise City Fire Department, no building permits shall be submitted until a “Satisfaction of Non-Building Agreement” is recorded.

23. An individual who has attended the Boise City Responsible Person (RP) Certification class, or has obtained Interim Certification for RP shall be identified for this project. A permit will not be issued until such time as the name and certification number of the RP has been provided to Boise City. Contact Erosion Control at 208-608-7100 for more information.

**Standard Conditions of Approval**

24. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.

25. Building Permit approval is contingent upon the determination that the site is in conformance with the Boise City Subdivision Ordinance. Contact the Planning and Development Services Planning Department at 208-608-7100 regarding questions pertaining to this condition.

26. Vision Triangles, as defined under B.C.C. 11-012-03, shall remain clear of sight obstructions.

27. All landscaping areas shall be provided with an underground irrigation system. Landscaping shall be maintained according to current accepted industry standards to promote good plant health, and any dead or diseased plants shall be replaced. All landscape areas with shrubs shall have approved mulch, such as bark or soil aid.
28. Swales/retention/detention areas shall not be located along the streets, unless it can be shown that landscaped berms/shrubs will screen the swales.

29. In compliance with the Boise City Code, anyone planting, pruning, removing or trenching/excavating near any tree(s) on ACHD or State right-of-ways must obtain a permit from Boise City Community Forestry at least one (1) week in advance of such work by calling 208-608-7700. Species shall be selected from the Boise City Tree Selection Guide.

30. Deciduous trees shall be not less than 2" to 2 1/2" inch caliper size at the time of planting, evergreen trees 5' to 6' in height, and shrubs 1 to 5 gallons, as approved by staff. All plants are to conform to the American Association of Nurseryman Standards in terms of size and quality.

31. Utility services shall be installed underground.

32. Any outside lighting shall be reflected away from adjacent property and streets. The illumination level of all light fixtures shall not exceed two (2) footcandles as measured one (1) foot above the ground at property lines shared with residentially zoned or used parcels.

33. No change in the terms and conditions of this approval shall be valid unless in writing and signed by the applicant or an authorized representative and an authorized representative of Boise City. The burden shall be upon the applicant to obtain the written confirmation of any change and not upon Boise City.

34. An Occupancy Permit will not be issued by the Planning and Development Services Department until all of these conditions have been met. In the event a condition(s) cannot be met by the desired date of occupancy, the Planning Director will determine whether the condition(s) is bondable or should be completed, and if determined to be bondable, a bond or other surety acceptable to Boise City will be required in the amount of 110% of the value of the condition(s) that is incomplete.

35. All amenities, landscaping, fencing, sidewalks and underground irrigation shall be installed or bonded for prior to the issuance of a building permit. For bonding, the applicant is required to provide a minimum of two bids for the amenities, landscaping materials and the installation. The bond shall be for 110% of the highest bid. For additional information, please call (208) 608-7100.

36. Any change by the applicant in the planned use of the property, which is the subject of this application, shall require the applicant to comply with all rules, regulations, ordinances, plans, or other regulatory and legal restrictions in force at the time the applicant, or successors of interest, advise Boise City of intent to change the planned use of the property described herein, unless a variance in said requirements or other legal relief is granted pursuant to the law in effect at the time the change in use is sought.
37. Failure to abide by any condition of this approval shall be grounds for revocation by the Boise City Planning and Zoning Commission.

38. This permit shall be valid for a period not to exceed 24 months from the date of approval by the Planning and Zoning Commission. Within this period, the holder of the permit must acquire construction permits and commence placement of permanent footings and structures on or in the ground.

39. Prior to the expiration of this permit, the Commission may, upon written request by the holder, grant a two-year time extension. A maximum of two (2) extensions may be granted.

40. To reduce the noise impact of construction on nearby residential properties, all exterior construction activities shall be limited to the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. for Saturday and Sunday. Low noise impact activities such as surveying, layout and weather protection may be performed at any time. After each floor of the structure or building is enclosed with exterior walls and windows, interior construction of the enclosed floors can be performed at any time.
TO: Fire Flow Reviewing Authority

DATE: November 26, 2019

SUBJECT: 9819 & 9831 Shields Ave.

________________________________________

COMMENTS:

Our records indicate the following water pressure and volume at: 9819 & 9831 Shields Ave.:

Flow of 2,000 gpm
At nearest fire hydrant 56239 on the corner of N. Roy Ln. and W. Shields Ave.

________________________________________

This information represents the water system under maximum-day conditions. The pressures and flows are subject to change, however, depending on system demand and changes in system operations. This document shall be attached to the architectural plan sets, both for "Fire Department reviewed" and "Construction Approved" sets. It is provided for uniformity in fire sprinkler design criteria.

If you have further questions or need information on the volume of water for a conditional use application or design review, please feel free to call.

Sincerely,

SUEZ
A. Findings of Fact

1. Description of Application: The applicant is requesting approval of a planned unit development and preliminary plat to subdivide 1.89 acres into 14 buildable lots.

The property is zoned Single Family Residential, Urban (R1-C). The Boise Comprehensive Plan designates this area as high density.

2. Description of Adjacent Surrounding Area:

<table>
<thead>
<tr>
<th>Direction</th>
<th>Land Use</th>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Residential</td>
<td>R-1C</td>
</tr>
<tr>
<td>South</td>
<td>Residential</td>
<td>R-1C</td>
</tr>
<tr>
<td>East</td>
<td>Residential</td>
<td>R-1C</td>
</tr>
<tr>
<td>West</td>
<td>Residential</td>
<td>R-1C</td>
</tr>
</tbody>
</table>

3. Site History: ACHD has not previously reviewed this site for a development application.

4. Adjacent Development: The following developments are pending or underway in the vicinity of the site:

- Breezy Place Subdivision, located east of the site, 18 residential building lots subdivision on 2.4 acres, approved by ACHD in May 2019.

5. Transit: Transit services are not available to serve this site.
6. **New Center Lane Miles:** The proposed development includes 0.05 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP)/ Integrated Five Year Work Plan (IFYWP):**
   There are no roadways, bridges or intersections in the general vicinity of the project that are in the Integrated Five Year Work Plan (IFYWP) or the District’s Capital Improvement Plan (CIP).

**B. Traffic Findings for Consideration**

1. **Trip Generation:** This development is estimated to generate 133 additional vehicle trips per day; 14 additional vehicle trips per hour in the PM peak hour, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

2. **Condition of Area Roadways**
   Traffic Count is based on Vehicles per hour (VPH)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Frontage</th>
<th>Functional Classification</th>
<th>PM Peak Hour Traffic Count</th>
<th>PM Peak Hour Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horseshoe Bend Road</td>
<td>0-feet</td>
<td>Collector</td>
<td>415</td>
<td>Better than “D”</td>
</tr>
<tr>
<td><strong>Shields Avenue</strong></td>
<td>200-feet</td>
<td>Local</td>
<td>17</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Acceptable level of service for a three-lane collector is “D” (530 VPH).

** ACHD does not set level of service thresholds for local streets.

3. **Average Daily Traffic Count (VDT)**

   * Average daily traffic counts are based on ACHD’s most current traffic counts.
   * The average daily traffic count for Horseshoe Bend Road south of Hill Road was 7,527 on 10/10/18.
   * The average daily traffic count for Shields Avenue east of Horseshoe Bend Road was 485 on 03/07/19.

**C. Findings for Consideration**

1. **Shields Avenue**
   a. **Existing Conditions:** Shields Avenue is improved with approximately 25-feet of pavement and no curb, gutter or sidewalk abutting the site. There is 50-feet of right-of-way for Shields Avenue (25-feet from centerline).

   b. **Policy:**
      **Local Roadway Policy:** District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

      **Street Section and Right-of-Way Policy:** District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

      **Standard Urban Local Street—33-foot Street Section and Right-of-way Policy:** District Policy 7207.5.2 states that the standard street section shall be 33-feet (back-of-curb to back-of-
curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 47-feet of right-of-way.

Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.

The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District’s Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

c. Applicant’s Proposal: The applicant has proposed to improve Shields Avenue with rolled curb, gutter and 5-foot wide attached concrete sidewalk abutting the site within the existing right-of-way.

d. Staff Comments/Recommendations: The applicant’s proposal meets District policy and should be approved, as proposed. The applicant should be required to improve Shields Avenue as ½ of a 33-foot street section with pavement widening, curb, gutter and attached or detached 5-foot wide sidewalk.

The applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement for the sidewalks proposed to be located outside of right-of-way that extends 2-feet behind back edge of sidewalk.

2. Internal East/West Local Street
   a. Existing Conditions: There are no local streets within the site.

   b. Policy:
      Local Roadway Policy: District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

      Street Section and Right-of-Way Policy: District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

      Standard Urban Local Street—33-foot Street Section and Right-of-way Policy: District Policy 7207.5.2 states that the standard street section shall be 33-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 47-feet of right-of-way.
Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.

The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District’s Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

c. Applicant’s Proposal: The applicant has proposed to construct an east/west road in the subdivision as a 33-foot wide street section with rolled curb, gutter and attached 5-foot wide concrete sidewalk within 50-feet of right-of-way which will stub at the east and west property lines.

Staff Comments/Recommendations: The applicant’s proposal meets District Policy and should be approved, as proposed. The applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement for the sidewalks proposed to be located outside of right-of-way that extends 2-feet behind the back edge of sidewalk.

3. 27-foot Internal North/South Local Street

a. Existing Conditions: There are no 27-foot local streets within the site.

b. Policy:

Reduced Urban Local Street—27-foot Street Section and Right-of-Way Policy: District Policy 7207.5.2 states that the width of a reduced urban local street shall be 27-feet (back-of-curb to back-of-curb) with curb, gutter, and minimum 5-foot concrete sidewalks on both sides and shall typically be within 41-feet of right-of-way. Unless approved in writing by the land use agency, this street section is not allowed by the City of Kuna and City of Star.

In some cases this street width may not accommodate new utilities. A 29-foot street section within 43-feet of right-of-way may be constructed in lieu of a 27-foot street section if the applicant demonstrates that the additional roadway width is necessary to extend the utilities. Although some parking is allowed by the following subsections, the District will further restrict parking on a reduced width street if curves or other physical features cause problems, if actual emergency response experience indicates that emergency vehicles may not be able to provide service, or if other safety concerns arise. One of the following three sets of design conditions shall apply.

Design Condition #1: Parking is allowed on one side of a reduced width street when all of the following criteria are met:

- The street is in a residential area.
- The developer shall provide written approval from the appropriate fire department or emergency response unit in the jurisdiction.
• The developer shall install NO PARKING signs on one side of the street, as specified by the District and as specified by the appropriate fire department.

• This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 41-feet of right-of-way.

• Traffic volumes on the street shall not exceed 1,000 vehicle trips per day. There shall be no possibility that another street may be connected to it in a manner that would allow more than 1,000 vehicle trips per day.

Design Condition #2: Parking is allowed on both sides of a reduced width street when the street layout has the qualities of a road grid system. This provides fire trucks and other emergency vehicles alternate routes of access since the ability to pass another vehicle may be compromised by placement of parked vehicles on both sides of the street. The following criteria shall be met:

• The street is in a residential area.

• The developer shall provide written approval from the appropriate fire department or emergency response unit in the jurisdiction.

• The block length of the street shall not exceed 500-feet, measured between centerlines.

• Traffic volumes on the street are not forecast to exceed 400 vehicle trips per day.

• A minimum of two street connections shall be provided to each end of the street with the reduced width. The two connecting streets shall each connect to the larger street system to provide the intended alternate routes of access. A street system that has one street connection to the larger street network on one end and a loop/circle street on the other end with no outlet shall not be approved.

• This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 41-feet of right-of-way.

Design Condition #3: Parking is allowed on both sides of a reduced width residential street with passing pockets that are created when two driveways are constructed near the same property line, where a 50-foot segment will not have on-street parking on the side of the street with the driveways. This provides fire trucks and other vehicles areas to move to the side of the street to allow another vehicle to pass when vehicles are parked on the street. Parking is allowed on both sides of a reduced width street when the following criteria are met:

• The street is in a residential area.

• The developer shall provide written approval from the appropriate fire department or emergency response unit in the jurisdiction.

• Driveway locations are predetermined with curb cuts for the driveways to be installed when the street is constructed. The curb cuts shall be 20-feet wide. Each lot on the street will be paired with an adjacent lot. If there are an odd number of lots, one lot at either end of the street will not be paired. Each pair of lots shall locate its driveway 5-feet from the shared lot line of the pair.

• This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 41-feet of right-of-way.

• The lots cannot abut an alley.

• Traffic volumes on the street are not forecast to exceed 400 vehicle trips per day.

Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local streets, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.
The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District’s Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

c. **Applicant Proposal:** The applicant has proposed to construct a north/south internal road in the subdivision as a 27-foot wide street section with rolled curb, gutter and 5-foot attached concrete sidewalks within 41-feet of right-of-way. Parking is proposed to be restricted to one side of the street.

d. **Staff Comments/Recommendations:** The applicant’s proposal meets District Policy and should be approved, as proposed. The applicant should be required to provide written approval from the Boise Fire Department and install NO PARKING signs on one side of the street, as specified by the District and the Boise Fire Department.

The applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement for the sidewalks proposed to be located outside of right-of-way that extends 2-feet behind the back edge of sidewalk.

4. **Roadway Offsets**
   a. **Existing Conditions:** There are no roadways within the site.
   
   b. **Policy:**
      - **Local Offset Policy:** District policy 7207.4.2, requires local roadways to align or provide a minimum offset of 125-feet from any other street (measured centerline to centerline).
      
   c. **Applicant’s Proposal:** The applicant is proposing to offset the proposed local north/south street approximately 2,093-feet to the east of Horseshoe Bend Road and approximately 525-feet to the west of Ulmer Street.
      
   d. **Staff Comments/Recommendations:** The applicant’s proposal meets District Policy and should be approved, as proposed.

5. **Stub Streets**
   a. **Existing Conditions:** There are no stub streets within the site.
   
   b. **Policy:**
      - **Stub Street Policy:** District policy 7207.2.4 states that stub streets will be required to provide circulation or to provide access to adjoining properties. Stub streets will conform with the requirements described in Section 7207.2.4 except a temporary cul-de-sac will not be required if the stub street has a length no greater than 150-feet. A sign shall be installed at the terminus of the stub street stating that, “THIS ROAD WILL BE EXTENDED IN THE FUTURE.”

   In addition, stub streets must meet the following conditions:
   - A stub street shall be designed to slope towards the nearest street intersection within the proposed development and drain surface water towards that intersection; unless an alternative storm drain system is approved by the District.
The District may require appropriate covenants guaranteeing that the stub street will remain free of obstructions.

**Temporary Dead-End Streets Policy:** District policy 7207.2.4 requires that the design and construction for cul-de-sac streets shall apply to temporary dead end streets. The temporary cul-de-sac shall be paved and shall be the dimensional requirements of a standard cul-de-sac. The developer shall grant a temporary turnaround easement to the District for those portions of the cul-de-sac which extend beyond the dedicated street right-of-way. In the instance where a temporary easement extends onto a buildable lot, the entire lot shall be encumbered by the easement and identified on the plat as a non-buildable lot until the street is extended.

c. **Applicant Proposal:** The applicant has proposed to construct one stub street to the east property line and one stub street to the west property line. The stub streets are located approximately 132-feet north of the south property line.

**Staff Comments/Recommendations:** The applicant’s proposal meets District Policy and is approved, as proposed. The applicant should be required to install a sign at the terminus of each stub street that states, "THIS ROAD WILL BE EXTENDED IN THE FUTURE."

6. **Tree Planters**

**Tree Planter Policy:** The District’s Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

7. **Landscaping**

**Landscaping Policy:** A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

**D. Site Specific Conditions of Approval**

1. Improve Shields Avenue as ½ of a 33-foot street section with curb, gutter and attached or detached 5-foot wide sidewalk within the existing right-of-way. The right-of-way may be reduced to 2-feet behind the back of curb. Provide a permanent right-of-way easement for the sidewalks located outside of the dedicated right-of-way.

2. Construct the proposed internal east/west local street as a 33-foot street section with curb, gutter and 5-foot wide attached concrete sidewalk within 47-feet of right-of-way, as proposed. The right-of-way may be reduced to 2-feet behind the back of curb. Provide a permanent right-of-way easement for the sidewalks located outside of the dedicated right-of-way.

3. Construct the north/south internal street as a 27-foot street section with curb, gutter and 5-foot wide concrete sidewalk within 41-feet of right-of-way. The right-of-way may be reduced to 2-feet behind the back of curb. Provide a permanent right-of-way easement for the sidewalks located outside of the dedicated right-of-way. Install “NO PARKING” signs on one side of the roadway.
   a. Provide written approval from the appropriate fire department for the use of the reduced street section.
4. Construct the north/south internal street to intersect Shields Avenue approximately 525-feet to the west of Ulmer Street and 2,093-feet to the east of Horseshoe Bend Road.

5. Construct 1 stub street to the east property line located 132-feet north of the south property line, as proposed. Install a sign at the terminus of the stub street that states, "THIS ROAD WILL BE EXTENDED IN THE FUTURE.".

6. Construct 1 stub street to the west property line located 132-feet north of the south property line, as proposed. Install a sign at the terminus of the stub street that states, "THIS ROAD WILL BE EXTENDED IN THE FUTURE.".

7. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. Payment of impact fees is due prior to issuance of a building permit.


E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District’s Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District’s Utility Coordinator at 387-6258 (with file number) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant’s authorized representative and an authorized
representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law

1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.

2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

G. Attachments

1. Vicinity Map
2. Site Plan
3. Utility Coordinating Council
4. Development Process Checklist
5. Request for Reconsideration Guidelines OR Appeal Guidelines
Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

**Notification to the Ada County UCC can be sent to:** 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.
Development Process Checklist

Items Completed to Date:

☑ Submit a development application to a City or to Ada County
☑ The City or the County will transmit the development application to ACHD
☑ The ACHD Planning Review Section will receive the development application to review
☑ The Planning Review Section will do one of the following:

☐ Send a “No Review” letter to the applicant stating that there are no site specific conditions of approval at this time.

☑ Write a Staff Level report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☐ Write a Commission Level report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐ For ALL development applications, including those receiving a “No Review” letter:

• The applicant should submit one set of engineered plans directly to ACHD for review by the Development Review Section for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)

• The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐ Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:

Construction (Non-Subdivisions)

☐ Driveway or Property Approach(s)

• Submit a “Driveway Approach Request” form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ Working in the ACHD Right-of-Way

• Four business days prior to starting work have a bonded contractor submit a “Temporary Highway Use Permit Application” to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50’ or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ Sediment & Erosion Submittal

• At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ Idaho Power Company

• Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ Final Approval from Development Services is required prior to scheduling a Pre-Con.
Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

   a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

   b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

   c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

   d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

   e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.
Request for Reconsideration of Commission Action

1. **Request for Reconsideration of Commission Action:** A Commissioner, a member of ACHD staff or any other person objecting to any final action taken by the Commission may request reconsideration of that action, provided the request is not for a reconsideration of an action previously requested to be reconsidered, an action whose provisions have been partly and materially carried out, or an action that has created a contractual relationship with third parties.

   a. Only a Commission member who voted with the prevailing side can move for reconsideration, but the motion may be seconded by any Commissioner and is voted on by all Commissioners present.

   If a motion to reconsider is made and seconded it is subject to a motion to postpone to a certain time.

   b. The request must be in writing and delivered to the Secretary of the Highway District no later than 11:00 a.m. 2 days prior to the Commission’s next scheduled regular meeting following the meeting at which the action to be reconsidered was taken. Upon receipt of the request, the Secretary shall cause the same to be placed on the agenda for that next scheduled regular Commission meeting.

   c. The request for reconsideration must be supported by written documentation setting forth new facts and information not presented at the earlier meeting, or a changed situation that has developed since the taking of the earlier vote, or information establishing an error of fact or law in the earlier action. The request may also be supported by oral testimony at the meeting.

   d. If a motion to reconsider passes, the effect is the original matter is in the exact position it occupied the moment before it was voted on originally. It will normally be returned to ACHD staff for further review. The Commission may set the date of the meeting at which the matter is to be returned. The Commission shall only take action on the original matter at a meeting where the agenda notice so provides.

   e. At the meeting where the original matter is again on the agenda for Commission action, interested persons and ACHD staff may present such written and oral testimony as the President of the Commission determines to be appropriate, and the Commission may take any action the majority of the Commission deems advisable.

   f. If a motion to reconsider passes, the applicant may be charged a reasonable fee, to cover administrative costs, as established by the Commission.
From: ereview@cityofboise.org
Sent: Friday, December 13, 2019 4:01 PM
To: Nicolette Womack
Subject: Boise Valley Irrigation Water

ePlanReview Team Mail

Case: SUB19-00066

Author: Boise Valley Irrigation

Boise Valley Irrigation Ditch Co.
8850 Horseshoe Bend Rd.
Boise, ID 83714
(208)853-5288 office
(208)939-2894 fax
bvidc1@gmail.com

December 13, 2019

Planning and Development Services
City of Boise
150 N. Capitol Blvd.
Boise, ID 83702

Re: PUD19-00038 & SUB19-00066
9819 & 9831 W. Shields Ave., Boise, ID

We received notice of application for development of the above property. We want to let you know that this property has 1.24 shares of irrigation water with Boise Valley Irrigation Ditch Co. The plans for the use of the irrigation water in the development will need to be reviewed and approved by our board prior to any work starting. We do have more water shares available for purchase if they need more.

Also, they will need to pipe the lateral that runs through the property. Please contact the President of our board, John Patten to discuss what will need to be done for this. His cell is (208)941-2042. The work will need to be approved prior to any work being done.
If you have any questions please let me know.

Thank you,

Megan Aubrey
Office Manager
Boise Valley Irrigation Ditch Co.

Please do not reply to this email. If you do not have access to the specified folder, please contact the Project Administrator.

ePlanReview
1. We have No Objections to this Proposal.
2. We recommend Denial of this Proposal.
3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.
4. We will require more data concerning soil conditions on this Proposal before we can comment.
5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
   - [ ] high seasonal ground water
   - [ ] bedrock from original grade
   - [ ] waste flow characteristics
   - [ ] other

6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.
7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.
8. After written approvals from appropriate entities are submitted, we can approve this proposal for:
   - [x] central sewage
   - [ ] community sewage system
   - [ ] community water well
   - [ ] interim sewage
   - [x] central water
   - [ ] individual sewage
   - [x] individual water

9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
   - [x] central sewage
   - [ ] sewage dry lines
   - [x] central water
   - [ ] community sewage system
   - [ ] community water

10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.
11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.
12. We will require plans be submitted for a plan review for any:
   - [ ] food establishment
   - [ ] swimming pools or spas
   - [ ] child care center
   - [ ] beverage establishment
   - [ ] grocery store

13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHD.
14. 

[signature] Reviewed By:
Date: 12/5/19
December 26, 2019

Leon Letson
PDS – Current Planning

Re: SUB19-00066; XREF: PUD19-00038 & CAR19-00030

Dear Leon,

This is a request for a Subdivision with 14 buildable lots and 2 common lot on 1.89 acres.

The Boise Fire Department has reviewed and can approve the application subject to compliance with all the following code requirements and conditions of approval. Any deviation from this plan is subject to Fire Department approval. Please note that unless stated otherwise, this memo represents the requirements of the International Fire Code (IFC) as adopted and amended by Boise City Code.

Comments:
1. Fire hydrants, capable of producing the required fire flow, shall be located along approved fire lanes. Fire hydrant spacing shall meet the requirements of IFC table C105.1.1 (IFC 507.3, IFC B105.2, IFC C105). The location of the proposed fire hydrant is approved.
2. Dead-end fire apparatus access roads exceeding 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fire apparatus. (IFC 503.2.5) The proposed turnaround design is approved.
3. For streets having a width less than 33 feet back of curb to back of curb parking shall be restricted on one side. A note on the face of the final plat is required noting the parking restriction prior to signing of the final plat by the Boise City Engineer. In addition, No Parking signs shall be installed in accordance with the requirements of the IFC. (BCC5-12-32, IFC 503.8)

General Requirement:
Fire Department required fire hydrants, access, and street identification shall be installed prior to construction or storage of combustible materials on site. Provisions may be made for temporary access and identification measures.

Specific building construction requirements of the International Building Code, International Fire Code and Boise City Code will apply. However, these provisions are best addressed by a licensed Architect at time of building permit application.

Regards,

Ron L. Johnson
December 3, 2019

PDS Building Department Plan Review:

The subdivision **Preliminary** plat SUB19-00066 has been reviewed and there are **no comments** at this time.

Jenny Nelson
Plans Examiner
Planning and Development Services
Office: (208)608-7109
jjnelson@cityofboise.org

Making Boise the most livable city in the country.
To: Planning and Development Services
From: Melissa Jannusch, E.I.T., Associate Engineer
Public Works Engineering
Subject: SUB19-00066; Zephry Subdivision
9831 W Shields Ave
Grading & Drainage, Hillside, & Misc. Engineering Comments

1. STANDARD GRADING AND DRAINAGE CONDITIONS

1) Subdivision drainage shall be in accordance to B.C.C. 11-09-04-05. The developer shall submit a letter from the appropriate drainage entity approving the drainage system or accepting the drainage there from. A copy of the construction drawing(s) depicting all site drainage improvements shall be submitted with the letter.

   a. Developer may either construct improvement prior to final platting or post bond in the amount of 110% of the estimated construction costs. Estimated construction costs shall be provided by the developer's engineer.

   b. For drainage facilities located outside of the public right-of-way, the developer shall dedicate a storm drainage easement. Said easement shall be labeled as either an Ada County Highway District storm drainage easement or a homeowners' association storm drainage easement, depending on what entity will assume responsibility for the operation and maintenance of the storm drainage system.

   c. If the homeowners' association is to be responsible for the operation and maintenance of the storm drainage facilities, the covenants, homeowners' association by-laws or other similar deed restrictions shall be reviewed and approved by the Boise City Attorney.
2) If fills greater than one foot in depth are to be placed in subdivision lots inside of building envelopes, as defined by the applicable subdivision building setbacks, the Developer shall obtain a grading permit from the Boise City Building Department (Commercial Rough Grading Permit). Grading permit must be acquired prior to the start of construction or final plat signature by the Boise City Engineer, whichever comes first.

Special Conditions:

2. EROSION CONTROL CONDITIONS

1) Subdivision work shall be in accordance to B.C.C. 08-17 Construction site Erosion Control Ordinance. The developer shall obtain an Erosion Control Permit from the Boise City Building Department. The Erosion Control Permit must be acquired prior to the start of construction.

2) This project will require an Erosion Control Plan (ECP) or Stormwater Pollution Prevention Plan (SWPPP) to be submitted with the permit application. The plan must bear the signature and certification number of an individual who has successfully complete a Boise City approved training course.

Special Conditions:

3. STANDARD HILLSIDE CONDITIONS

NA

4. MISC. ENGINEERING CONDITIONS

NA

5. PRIVATE STREET CONDITIONS

NA

1) The following private street requirements must be met in an acceptable format:

   a. Convey to those lot owners taking access from the private street, the perpetual right of ingress and egress over the described private street, and

   b. Provide that such perpetual easement shall run with the land, and
c. Provide each lot owner taking access from the private street, undivided interest within the private street.

2) A restrictive covenant for maintenance and reconstruction shall be recorded at the time of recording the plat which covenant, (a) creates the formation of a homeowners association for the perpetual requirement for the maintenance/reconstruction of the private street, and private street signs and (b) provides that said covenant shall run with the land, and (c) provides that the homeowners association shall not be dissolved without the express consent of Boise City.

3) Said easement and covenant to be reviewed and approved by the Boise City Attorney (B.C.C. 9-20-7.E.2.q & 9-20-7.E.2.r).

4) Private street widths shall be in conformance with B.C.C. 11-09-03.5. or as allowed via B.C.C. 11-09-05. All private streets, base and pavement, shall be constructed to the same construction specifications required for public streets. Contact the Ada County Highway District (ACHD) for public street construction requirements (B.C.C. 11-09-03.5.B.).

   a. Certification of construction to ACHD specifications is required from an independent testing laboratory or a consulting engineer, including test results for the verification of construction (B.C.C. 11-09-03-05.B.(2)(e)).

      i. If it is an existing private street, verification of acceptable construction of the existing private street, including acceptability for use of emergency vehicles (including fire trucks and ambulances), is required from an independent testing laboratory or a registered Professional Engineer.

   b. Sidewalks are required on both sides of the private street (or in compliance with the sidewalk plan approved with the conditional use) unless specifically waived by the Boise City Council.

   c. Private street signs shall be installed in the same manner as public street signs (see requirements of ACHD).

   d. The developer shall pay the current drainage review and inspection fees on the proposed subdivision (B.C.C. 11-03-03.3.B.).

   e. Drainage facilities for the private street shall comply with Boise City’s Storm Water Management and Discharge Control Ordinance (B.C.C. 8-15). Plans shall be approved and construction inspected by Boise City Public Works.

      i. Developer and/or owner may either construct prior to final platting or post bond/agreement in the amount of 110% of the estimated costs,
including certification (B.C.C. 11-09-04.2., Filing of Plans and Bonding Surety).

Special Conditions:

If you have any further questions, please contact Melissa Jannusch

Melissa Jannusch, E.I.T.
Associate Engineer
Hillside Coordinator
Public Works Engineering
208-608-7168
mjannusch@cityofboise.org

CITYOFBOISE.ORG  Making Boise the most livable city in the country.
DATE: November 29, 2019

TO: Planning and Development Services

FROM: Mike Sheppard P.E., Civil Engineer II
Public Works Department

SUBJECT: PUD19-00038; 9819 W. Shields Avenue; Sewer Comments

Upon development of the property, connection to central sanitary sewer is required. Sewers are available in W. Shields Avenue.

Prior to granting of final sewer construction plan approval, all requirements by Boise City Planning and Development Services must be met.

If you have any further questions, please contact Mike Sheppard at 608-7504.
CITY OF BOISE

INTER-DEPARTMENT CORRESPONDENCE

Date: November 29, 2019

To: Planning and Development Services

From: Mike Sheppard, P.E., Civil Engineer II
Public Works Department

Subject: SUB19-00066; 9831 W Shields Ave.; Sewer Irrigation Sub Comments

1. STANDARD IRRIGATION CONDITIONS

a. Comply with B.C.C. 11-09-04.11 concerning pressure irrigation requirements prior to signing of the final plat by the Boise City Engineer.
   1. The owner, person, firm or corporation filing the subdivision plat shall provide a pressurized irrigation system. The system must conform to the minimum design standards and specifications of Boise City, or of the entity that will operate and maintain the system, if that entity has published standards; or
   2. The owner, person, firm or corporation filing the subdivision plat shall provide written documentation that a valid waiver of the requirement to provide a pressure irrigation system and that Idaho Code 31-3805(1)(a) regarding transfer of water rights, has been complied with.

b. Prior to either commencing construction or signing of the final plat by the Boise City Engineer, developer shall:
   1. Submit for approval by the Department of Public Works, construction plans and specifications for the pressurized system, stamped by a registered engineer.
   2. Provide written assurance that provisions have been made for ownership, operation, and maintenance of the system.
   3. Delineate all necessary irrigation easements on the final plat (B.C.C. 11-09-03.6).

c. Developer shall provide for an independent inspection of the installation of irrigation facilities and written certification by the design or project engineer that the system was installed according to the approved plans. In addition, the Department of Public Works must be present for the system pressure test and participate in a final inspection.

d. Developer may construct prior to final platting or bond in the amount of 110% of the estimated construction costs based on the approved plans.
e. **Fees:** Developer and/or owner shall pay the current inspection and plan review fees applicable to the proposed subdivision prior to signing of the final plat by the Boise City Engineer (B.C.C. 11-03-03.3.B.).

### 2. STANDARD SEWER CONDITIONS

**City Subdivision Conditions**

a. Wetline sewers are required (B.C.C. 11-09-04.4., *Required Improvements; Sanitary Sewer*).

1. Plans shall be submitted to and approved by the Boise City Department of Public Works prior to commencing with construction. Developer and/or owner may either construct improvements prior to final platting or execute a performance agreement and provide surety in the amount of 110% of the estimated costs. The developer and/or owner shall coordinate with the Department of Public Works for construction inspection prior to and during construction. Unless otherwise approved by the Public Works Department, all sewer construction shall be completed and accepted within 90 days of plat recordation, or within 30 days of issuance of the first building permit within the subdivision, whichever comes first.

**NOTE:** All bonding shall conform to Boise City Code 1-19, *Surety Bonds*.

2. Developer and/or owner shall pay the current sewer inspection fees for the proposed subdivision prior to signing of the final plat by the Boise City Engineer.

3. Developer and/or owner shall be responsible for repairs of any failures that occur within one (1) year of the project acceptance by the appropriate sewer entity (Boise City Code 11-09-04.2F, *Subdivision Standards; Required Improvements*).

b. Developer and/or owner shall delineate all necessary Boise City sanitary sewer easements on the final plat prior to signing of the final plat by the Boise City Engineer (Boise City Code 11-09-03.6A, *Subdivision Design Standards; Easements*).

c. Unless previously paid, developer and/or owner shall pay a sewer assessment along W. Shields Ave. and/or as may be approved by the Boise City Public Works Commission prior to signing of the final plat by the Boise City Engineer. Contact the Department of Public Works for specific costs.

d. Developer and/or owner shall comply with all provisions of the Boise City “Sewer Tap” Ordinances.

1. Developer and/or owner may either construct prior to final platting or post bond/agreement in the amount of 110% of the estimated costs. Please contact the Public Works Department for specifications and inspections during construction.

**NOTE:** All bonding shall conform to B.C.C. 11-09-04.2., *Required Improvements; Filing of Plans and Bonding Surety*, which specifies that the improvements to be made shall be done in a time period not to exceed one year from the date of approval of the final plat.
City of Boise Solid Waste staff has reviewed the application for this project and has no comments. The subdivision is accessible for solid waste collection.

Please contact me with any questions at 208-608-7161 or ecarpenter@cityofboise.org.
City of Boise Solid Waste staff has reviewed the application for this project and has no comments. The subdivision is accessible for solid waste collection.

Please contact me with any questions at 208-608-7161 or ecarpenter@cityofboise.org.
To: Planning and Development Services
From: Tom Marshall, Street Light Program Technician
Public Works Engineering
Subject: Street Light Subdivision Comments
SUB19-00066: 9831 W Shields Ave:

City Subdivision Conditions
a. Developer shall delineate on the face of the final plat a Boise City street light easement, acceptable to the Boise City Department of Public Works, for the purpose of installing and maintaining city-owned street light fixtures, conduit, and wiring lying outside the dedicated public right-of-way (B.C.C. 11-09-03.6.).

b. The Developer shall be required to install, at their expense, street lights in accordance with Boise City Public Works specifications and standards at locations designated by the Public Works Department (B.C.C. 11-09-04.9.). Plans shall be reviewed and approved by the Boise City Public Works Department prior to commencement of construction or bonding.

c. Fees: Developer shall pay the current street light inspection and plan review fees on the proposed subdivision (B.C.C. 11-03-03.3.B.).

d. Developer shall not connect, or allow any subcontractor to connect any irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices to any street lighting circuits. Any and all irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices shall be connected directly to Idaho Power at an Idaho Power approved location.

e. The street lights shall be installed and accepted by the Boise City Public Works Department at the following locations. Unless otherwise noted, street lights shall be installed at a 25-foot minimum mounting height, Class “A” LED residential fixture (see Street Light Approval Fixtures on the City of Boise website)
   i) Light Locations:
      • NEC of lot 1, block 1 facing Shields Ave
f. If approval for bonding is granted by the Boise City Public Works Department, Developer may bond in the amount of 110% of the estimated street light costs. Street lights shall be installed within 90 days of the issuance of the first building permit in the development, if building permits are obtained prior to completion of street light improvements.

g. As per Idaho Power requirements the lights along following street frontages must be installed on a metered service. Meter service cabinet location to be in the right of way or in a developer designated City Street Light Easement and shall meet the requirements of the Idaho Standards for Public Works Construction, Standard Drawings SD-1125 or SD-1126, and BC-SD-1127, and the Boise City Standard Revisions for ISPWC Division 1102 Street Lights. See Street Light approved fixtures and materials on the City of Boise web page.

h. Developer, engineer, or electrical contractor shall submit a street light plan using the Boise City Street Light Design Check List to public works for approval. Once approved three copies are required.

i. All electrical work must be completed by a licensed journeyman electrician, as per state code to include underground conduit, wire, pole base, light pole, fixture and meter cabinets. The electrician must be present at all inspections and all work shall be performed to the current National Electrical Code.

Special Conditions: None
If you have further questions, please contact Tom Marshall at 208-608-7526

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208)608-7526
tmmarshall@cityofboise.org

Making Boise the most livable city in the country.
CITY OF BOISE

INTER-PARTY CORRESPONDENCE

Date: 3 December 2019

To: Planning and Development Services
From: Tom Marshall, Street Light Program Technician
Public Works Engineering

Subject: Street Light Comments
PUD19-00038: 9819 W Shields Ave.

Street lights are required at the following locations:

1. NEC of lot 1, block 1 facing Shields Ave
2. NWC of lot 3, block 3

Street lights are required. The specific location and type of facilities to be installed will be identified in the conditions of subdivision plat approval.

New Street Light installations shall conform to the current version of the Boise Standard Revisions, Idaho Standards for Public Works Construction (ISPWC) using approved LED fixtures listed in Streetlight Approved Fixtures and Materials.

Developer shall not connect, or allow any subcontractor to connect any irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices to any street lighting circuits. Any and all irrigation timers, decorative lighting, entrance lighting, outlets or other electrical devices shall be connected directly to Idaho Power at an Idaho Power approved location.

All electrical work must be completed by a licensed journeyman electrician, as per state code to include underground conduit, wire, pole base, light pole, fixture and meter cabinets. The electrician must be...
present at all inspections and all work shall be performed to the current National Electrical Code.

If you have any questions, contact Tom Marshall at 208-608-7526 or tmarshall@cityofboise.org.

Tom Marshall
Street Light Program Technician
Public Works Engineering
Office: (208)608-7526
tmarshall@cityofboise.org

Making Boise the most livable city in the country.
CAR19-00021 & CPA19-00001 / BSU Master Plan & Rezone

Summary
Rezone of 6 parcels totaling ±1.58 acres from an R-2 (Medium Density Residential) zone to a U (University District) zone generally located south of University Drive, between Denver Avenue and Joyce Street and a Comprehensive Plan amendment to amend the Land Use Map with the updated 2019 Campus Master Plan.

Prepared By
Leon Letson, Senior Planner

Recommendation
The Planning Team recommends approval.

Reason for the Decision

Comprehensive Plan Amendment
The proposed amendment is in compliance with Boise City Code Section 11-03-04.16 (Comprehensive Plan Amendment). Boise State University (BSU) has proposed an update to its Campus Master Plan to guide future growth in response to projected increases in student enrollment and evolving campus needs. Amending Blueprint Boise to adopt this updated Master Plan is required for the general welfare of the community as it provides clarity regarding the future development of BSU’s campus and its compatibility with surrounding neighborhoods. This is further supported by an associated Memorandum of Understanding (MOU) to be executed between the City of Boise and BSU, which will detail how the connectivity of this area will be preserved and/or enhanced, particularly for pedestrians and bicyclists, as redevelopment occurs. As confirmed by the City’s review, the elements of the updated Master Plan are consistent with and will further the goals, objectives, and policies of Blueprint Boise. The updated Master Plan will not place an undue burden on transportation or other public facilities in the area and no political subdivision has identified adverse impact to their abilities to deliver services in the area as a result of its adoption.

Rezone
The proposed rezone is in compliance with Boise City Code Section 11-03-04.3 (Comprehensive Plan Amendment). Blueprint Boise supports the rezone from R-2 (Medium Density Residential) to U (University). If the associated amendment is approved the Land Use Map designation for all parcels will be “BSU Master Plan.” Rezoning the properties to U will be in the best interest of the public convenience and general welfare as the properties are owned by BSU and will be utilized as part of the BSU campus. The project is compatible with surrounding zoning and development as the majority of the other properties in the vicinity are currently zoned U and used by BSU.

This report includes information available on the Boise City Website. The entire public record, including additional documents, can be viewed through PDS Online.
CAR19-00021
CPA19-00001
1" : 700'

Land Use Legend
- Rezone parcels
- 2019 Campus Master Plan
- BSU Master Plan
- Compact
- Downtown Mixed Use
- High Density
- Mixed Use
- Office
- Parks/Open Space
- Public/Quasi-Public
- School


Packet Pg. 410
Property Information

Address
Street Number: 1801
Prefix: W
Street Name: YALE CT
Unit #: 
Subdivision name: SEC 15 3N 2E
Block: 13
Lot: 0
Section: 0
Township: 3
Range: 2
Zoning: R-2
Parcel Number: S1015212450
Additional Parcel Numbers: R3515000032, R8048011310, R8048012500, R8048012570, R8048012621

Primary Contact
Who is responsible for receiving e-mail, uploading files and communicating with Boise City?
- [ ] Applicant/Representative
- [ ] Applicant
- [ ] Owner

Applicant Information
First Name: Christy
Last Name: Jordan
Company: Boise State University
Address: 1910 W. University Drive
City: Boise
State: ID
Zip: 83725
E-mail: christyjordan@boisestate.edu
Phone Number: (208) 426-5602
Cell: 
Fax: 

Agent/Representative Information
Role Type: [ ] Architect
- [ ] Land Developer
- [ ] Engineer
- [ ] Contractor
- [ ] Other
First Name: Tamara
Last Name: Thompson
Company: The Land Group, Inc
Address: 462 E. Shore Drive, Ste 100
City: Eagle
State: ID
Zip: 83616
E-mail: tamara@thelandgroupinc.com
Phone Number: (208) 939-4041
Cell: 
Fax: 

Owner Information
Same as Applicant? [ ] No  [ ] Yes  (If yes, leave this section blank)
First Name: Christy
Last Name: Jordan
Company: Idaho State Board of Education
Address: 1910 W. University Dr.
City: Boise
State: ID
Zip: 83725
E-mail: christyjordan@boisestate.edu
Phone Number: (208) 426-5602
Cell: 
Fax: 

1. Neighborhood Meeting Held (Date):
   8/21/19

2. Neighborhood Association:
   Southeast Boise

3. Comprehensive Planning Area:
   Downtown

4. This application is a request to construct, add or change the use of the property as follows:
   Rezone 6 properties within the University Master Plan area from R-2 to U.

5. Type of Request:
   Rezone
   ○ Annexation & Rezone

6. Current Zone:
   R-2

7. Requested Zone:
   U

8. Size of Property:
   1.58 Acres
   ○ Acres
   ○ Square Feet

9. Existing uses and structures on the property are as follows:
   Surface parking and residential.
10. Are there any existing land uses in the general area similar to the proposed use?
   If so, describe them and give their locations:
   Yes, the properties are surrounded by U zoning and/or contiguous to U zoning.

11. On what street(s) does the property have frontage?
   W YALE CT, S MANITOU AVE, S DENVER AVE, W BEACON ST, S GRANT AVE

12. Adjacent property information:

<table>
<thead>
<tr>
<th>Uses</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>North: Boise River / Par</td>
<td>North: (A-1) Open Land 1 Acre minimum lot</td>
</tr>
<tr>
<td>South: residential</td>
<td>South: (R-3D) Multi_Family Residential w/De</td>
</tr>
<tr>
<td>East: residential</td>
<td>East: (R-2) Combined Residential</td>
</tr>
<tr>
<td>West: commercial retail</td>
<td>West: (C-2D) General Commercial w/Design</td>
</tr>
</tbody>
</table>

13. Why are you requesting annexation into the City of Boise?
   n/a

14. What use, building or structure is intended for the property?
   University supported facilities such as academic buildings, administrative buildings, student housing, and athletic venues.

15. What changes have occurred in the area that justify the requested rezone?
   The parcels are owned by the University and surrounded by properties that are University or U zoned. The request is to consolidate all parcels into the University zone.

16. What Comprehensive Plan policies support your request?
   The Boise State Master Plan currently includes all of these parcels within the University Zone.

The undersigned declares that the above provided information is true and accurate.
The undersigned acknowledges that failure to provide true and accurate information may result in rejection of this application, possible revocation of the permit where wrongfully issued and subject the undersigned any applicable civil and/or criminal penalties.

Agent/Representative Signature: ____________________________
Date: ____________________________
Comprehensive Plan Amendment Application

New! Type data directly into our forms.

Note: Be sure to print this form before closing it or you will lose your data. This form cannot be saved to your computer.

### Property Information

<table>
<thead>
<tr>
<th>Address: Street Number</th>
<th>Prefix:</th>
<th>Street Name:</th>
<th>University Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subdivision: College/South Boise First</td>
<td>Block:</td>
<td>Lot:</td>
<td>Section:</td>
</tr>
</tbody>
</table>

*Primary Parcel Number: **51010346610** Additional Parcels: __________________________________________

### Applicant Information

**First Name:** Christy  
**Last Name:** Jordan  
**Company:** Boise State University  
**Phone:** (208) 426-5602

**Address:** 1910 University Drive  
**City:** Boise  
**State:** ID  
**Zip:** 83725

**E-mail:** christyjordan@boisestate.edu  
**Cell:**  
**Fax:**

### Agent/Representative Information

**First Name:** Tamara  
**Last Name:** Thompson  
**Company:** The Land Group, Inc.  
**Phone:** (208) 939-4041

**Address:** 462 E. Shore Drive, Suite 100  
**City:** Eagle  
**State:** ID  
**Zip:** 83616

**E-mail:** tamara@thelandgroupinc.com  
**Cell:**  
**Fax:**

**Role Type:**  
- ☐ Architect  
- ☐ Land Developer  
- ☐ Engineer  
- ☐ Contractor  
- ☐ Other

### Owner Information

**Same as Applicant?** ☐ Yes  
(If yes, leave this section blank)

**First Name:**  
**Last Name:**  
**Company:**  
**Phone:**

**Address:**  
**City:**  
**State:**  
**Zip:**

**E-mail:**  
**Cell:**  
**Fax:**

---

**www.cityofboise.org/pds**  
City of Boise Planning & Development Service:  
P.O. Box 500 • 150 N. Capitol Blvd • Boise, Idaho 83701-0501  
Phone 208/384/3830 • Fax 208/433-5688 • TDD/TTY 800/377-3529

---

Packet Pg. 415
1. **Neighborhood Meeting Held** (Date): August 21, 2019

2. **Neighborhood Association:** SENA

3. **Comprehensive Planning Area:** Boise State University

4. **Request is to Amend the following:**
   - [ ] Text
   - [ ] Land Use Map

5. **Current Land Use Map designation:** BSU

6. **Proposed Land Use Map designation:** BSU

7. **Size of property:** See Plan
   - [ ] Acres
   - [ ] Square Feet

8. **Existing uses and structures on the property are as follows:**
   University uses including Academic and Research Facilities, Academic Support Facilities, Administrative Office Facilities, Residential halls and apartments, Athletics Facilities, parking garages and surface lots.

9. **Adjacent Property Information**
   - **Uses:**
     - North: River and park
     - South: Mixed Use
     - East: Mixed Use
     - West: Mixed Use
   - **Zone:**
     - North: A-1
     - South: R-2D, R-3D
     - East: C-2D
     - West: C-2D
10. Section of Comprehensive Plan you are proposing to amend:
Requesting Boise State’s 2015 Master Plan be amended with an updated 2019 Campus Master Plan.

11. Proposed text changes:
No text amendments, application is for an updated Campus Master Plan.
12. Narrative describing justification for change:
Due to changes in anticipated University facilities, Boise State, is proposing a minor amendment to the 2015 Campus Master Plan. The most notable revision is a baseball field and associated infrastructure modifications in the southeast corner of campus.

13. Comprehensive Plan policies that support your request:
Downtown, Special Districts and Master Plans.
INTRODUCTION

Boise State University is requesting a Comprehensive Plan Amendment and Rezoning from the City of Boise, driven primarily by the decision to develop a men’s NCAA baseball field on campus. Parcels subject to the rezoning request include those associated with the baseball site and elsewhere along the Campus Planning Boundary. A Conditional Use Permit for the development of the baseball field will be processed by the University at a later date.

COMPREHENSIVE PLAN AMENDMENT

The baseball field requires changes to the street network not reflected on the 2015 Campus Master Plan (as approved by the City of Boise). In communicating these changes with City of Boise planning staff, it was determined that the changes were significant enough to warrant the Comprehensive Plan Amendment update.

The proposed baseball site is roughly bound by Euclid and Denver avenues and Beacon and Belmont streets. To meet NCAA minimum dimensions, the field must span across Belmont Street and Grant Avenue. As such, Boise State will be requesting vacation of these rights-of-way. To maintain connectivity between Euclid and Denver Avenues, a new pedestrian and bike linkage is planned near the Belmont vacation. A portion of Grant Avenue (near University Drive) will remain open to provide ingress/egress to a future parking facility.

Aside from these right-of-way changes, the infrastructure, facilities and circulation plan on the proposed master plan closely represent the 2015 plan. New and/or adjusted facilities include additional student housing (icon 9 on Exhibit A), an addition to the Liberal Arts Building (icon 7 on Exhibit A), and additional buildout of Albertsons Stadium for improved access, seating, and parking (icon 22, 23, 25 on Exhibit A).

The conversion of University Drive to a pedestrian mall, as considered previously, is not part of this request. The addition of a new intersection where Boise Avenue meets Capitol Boulevard is still shown, but an implementation date is uncertain. This intersection work is most likely to occur alongside project #2 on the Exhibit A (Gateway Academic Building). Overall, the infrastructure and facilities shown represent 10 – 20 or more years of campus growth.

REZONING

The City of Boise has a zoning designation unique to universities – the University District zone, or “U” Zone. This allows Boise State to build facilities that relate to and accommodate higher education needs. This includes academic buildings, administrative buildings, student housing, athletic venues, etc. The U Zone provides flexibility, but also has limits and controls that address nearby neighborhood compatibility. Boise State is requesting to rezone certain university-owned properties that are contiguous or within its existing planning boundary.

The University initially identified 18 individual parcels for rezoning. However, feedback received at a neighborhood meeting held on August 21, 2019 led to adjustments. More specifically, Boise State has scaled back its request to six properties (as shown on Exhibit C). These parcels are closest to near-term facility growth, including the on-campus baseball field.

Along with our rezoning request, we request the City consider changes to the U Zone’s dimensional standards. Boise State is proposing that height restrictions be removed for areas considered interior to campus. “Interior” is not formally defined at present, but a 50-foot buffer from the Campus
Planning Boundary is already referenced in City Code. Areas further than 50 feet from the boundary could benefit from these dimensional changes.

As demand for housing, academic, administrative and athletic facilities increases, flexibility for vertical construction will assist with development amid land constraints. These changes will be especially beneficial in limiting horizontal growth into expansion areas or neighborhoods near campus. Boise State believes that our campus - especially given its location in the City of Boise’s “Downtown Planning Area” – is a justifiable area for increased urban land use policies.

Lastly, we look forward to discussing a revised Campus Planning Boundary with City of Boise planning staff. The boundary will incorporate newly rezoned properties, but as in years past, may also include certain areas without the U Zone.

**TRAFFIC IMPACT STUDY**

For the baseball field and proposed circulation plan in South Campus\(^1\), Kittelson & Associates conducted a traffic impact study in 2018. This study modeled three scenarios, all with Boise State’s preferred circulation plan in place:

1. New structured parking facility to assist with baseball;
2. New surface parking lot to assist with baseball; and
3. No additional parking provided with baseball.

Each scenario shows no major impact to level of service (LOS) on nearby streets or intersections. At two intersections (Belmont/Broadway and Beacon/Michigan), LOS would indicate the need for a signal warrants study. However, traffic volumes collected during the study would indicate that signalization is premature and/or unnecessary.

Further, recent data display that traffic patterns on campus have dramatically changed over the past ten years. Notable findings include:

- A 17% decrease in through traffic on University Drive,
- Only 5-10% of traffic entering campus (from Capitol or Broadway) actually travel the entire corridor, showing that streets on campus are primarily campus serving.

The traffic impact study has been included with our application.

**CONCLUSION**

Boise State is confident our Comprehensive Plan Amendment and Rezoning requests reflect acceptable and responsible changes to our campus. Our outreach with nearby neighbors has influenced a substantial change in the original rezoning scope. The development of the baseball field, and associated impacts to rights-of-way, were thoroughly studied by planners and engineers, and show no negative consequences for campus or the adjacent streets.

We appreciate the opportunity to formally present these applications to the City Planning and Zoning Commission and City Council. As you complete your review, please don’t hesitate to let me know if we can provide any additional information to clarify the project’s vision.

\(^1\) The area of campus bound by Lincoln Avenue, Denver Avenue, University Drive and Beacon Street.
<table>
<thead>
<tr>
<th>County</th>
<th>Parcel</th>
<th>Primary Owner</th>
<th>Property Address</th>
<th>Property City</th>
<th>Zoning</th>
<th>Owner Address</th>
<th>Owner City</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ada</td>
<td>R35150000032</td>
<td>STATE OF IDAHO (BOARD OF EDUCATION)</td>
<td>1827 W YALE CT</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1910 W UNIVERSITY DR MS 1000</td>
<td>BOISE, ID 83725-0000</td>
<td>0.14</td>
</tr>
<tr>
<td>Ada</td>
<td>R8048011310</td>
<td>STATE OF IDAHO (BOARD OF EDUCATION)</td>
<td>1105 S MANITOU AVE</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1885 W UNIVERSITY DR</td>
<td>BOISE, ID 83725-0000</td>
<td>0.13</td>
</tr>
<tr>
<td>Ada</td>
<td>R8048012500</td>
<td>STATE OF IDAHO (BOARD OF EDUCATION)</td>
<td>1101 S DENVER AVE</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1910 W UNIVERSITY DR MS 1000</td>
<td>BOISE, ID 83725-0000</td>
<td>0.28</td>
</tr>
<tr>
<td>Ada</td>
<td>R8048012570</td>
<td>BOISE STATE UNIVERSITY</td>
<td>1116 W BEACON ST</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1910 W UNIVERSITY DR</td>
<td>BOISE, ID 83725-0000</td>
<td>0.14</td>
</tr>
<tr>
<td>Ada</td>
<td>R8048012621</td>
<td>STATE OF IDAHO (BOARD OF EDUCATION)</td>
<td>1108 S GRANT AVE</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1910 W UNIVERSITY DR MS 1000</td>
<td>BOISE, ID 83725-0000</td>
<td>0.28</td>
</tr>
<tr>
<td>Ada</td>
<td>S1015212450</td>
<td>STATE OF IDAHO (BOARD OF EDUCATION)</td>
<td>1801 W YALE CT</td>
<td>BOISE, ID 83706-0000</td>
<td>R-2</td>
<td>1910 W UNIVERSITY DR MS 1000</td>
<td>BOISE, ID 83725-0000</td>
<td>0.61</td>
</tr>
</tbody>
</table>
01 | INTRODUCTION

STUDY PURPOSE

Boise State University seeks to refine and modify portions of their land use master plan. At this time, the changes are primarily focused within the south campus area (i.e. the area bounded by University Drive to the north, Beacon Avenue to the south, Lincoln Avenue to the west, and Broadway Avenue to the east). The primary changes to be reviewed at this time are:

- Minor relocations and revisions to the proposed campus buildings within the south campus area
- Desired vacation of additional streets and alleys in the south campus area (Exhibit 1)
- Conversion of certain streets and alleys in the south campus area to pedestrian/bicycle priority or pedestrian/bicycle only routes (Exhibit 2)
- Development of a NCAA baseball stadium and associated parking on the property north of Beacon Avenue between Grant Avenue and Broadway Avenue (Exhibit 2)
This transportation study evaluates the vehicle traffic operations and circulation impacts; pedestrian and bicycle user experience and circulation impacts; and network connectivity impacts of the above proposals.

CAMPUS DEVELOPMENT PLAN

Boise State University recently updated their campus master plan in 2015. The master plan includes sections on circulation and plans to integrate open space, infrastructure and land use elements. In 2017, Boise State added baseball to its university sports. To accommodate this change, Boise State plans to integrate a new baseball facility and parking into their campus plan.

Goals of the 2015 master plan included development of a stronger-pedestrian orientated environment and comfortable bicycle routes though campus. With the inclusion of the baseball field several streets in the south campus have been revised to be pedestrian/bike only or pedestrian/bike priority to be consistent with the master plan goals.

02 | SCOPE OF REPORT

This study evaluated the transportation-related impacts associated with the proposed street vacations, baseball stadium, and other minor changes proposed to the university master plan. The scope, methodology, and key assumptions within this study were reviewed and agreed upon by Boise State University, the Ada County Highway District (ACHD), and City of Boise in May 2018. Attachment A includes the Transportation Study Scope of Work & Assumptions memorandum.

Kittelton & Associates, Inc.
This report evaluates the following transportation issues:

- Year 2018 existing transportation system conditions within the site;
- The effects of the proposed street modifications under near-term conditions;
- Future background traffic conditions (year 2023) within the study area;
- Future traffic conditions (year 2023) with the proposed street modifications and baseball stadium in place;
- Pedestrian and bicycle connectivity evaluation (existing conditions and planned future conditions); and
- Summary of finding and recommendations.

**STUDY AREA**

**STUDY ROADWAYS/INTERSECTIONS**

The following study intersections and roadways were identified and included in this analysis:

**Vehicle Operations Study Intersections:**
- University Drive/Lincoln Avenue
- University Drive/Euclid Avenue
- University Drive/Broadway Avenue
- Beacon Avenue/Lincoln Avenue
- Beacon Avenue/Euclid Avenue
- Beacon Avenue/Broadway Avenue

**Roadway Segment Study Locations:**
- University Drive: Lincoln Avenue to Broadway Avenue
- Belmont Street: Lincoln Avenue to Broadway Avenue
- Beacon Avenue: Lincoln Avenue to Broadway Avenue

**Pedestrian & Bicycle Study Locations:**
- University Drive/Lincoln Avenue
- University Drive/Euclid Avenue
- University Drive/Broadway Avenue
- Beacon Avenue/Lincoln Avenue
- Beacon Avenue/Euclid Avenue
- Beacon Avenue/Broadway Avenue
- Pedestrian and Bicycle Crossings of Beacon Avenue

**STUDY SCENARIOS**

The following scenarios were included in this analysis:

- **Year 2018 Existing Conditions**
- **Year 2018 Existing Conditions plus Street Modification**
  - Year 2018 existing conditions with implementation of the bicycle/pedestrian priority and bicycle/pedestrian only streets
03 | EXISTING CONDITIONS

The existing conditions analysis identifies the current site conditions and operational and geometric characteristics of the roadways and intersections within the study area. Evaluating this scenario develops an understanding of current opportunities and constraints that exist and provides a basis of comparison for the future conditions scenarios.

TRANSPORTATION FACILITIES

Existing transportation facilities in the site vicinity are summarized in Table 1.

Table 1. Transportation Facilities

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Number of Lanes</th>
<th>Posted Speed</th>
<th>Sidewalks</th>
<th>Bicycle Lanes</th>
<th>On-Street Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Drive</td>
<td>3 lanes</td>
<td>25</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Belmont Street</td>
<td>2 lanes</td>
<td>5/25</td>
<td>Partial²</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Beacon Avenue</td>
<td>4 lanes</td>
<td>30</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Broadway Avenue</td>
<td>5 lanes</td>
<td>35</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Lincoln Avenue</td>
<td>3 lanes</td>
<td>25</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Michigan Avenue</td>
<td>2 lanes</td>
<td>5 2/25</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Vermont Avenue</td>
<td>None⁴, 2 lanes</td>
<td>--</td>
<td>Yes</td>
<td>Partial⁵, No</td>
<td>--</td>
</tr>
<tr>
<td>Manitou Avenue</td>
<td>2 lanes</td>
<td>25</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Euclid Avenue</td>
<td>2 lanes</td>
<td>25</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Grant Avenue</td>
<td>2 lanes</td>
<td>25</td>
<td>Partial²</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Denver Avenue</td>
<td>2 lanes</td>
<td>25</td>
<td>Partial²</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1 Miles Per Hour  
² Bicycles and pedestrian priority (5 mph)  
³ Sidewalks in front of developed parcels  
⁴ Bicycles and pedestrian only north of Belmont
EXISTING TRAFFIC VOLUMES AND OPERATIONS

Turning movement counts at all study intersection were collected in April 2018 while the university was in session for the academic year. April also provided a time during the year when the weather is mild, and pedestrian and bicycle activity is common. The counts were conducted on a typical mid-week day during the evening peak period (4:00 – 6:00 p.m.). Attachment B contains the traffic count worksheets used in this study. A system peak hour was used due to the proximity of the intersections and to evaluate the network as a whole.

From the vehicle, pedestrian, and bicycle counts, the peak hour was found to be:

- Vehicle Peak Hour: 5:00 – 6:00 p.m.
- Pedestrian/Bicycle Peak Hour: 4:00 – 5:00 p.m.

As seen above, the vehicle peak hour and pedestrian/bicycle peak hours were slightly different. This is due to the fact that pedestrian and bicycle activity peaks during class shift times and after the last class of the day, while vehicle traffic peaks when traffic to and from the campus (from staff and students who drive leave the campus) overlaps with weekday p.m. peak hour commuter on the surrounding transportation system.

VEHICLE VOLUMES AND OPERATIONS

An operational analysis was performed at the study intersection for weekday p.m. peak hour which is known to be the critical time for traffic operations within the study area. Figure 1 illustrates the existing lane configurations, traffic control devices, and traffic operations. Table 2 summarizes the year 2018 existing traffic operations by lane group.

Table 2. 2018 Existing Traffic Conditions

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Intersection Lane Group</th>
<th>Weekday PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V/C  LOS  Delay</td>
<td>V/C  LOS  Delay</td>
</tr>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>0.47  B  11.1</td>
<td>WBL  0.13  B  11.6</td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>-   -   -</td>
<td>NBLTR 0.05  B  10.0</td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>-   -   -</td>
<td>WBL  0.01  A  7.6</td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>-   -   -</td>
<td>NBLTR 0.06  B  11.0</td>
</tr>
<tr>
<td>5</td>
<td>University Dr/ Denver Ave</td>
<td>-   -   -</td>
<td>WBL  0.01  A  7.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Intersection</th>
<th>QD</th>
<th>Lane</th>
<th>Ts</th>
<th>EBL</th>
<th>E</th>
<th>EBT</th>
<th>D</th>
<th>EBR</th>
<th>WBL</th>
<th>D</th>
<th>EBT</th>
<th>D</th>
<th>SBR</th>
<th>A</th>
<th>B</th>
<th>12.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>University Dr/ Broadway Ave</td>
<td>0.53</td>
<td>B</td>
<td>14.1</td>
<td>0.57</td>
<td>E</td>
<td>0.02</td>
<td>D</td>
<td>0.57</td>
<td>0.24</td>
<td>E</td>
<td>0.02</td>
<td>D</td>
<td>0.57</td>
<td>0.45</td>
<td>B</td>
<td>12.0</td>
</tr>
<tr>
<td>7</td>
<td>Belmont St/ Vermont Ave</td>
<td>-</td>
<td>A</td>
<td>7.2</td>
<td>0.39</td>
<td>A</td>
<td>0.36</td>
<td>A</td>
<td>0.36</td>
<td>0.03</td>
<td>A</td>
<td>0.36</td>
<td>A</td>
<td>0.36</td>
<td>0.45</td>
<td>B</td>
<td>12.6</td>
</tr>
<tr>
<td>8</td>
<td>Belmont St/ Grant Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.03</td>
<td>0.07</td>
<td>A</td>
<td>0.36</td>
<td>E</td>
<td>0.08</td>
<td>A</td>
<td>7.2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Belmont St/ Broadway Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.03</td>
<td>0.07</td>
<td>A</td>
<td>0.36</td>
<td>E</td>
<td>0.08</td>
<td>A</td>
<td>7.2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Beacon St/ Lincoln Ave</td>
<td>0.41</td>
<td>B</td>
<td>15.5</td>
<td>0.02</td>
<td>A</td>
<td>0.02</td>
<td>A</td>
<td>0.02</td>
<td>0.02</td>
<td>A</td>
<td>0.02</td>
<td>A</td>
<td>0.02</td>
<td>0.02</td>
<td>A</td>
<td>9.3</td>
</tr>
<tr>
<td>11</td>
<td>Beacon St/ Michigan Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>0.01</td>
<td>A</td>
<td>9.3</td>
</tr>
<tr>
<td>12</td>
<td>Beacon St/ Manitou Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.06</td>
<td>C</td>
<td>0.06</td>
<td>C</td>
<td>0.06</td>
<td>0.06</td>
<td>C</td>
<td>0.06</td>
<td>C</td>
<td>0.06</td>
<td>0.06</td>
<td>C</td>
<td>15.8</td>
</tr>
<tr>
<td>13</td>
<td>Beacon St/ Euclid Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>A</td>
<td>0.01</td>
<td>0.01</td>
<td>A</td>
<td>8.6</td>
</tr>
<tr>
<td>14</td>
<td>Beacon St/ Denver Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.06</td>
<td>B</td>
<td>0.06</td>
<td>B</td>
<td>0.06</td>
<td>0.06</td>
<td>B</td>
<td>0.06</td>
<td>B</td>
<td>0.06</td>
<td>0.06</td>
<td>B</td>
<td>14.6</td>
</tr>
<tr>
<td>15</td>
<td>Beacon Ave/ Broadway Ave</td>
<td>0.63</td>
<td>C</td>
<td>23.7</td>
<td>0.51</td>
<td>D</td>
<td>0.79</td>
<td>E</td>
<td>0.84</td>
<td>0.82</td>
<td>E</td>
<td>0.52</td>
<td>D</td>
<td>0.54</td>
<td>D</td>
<td>53.5</td>
<td></td>
</tr>
</tbody>
</table>

Kittelson & Associates, Inc.  Boise, Idaho
UNIVERSITY DR / LINCOLN AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / MICHIGAN AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / MANITOU AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / EUCLID AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / DENVER AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / VERMONT AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / GRANT AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / LINCOLN AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / MICHIGAN AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / MANITOU AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / EUCLID AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / DENVER AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

- STOP SIGN
- TRAFFIC SIGNAL
CM = CRITICAL MOVEMENT
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
Del = CRITICAL MOVEMENT CONTROL DELAY

CRITICAL VOLUME-TO-CAPACITY RATIO
CRITICAL MOVEMENT CONTROL DELAY
CRITICAL MOVEMENT LEVEL OF SERVICE
V/C =
LOS =
Del =
CM =

Figure 1
Year 2018 Existing Traffic Conditions
Weekday PM Peak Hour
Boise, Idaho
As shown in Figure 1 and Table 2, all of the study intersections currently operate acceptably within the agency standards. Attachment C includes the traffic operation worksheets for the 2018 existing traffic conditions of the typical weekday p.m. peak hour.

The intersection of Broadway Avenue/Belmont Street operates at LOS E, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

Under existing conditions, this intersection operates at LOS E during the weekday p.m. peak hour. Therefore ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, the intersection does not meet MUTCD volume traffic signal warrants under existing conditions. While the unsignalized minor street (Belmont Street) does experience relatively long delays during the peak hour due to the high volumes on Broadway Avenue, it is still operating under capacity and the approach has low traffic demand. Signal warrant analyses are included in Attachment D.

**PEDESTRIAN/BICYCLE VOLUMES**

A summary of the pedestrian and bicycle volumes are shown in Figure 2. As shown in Figure 2, University Drive carries the highest number of pedestrians and bicycles. There are very few pedestrian and bicycles crossing Broadway Avenue at the intersection of Broadway Avenue/Belmont Street. This is most likely due to the intersection being an unsignalized crossing across Broadway Avenue which is a wide, high volume road.

There is currently no signalized pedestrian/bicycle crossing of Beacon Street between Lincoln Avenue and Broadway Avenue. Given the number of pedestrians/bicycles that cross Beacon Street a protected pedestrian/bicycle crossing would be beneficial to provide an attractive crossing for non-motorized travelers between Lincoln and Broadway. As identified in the 2012 Campus Circulation Plan, Vermont Street or Manitou Street would either be appropriate locations for the crossing. Both of these streets lead into the neighborhoods in the south and become pedestrian/bicycle only routes through campus. Boise State University, per their agreement with ACHD, have currently programmed the installation of a Pedestrian Hybrid Beacon at the Manitou Street/Beacon Street intersection for the fall of 2018.
Year 2018 Existing Pedestrian/Bike Volumes
Weekday PM Peak Hour
Boise, Idaho

Figure 2
Boise State University is proposing to modify certain streets in the south campus area to create a more connected pedestrian and bicycle friendly campus. Exhibit 3 shows the planned street modifications and proposed connectivity. The proposed modifications include three categories: vehicle priority, pedestrian/bike priority, and pedestrian/bike only. Vehicles would be encouraged to use the routes in orange but could use the routes in blue if needed. Pedestrian/bikes would be able to use all routes but encouraged to use the routes in blue and black. In addition, to accommodate the proposed baseball stadium, it is necessary to remove the existing link of Belmont Street between Euclid and Denver Streets as well as most of the link of Grant Street between Beacon Street and University Drive. To complete these street modifications, Boise State University is requesting to vacate those streets.

Exhibit 3. Planned Connectivity

- Orange: Vehicle Priority
- Blue: Pedestrian/Bike Priority
- Black: Pedestrian/Bike Only
Examples of pedestrian/bike priority and pedestrian/bike only are shown in Exhibits 4 and 5, respectively. Both of these are already locations on campus where this has been done.
TRAFFIC VOLUME REASSIGNMENT

To evaluate the near-term impacts of the proposed street modifications, existing vehicle volumes were redistributed and reassigned on the roadway network based on the proposed street modification and planned connectivity. For a conservative analysis, all vehicle traffic currently using any roadway shown in blue or black (or in the baseball field area) was removed and rerouted to the other roadways.

VEHICLE INTERSECTION OPERATIONS

An operational analysis was performed at the study intersection for weekday p.m. peak hour with the year 2018 existing traffic volumes rerouted as described above. Figure 3 illustrates the year 2018 existing volumes rerouted traffic volumes at the study intersections. Table 3 summarizes the year 2018 existing rerouted traffic operations by lane group.

Table 3. 2018 Existing Rerouted Traffic Conditions

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Lane Group</th>
<th>Weekday PM Peak Hour</th>
<th>V/C</th>
<th>LOS</th>
<th>Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>WBL</td>
<td>0.21</td>
<td>B</td>
<td>12.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBR</td>
<td>0.77</td>
<td>B</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR</td>
<td>0.78</td>
<td>B</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.29</td>
<td>A</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBR</td>
<td>0.24</td>
<td>A</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>EBL</td>
<td>0.01</td>
<td>A</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.01</td>
<td>B</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>NBL</td>
<td>0.09</td>
<td>B</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL</td>
<td>0.02</td>
<td>A</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL</td>
<td>0.03</td>
<td>A</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.19</td>
<td>B</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>EBL</td>
<td>0.01</td>
<td>A</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBT</td>
<td>0.02</td>
<td>D</td>
<td>47.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBR</td>
<td>0.61</td>
<td>D</td>
<td>53.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBLTR</td>
<td>0.24</td>
<td>E</td>
<td>61.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL</td>
<td>0.40</td>
<td>A</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBT</td>
<td>0.36</td>
<td>A</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR</td>
<td>0.36</td>
<td>A</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.03</td>
<td>A</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBT</td>
<td>0.46</td>
<td>B</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBR</td>
<td>0.46</td>
<td>B</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>University Dr/ Denver Ave</td>
<td>EBL</td>
<td>0.57</td>
<td>E</td>
<td>57.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBT</td>
<td>0.02</td>
<td>D</td>
<td>47.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBR</td>
<td>0.61</td>
<td>D</td>
<td>53.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBLTR</td>
<td>0.24</td>
<td>E</td>
<td>61.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL</td>
<td>0.40</td>
<td>A</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBT</td>
<td>0.36</td>
<td>A</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR</td>
<td>0.36</td>
<td>A</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.03</td>
<td>A</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBT</td>
<td>0.46</td>
<td>B</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBR</td>
<td>0.46</td>
<td>B</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>University Dr/ Broadway Ave</td>
<td>EBL</td>
<td>0.07</td>
<td>C</td>
<td>21.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBLTR</td>
<td>0.25</td>
<td>F</td>
<td>90.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBLTR</td>
<td>0.18</td>
<td>C</td>
<td>24.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.05</td>
<td>B</td>
<td>10.3</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Figure 3 and Table 3, all of the study intersections currently operate acceptably within the agency standards except for the intersection of Broadway Avenue/Belmont Street. Attachment E includes the traffic operation worksheets for the 2018 rerouted existing traffic conditions of the typical weekday p.m. peak hour.

As under existing conditions, the intersection of Broadway Avenue/Belmont Street operates at LOS F, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

This intersection operates at LOS F during the weekday p.m. peak hour, therefore, ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, the intersection does not meet MUTCD volume signal warrants. Again, this is expected as the traffic on Belmont Street is low but has a high delay due to the high volume on Broadway Avenue. Signal warrant analyses are included in Attachment D.
05 | BACKGROUND CONDITIONS

The year 2023 background traffic conditions analysis identifies how the study area’s transportation system will operate in the future without the roadway modifications or planned baseball stadium in place. This analysis includes traffic attributed to general background growth and the proposed street modifications (i.e., vehicle reroutes) but does not include traffic generated by the proposed baseball stadium.

BACKGROUND GROWTH

The year 2023 background traffic volumes reflect existing traffic counts plus five years of annual background growth. The Community Planning Associate of Southwest Idaho (COMPASS) maintains a base year and a 2040 future year regional travel demand model, which were used to assess growth in the study area. These showed an average growth of 2% per year on University Drive, Broadway Avenue, Beacon Street, and Lincoln Avenue.

Boise State also provided an enrollment summary from the year 2013 to 2017 that was used to assess the growth in the campus. These showed an increase of 1% per year between 2013 and 2017.

Historical traffic counts at the study intersections were obtained from a previous campus study in 2012 and were also used in determining the recent traffic volume growth observed within the campus. These showed a range of 0% to 2% growth with the larger growth occurring on the intersections/roadways on the outside of campus (Broadway Avenue) and a smaller growth (sometimes even a decrease) on interior intersections/roadways (University Drive/Lincoln Avenue and Beacon Street/Lincoln Avenue).

Based on a summary of these three sources and through confirmation by ACHD Staff, the 2023 background conditions traffic volumes were created by growing traffic volumes by 1% per year at all study intersections except for the Broadway Avenue intersections where the through movement volumes on Broadway Avenue were grown by 2% per year.

Attachment F contains all the background growth documents used.

BACKGROUND TRAFFIC VOLUMES AND OPERATIONS

An operational analysis was performed at the study intersections for weekday p.m. peak hour with the year 2023 background traffic volumes rerouted. Figure 4 illustrates the proposed lane configurations, traffic control devices, and traffic operations. Table 4 summarizes the year 2023 background rerouted traffic operations by lane group.

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Lane Group</th>
<th>Weekday PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>WBL</td>
<td>0.21 B 12.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBR</td>
<td>0.79 B 16.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBTR</td>
<td>0.79 B 13.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL</td>
<td>0.31 A 8.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBT</td>
<td>0.26 A 5.3</td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>No Vehicle Intersection</td>
<td>- - -</td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>EBL</td>
<td>0.01 A 8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBLR</td>
<td>0.01 B 13.6</td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>EBL</td>
<td>0.02 A 8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL</td>
<td>0.03 A 7.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBLTR</td>
<td>0.21 C 15.4</td>
</tr>
</tbody>
</table>
As shown in Figure 4 and Table 4, all of the study intersections currently operate acceptably within the agency standards except for the intersection of Broadway Avenue/Belmont Street. Attachment G includes the traffic operation worksheets for the 2023 rerouted background traffic conditions of the typical weekday p.m. peak hour scenarios.
The intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street operate at LOS F and LOS D, respectively, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

This intersection operates at LOS F during the weekday p.m. peak hour, therefore, ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, the intersection does not meet MUTCD volume signal warrants under the 2023 background conditions. This is expected as the traffic on Belmont Street is low but has a high delay due to the high volume on Broadway Avenue. Signal warrant analyses are included in Attachment D.

**Michigan Avenue/Beacon Street**

This intersection operates at LOS D during the weekday p.m. peak hour. Therefore, while it meets the minimum ACHD threshold operating standard, ACHD requires an evaluation of whether a traffic signal is warranted based on the overall intersection operating at LOS F. Based on the planning level traffic signal warrant analysis, this intersection does not meet MUTCD volume signal warrant under 2023 background conditions. Signal warrant analyses are included in Attachment D.
Boise State University is proposing an update to their 2015 Master Plan. While the update does include some minor building modifications in the south campus area, the significant change is the addition of a NCAA baseball stadium and potential parking on the property north of Beacon Avenue between Grant Avenue and Denver Avenue as shown in Exhibit 6.

Boise State University is planning on either a surface parking lot or a parking garage associated with the baseball stadium. The surface parking lot would have a capacity of approximately 211 spaces while the parking garage would have a capacity of approximately 750 spaces. It is possible that no parking is built adjacent to the stadium at the time of its construction and the parking added later once needed for the overall campus. As such, three scenarios (surface parking, garage parking, no parking) were evaluated for the master plan update scenario.

TRIP GENERATION

The proposed baseball stadium is estimated to have a capacity of 2,000 attendees. The projected weekday daily and p.m. peak hour vehicle trips for the proposed development were estimated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (Reference 1). This land use was used as the best representation for a NCAA baseball stadium because the data was collected from two professional spring training baseball games which is a reasonable surrogate for a college facility. The weekday p.m. peak of adjacent street traffic (4:00 – 6:00 p.m.) was used instead of the p.m. peak hour generator due to the critical period of commuter traffic being between 4:00 – 6:00 p.m. Based on the time of college baseball games, the p.m. peak hour generator the stadium does not conflict with the commuter traffic peak period and therefore is not the critical time period. Table 5 shows the estimated weekday p.m. peak hour trip generation for the proposed baseball stadium.

Table 5. Proposed Trip Generation

<table>
<thead>
<tr>
<th>Land Use</th>
<th>ITE Code</th>
<th>Units</th>
<th>Daily</th>
<th>Weekday PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Baseball Stadium</td>
<td>462</td>
<td>2,000</td>
<td>2,480</td>
<td>300 36 264</td>
</tr>
</tbody>
</table>

TRIP DISTRIBUTION

The distribution of site-generated trips onto the roadway system within the study area was estimated based on a previous Boise State University event management study. The study counted intersections around 10:00 p.m. after an event at Taco Bell Arena. Taco Bell Arena is in a similar area on campus as the baseball stadium parking options, so it is expected that the event traffic egress distribution would be similar. The timing of the count isolated the event traffic from commuter traffic. The distribution calculated from this event was used as the estimated distribution for baseball games. Figure 5 shows the estimated trip distribution.

Kittelson & Associates, Inc.
The distribution of site-generated trips considered whether a surface parking lot, parking garage or no adjacent parking was built with the baseball stadium. For a surface lot based on the approximate number of spaces (211) not all attendees would be able to park there. Therefore, it was assumed that only 60% of the total site-generated trips (180 trips) would use the baseball parking lot the remaining trips would park in the football stadium parking which is a block away from the baseball stadium. For a parking garage based on the approximate number of spaces (750) it was assumed 80% of the total site-generated trips (240 trips) would use the parking garage. The remaining trips were assumed to use the football stadium parking lot due to ease of access in and out. For the scenario with no parking built adjacent to the baseball stadium, 80% of trips were assumed to park in the Albertson Stadium parking lot and 20% in the Lincoln Garage.
07 | TOTAL TRAFFIC CONDITIONS

The total traffic analysis identifies how the study area’s transportation system will operate with implementation of the proposed master plan changes (including the proposed street modifications and the inclusion of traffic generated from the proposed NCAA baseball stadium). The baseball stadium generated traffic was added to the year 2023 background traffic volumes (which included the street modifications) to arrive at the year 2023 total traffic volumes.

TOTAL TRAFFIC VOLUMES AND OPERATIONS

Three scenarios were analyzed in the total traffic conditions: a surface parking lot adjacent to the baseball stadium, a parking garage adjacent to the baseball stadium, and no new parking adjacent to the baseball stadium (assumed parking will be accommodated with existing parking on campus). Volumes and operations for each scenario are described below.

SURFACE PARKING LOT SCENARIO

An operational analysis was performed at the study intersection for weekday p.m. peak hour with the year 2023 total traffic volumes rerouted with a surface parking lot. This scenario assumed that 60% of the baseball traffic would park in the adjacent surface lot while the remaining 40% would park in the Albertson’s Stadium parking lot. Figure 6 illustrates the proposed lane configurations, traffic control devices, and traffic operations. Table 6 summarizes the year 2023 total rerouted traffic operations by lane group.

Table 6. Year 2023 Total Traffic Conditions – Surface Parking Lot

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Intersection</th>
<th>Lane Group</th>
<th>Weekday PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>V/C</td>
</tr>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>0.53</td>
<td>B</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>No Vehicle Intersection</td>
<td>EBL</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>University Dr/ Denver Ave</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>University Dr/ Broadway Ave</td>
<td>0.69</td>
<td>C</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Belmont St/ Vermont Ave</td>
<td>No Vehicle Intersection</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Belmont St/ Grant Ave</td>
<td>No Vehicle Intersection</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
As shown in Figure 6 and Table 6, all of the study intersections currently operate acceptably within the agency standards except for the intersection of Broadway Avenue/Belmont Street. Attachment H includes the traffic operation worksheets for the 2023 total traffic conditions with a surface parking lot of the typical weekday p.m. peak hour.

The intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street operates at LOS F and LOS D, respectively, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

This intersection operates at LOS F during the weekday p.m. peak hour. Therefore, while it meets the minimum ACHD threshold operating standard, ACHD requires an evaluation of whether a traffic signal is warranted based on the overall intersection operating at LOS F. Based on the planning level traffic signal warrant analysis, MUTCD volume signal warrants are not met at this intersection under the 2023 total traffic surface parking scenario. This is expected as the traffic on Belmont Street is low but has a high delay due to the high volume on Broadway Avenue. Signal warrant analyses are included in Attachment D.
Michigan Avenue/Beacon Street

This intersection operates at LOS D during the weekday p.m. peak hour. Therefore, while it meets the minimum ACHD threshold operating standard, ACHD requires an evaluation of whether a traffic signal is warranted based on the overall intersection operating at LOS D. Based on the planning level traffic signal warrant analysis, a signal is not warranted at this intersection. This is expected as the traffic on Michigan Avenue is low but has a high delay due to the high volume on Beacon Street. Signal warrant analyses are included in Attachment D.
Year 2023 Total Traffic Conditions - Reroute with Surface Lot
Weekday PM Peak Hour
Boise, Idaho

Figure 6

- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
CM-1 = CRITICAL MOVEMENT CONTROL DELAY
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Day 1

LANE CONFIGURATIONS PM PEAK HOUR
UNIVERSITY DR / LINCOLN AVE
UNIVERSITY DR / MICHIGAN AVE
UNIVERSITY DR / MANITOU AVE

LANE CONFIGURATIONS PM PEAK HOUR
UNIVERSITY DR / EUCLID AVE
UNIVERSITY DR / DENVER AVE
UNIVERSITY DR / BROADWAY AVE

LANE CONFIGURATIONS PM PEAK HOUR
BELMONT ST / GRANT AVE
BELMONT ST / BROADWAY AVE
BEACON ST / MANITOU AVE

LANE CONFIGURATIONS PM PEAK HOUR
BELMONT ST / VERMONT AVE
BELMONT ST / EUCLID AVE
BEACON ST / EUCLID AVE
BEACON ST / DENVER AVE

LANE CONFIGURATIONS PM PEAK HOUR
BEACON ST / LINCOLN AVE
BEACON ST / MICHIGAN AVE
BEACON ST / BROADWAY AVE

No Intersection for Vehicles
No Intersection for Vehicles
No Intersection for Vehicles

- PEDESTRIAN / BIKE ONLY
PARKING GARAGE SCENARIO

An operational analysis was performed at the study intersection for weekday p.m. peak hour with the year 2023 total traffic volumes rerouted with a parking garage. This scenario assumed that 80% of the baseball traffic would park in the adjacent parking garage and 20% would parking in the Albertson’s Stadium parking. Figure 7 illustrates the proposed lane configurations, traffic control devices, and traffic operations. Table 7 summarizes the year 2023 total rerouted traffic operations by lane group.

Table 7. Year 2023 Total Traffic Conditions – Parking Garage

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Intersection V/C</th>
<th>LOS</th>
<th>Delay</th>
<th>Lane Group</th>
<th>Weekday PM Peak Hour V/C</th>
<th>LOS</th>
<th>Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>0.53</td>
<td>B</td>
<td>12.1</td>
<td>WBL</td>
<td>0.33</td>
<td>B</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WBR</td>
<td>0.78</td>
<td>B</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NBTR</td>
<td>0.80</td>
<td>B</td>
<td>14.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SBL</td>
<td>0.32</td>
<td>A</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SBT</td>
<td>0.25</td>
<td>A</td>
<td>5.3</td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>No Vehicle Intersection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>University Dr/ Denver Ave</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>University Dr/ Broadway Ave</td>
<td>0.69</td>
<td>C</td>
<td>21.8</td>
<td>WBL</td>
<td>0.28</td>
<td>B</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EBT</td>
<td>0.30</td>
<td>B</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EBR</td>
<td>0.30</td>
<td>B</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WBL</td>
<td>0.03</td>
<td>B</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WBT</td>
<td>0.70</td>
<td>B</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WBR</td>
<td>0.70</td>
<td>B</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NBTR</td>
<td>0.10</td>
<td>B</td>
<td>17.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SBL</td>
<td>0.25</td>
<td>B</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SBTR</td>
<td>0.43</td>
<td>B</td>
<td>15.9</td>
</tr>
<tr>
<td>7</td>
<td>Belmont St/ Vermont Ave</td>
<td>No Vehicle Intersection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Belmont St/ Grant Ave</td>
<td>No Vehicle Intersection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Belmont St/ Broadway Ave</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Beacon St/ Lincoln Ave</td>
<td>0.49</td>
<td>B</td>
<td>16.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kittelson & Associates, Inc.  Boise, Idaho

As shown in Figure 7 and Table 7, all of the study intersections currently operate acceptably within the agency standards except for the intersections of Broadway Avenue/Belmont Street. Attachment I include the traffic operation worksheets for the 2023 total traffic conditions with a parking garage for the typical weekday p.m. peak hour.

The intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street operate at LOS F and LOS D, respectively, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

This intersection operates at LOS F during the weekday p.m. peak hour, therefore, ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, MUTCD volume warrants are not met at this intersection. This is expected as the traffic on Belmont Street is low but has a high delay due to the high volume on Broadway Avenue. Signal warrant analyses are included in Attachment D.

**Michigan Avenue/Beacon Street**

This intersection operates at LOS D during the weekday p.m. peak hour. Therefore, while it meets the minimum ACHD threshold operating standard, ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, MUTCD volume warrants are not met at this intersection. This is expected as the traffic on Michigan Avenue is low but has a high delay due to the high volume on Beacon Street. Signal warrant analyses are included in Attachment D.
NO ADJACENT PARKING SCENARIO

An operational analysis was performed at the study intersection for weekday p.m. peak hour with the year 2023 total traffic volumes rerouted with no parking located near the baseball stadium. This scenario assumed that 80% of the baseball traffic would park in the Albertson’s Stadium parking lot and 20% would park in the Lincoln Garage. Figure 8 illustrates the proposed lane configurations, traffic control devices, and traffic operations. Table 8 summarizes the year 2023 total rerouted traffic operations by lane group.

Table 8. 2023 Total Traffic Conditions - No Adjacent Parking

<table>
<thead>
<tr>
<th>No.</th>
<th>Intersection</th>
<th>Lane Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University Dr/ Lincoln Ave</td>
<td>0.53 B 11.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL 0.21 B 12.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBR 0.79 B 16.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL 0.97 B 13.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL 0.31 A 8.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBT 0.31 A 5.3</td>
</tr>
<tr>
<td>2</td>
<td>University Dr/ Michigan Ave</td>
<td>No Vehicle Intersection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>University Dr/ Manitou Ave</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL 0.01 A 8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL 0.01 A 13.6</td>
</tr>
<tr>
<td>4</td>
<td>University Dr/ Euclid Ave</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBLTR 0.91 B 11.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL 0.02 A 8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL 0.03 A 7.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBLTR 0.21 C 15.4</td>
</tr>
<tr>
<td>5</td>
<td>University Dr/ Denver Ave</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBLR 0.13 B 13.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL 0.01 A 8.6</td>
</tr>
<tr>
<td>6</td>
<td>University Dr/ Broadway Ave</td>
<td>0.69 C 21.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL 0.92 F 90.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBT 0.01 D 45.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBR 0.92 E 67.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBLTR 0.23 E 60.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL 0.53 B 11.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBT 0.41 A 1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR 0.41 A 1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL 0.03 A 8.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBT 0.52 B 14.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBR 0.52 B 15.3</td>
</tr>
<tr>
<td>7</td>
<td>Belmont St/ Vermont Ave</td>
<td>No Vehicle Intersection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Belmont St/ Grant Ave</td>
<td>No Vehicle Intersection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>Belmont St/ Broadway Ave</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL 0.09 D 27.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL 0.43 D 184.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBLTR 0.26 D 33.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL 0.06 B 10.8</td>
</tr>
<tr>
<td>10</td>
<td>Beacon St/ Lincoln Ave</td>
<td>0.49 B 16.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL 0.30 B 13.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBT 0.31 B 13.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBR 0.31 B 13.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBL 0.03 B 13.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBT 0.71 B 18.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBR 0.72 B 18.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBL 0.00 B 16.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR 0.11 B 17.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBL 0.25 B 13.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBR 0.49 B 16.0</td>
</tr>
</tbody>
</table>
As shown in Figure 8 and Table 8, all of the study intersections currently operate acceptably within the agency standards except for the intersection of Broadway Avenue/Belmont Street. Attachment J includes the traffic operation worksheets for the 2023 total traffic conditions with no adjacent parking for the typical weekday p.m. peak hour.

The intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street operate at LOS F and LOS D, respectively, triggering the condition to evaluate signal warrants.

**Broadway Avenue/Belmont Street**

This intersection operates at LOS F during the weekday p.m. peak hour, therefore, ACHD requires an evaluation of whether a traffic signal is warranted. Based on the planning level traffic signal warrant analysis, MUTCD volume warrants are not met at this intersection. This is expected as the traffic on Belmont Street is low but has a high delay due to the high volume on Broadway Avenue. *Signal warrant analyses are included in Attachment D.*

**Michigan Avenue/Beacon Street**

This intersection operates at LOS F during the weekday p.m. peak hour. Therefore, while it meets the minimum ACHD threshold operating standard, ACHD requires an evaluation of whether a traffic signal is warranted based on the overall intersection operating at LOS F. Based on the planning level traffic signal warrant analysis, MUTCD volume warrants are not met at this intersection. This is expected as the traffic on Michigan Avenue is low but has a high delay due to the high volume on Beacon Street. *Signal warrant analyses are included in Attachment D.*
UNIVERSITY DR / LINCOLN AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / MICHIGAN AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / MANITOU AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / EUCLID AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / DENVER AVE
LANE CONFIGURATIONS PM PEAK HOUR

UNIVERSITY DR / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / VERMONT AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / GRANT AVE
LANE CONFIGURATIONS PM PEAK HOUR

BELMONT ST / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / LINCOLN AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / MICHIGAN AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / MANITOU AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / EUCLID AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / DENVER AVE
LANE CONFIGURATIONS PM PEAK HOUR

BEACON ST / BROADWAY AVE
LANE CONFIGURATIONS PM PEAK HOUR

3.a Packet Pg. 454
08 | MULTIMODAL CONNECTIVITY ANALYSIS

Multimodal connectivity measures the availability and usefulness of the transportation network to nonmotorized users of the system. The methodology used for this analysis was based on the Federal Highway Administration (FHWA) Guidebook for Measuring Multimodal Network Connectivity (Reference 2). It recommends analysis measures for bicycle and pedestrian connectivity. The measures used for this analysis are: network connectivity, network density, route directness, and network quality.

Existing conditions and two route scenarios were analyzed for multimodal connectivity. The first scenario, referred to as Reroute Scenario 1 in the tables below, refers to the scenario shown in Exhibit 7, which is an assessment of current conditions with the planned street and alley modifications. The second scenario, Reroute Scenario 2, is the same as Reroute Scenario 1 with an additional bicycle and pedestrian connection between Euclid Avenue and Denver Avenue along the north side of the proposed baseball stadium.

NETWORK COMPLETENESS

Network completeness is a measure of the amount of the transportation network that is available to bikes and pedestrians. It measures the completeness of the planned bicycle and pedestrian network and the portion of streets that have nonmotorized facilities and the amount that has high quality facilities.

For this analysis, four measures of network completeness were used:

- Percent of street-miles with nonmotorized facilities
- Percent of street-miles with high quality facilities (only streets with nonmotorized facilities and that are of high quality are included in this percentage)
- Amount of nonmotorized facilities (in miles)
- Amount of high quality nonmotorized facilities (in miles)

High quality facilities are assumed to be those with a Level of Traffic Stress (LTS) 1 or 2 for bicycle facilities, and any location where sidewalk is present for pedestrian facilities, except for on Broadway Avenue which was not categorized as a high-quality pedestrian facility due to the speed and volume of vehicle traffic and the lack of wide or buffered sidewalks.

Kittelson & Associates, Inc.
Boise, Idaho
Network completeness was measured for existing conditions and the two connectivity scenarios for both bicycles and pedestrians. Table 9 shows a summary of the network connectivity in the study area.

Table 9. Network Connectivity Measures

<table>
<thead>
<tr>
<th>Network Completeness</th>
<th>Existing Conditions</th>
<th>Reroute Scenario 1</th>
<th>Reroute Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of street-miles with nonmotorized</td>
<td>Bike: 28.3% Ped: 91.3%</td>
<td>Bike: 54.7% Ped: 96.1%</td>
<td>Bike: 56.7% Ped: 96.3%</td>
</tr>
<tr>
<td>facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of street-miles with high</td>
<td>Bike: 14.5% Ped: 84.8%</td>
<td>Bike: 33.6% Ped: 89.1%</td>
<td>Bike: 36.6% Ped: 89.6%</td>
</tr>
<tr>
<td>quality facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of nonmotorized facilities (miles)</td>
<td>0.78</td>
<td>1.40</td>
<td>1.52</td>
</tr>
<tr>
<td>Amount of high quality nonmotorized</td>
<td>0.40</td>
<td>0.86</td>
<td>0.98</td>
</tr>
<tr>
<td>facilities (miles)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the network connectivity analysis show that Reroute Scenario 2 has the highest percentage of both bike and pedestrian facilities, though both Reroute 1 and Reroute 2 have a higher amount of network completeness compared to existing conditions. The results also show that the percent of high-quality facilities also improves with both reroute scenarios and improves the most with reroute scenario 2.

**NETWORK DENSITY**

Network density measures the density of nonmotorized facilities in a study area. It measures the ability of the street network and the bicycle and pedestrian facilities to allow travel between destinations by multiple routes and to minimize out of direction travel. Higher density areas are more conducive to walking and biking because they typically provide more direct routes between origins and destinations.

Four measures of network density were evaluated in this analysis:

- Intersection Density (intersections per square mile). For example, the intersection density in downtown Boise, from 16th Street to 5th Street, and from US 20 to Franklin Avenue, is approximately 259 intersections per square-mile. It is relatively equal for pedestrian intersections. Bicycle intersections downtown have a density of about 17 intersections per square mile.

- Network Density (in street-miles per square mile)

- Intersection density of nonmotorized facilities (in intersections per square mile)

- Network density of nonmotorized facilities (in street-miles per square mile)

Network density was measured for each of the three scenarios for both bicycles and pedestrians.
Table 10 shows a summary of the network density in the study area.

Table 10. Network Density Measures

<table>
<thead>
<tr>
<th>Network Density</th>
<th>Existing Conditions</th>
<th>Reroute Scenario 1</th>
<th>Reroute Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection density (intersections/square mile)</td>
<td>300.0</td>
<td>275.0</td>
<td>287.5</td>
</tr>
<tr>
<td>Network density (street-miles/square mile)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike</td>
<td>34.5</td>
<td>32.0</td>
<td>33.5</td>
</tr>
<tr>
<td>Ped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersection density(^1) of nonmotorized facilities (intersections/square mile)</td>
<td>175.0</td>
<td>275.0</td>
<td>162.5</td>
</tr>
<tr>
<td>Network density of nonmotorized facilities (street miles/square mile)</td>
<td>9.8</td>
<td>31.5</td>
<td>17.5</td>
</tr>
<tr>
<td>Bike</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ped</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|\(^1\) Includes intersections with connecting nonmotorized facilities.

Both reroute scenarios have lower network densities than those of the existing facilities, due to the removal of one intersection and three links in the vicinity of the proposed baseball stadium. However, as a comparison, the resulting densities continue to be higher than the network density of downtown Boise. The bicycle facility network density increases significantly with the proposed changes and addition of pedestrian/bicycle only routes.

ROUTE DIRECTNESS

Route directness is a measure of how far out of the way a user would have to go to find a usable or desirable facility. It measures the users’ ability to take direct routes to their destinations on nonmotorized facilities. The value of directness is expressed as out of direction travel as a percentage of the total distance between origin and destination. Smaller percentages indicate less out of direction travel and more direct routes.

For this analysis, five origin-destination pairs were chosen to evaluate the change in out of direction travel. These pairs were:

- Lincoln Garage to Albertson Stadium
- Albertsons to Albertson Stadium
- Boise State Student Union Building (SUB) to Beacon Street Albertsons
- Micron Engineering Building to Starbucks on Broadway Avenue
- Intersection of Grant Avenue and Rossi Street to Albertson Stadium

Route directness was measured for each of the three scenarios for both bicycles and pedestrians.
Table 11 shows a summary of the route directness in the study area.

Table 11. Route Directness Measures

<table>
<thead>
<tr>
<th>Route Directness</th>
<th>Existing Conditions</th>
<th>Reroute Scenario 1</th>
<th>Reroute Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of direction travel: Lincoln Garage to Albertsons Stadium</td>
<td>8.7%</td>
<td>8.7%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Out of direction travel: Albertsons to Albertsons Stadium</td>
<td>41.8%</td>
<td>41.8%</td>
<td>41.8%</td>
</tr>
<tr>
<td>Out of direction travel: SUB to Albertsons</td>
<td>66.1%</td>
<td>66.1%</td>
<td>66.1%</td>
</tr>
<tr>
<td>Out of direction travel: Starbucks from Micron Engineering Building(^1)</td>
<td>2.8%</td>
<td>67.3%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Out of direction travel: Intersection of Grant/Rossi to Albertsons Stadium(^2)</td>
<td>0.0%</td>
<td>41.4%</td>
<td>41.4%</td>
</tr>
</tbody>
</table>

As shown in the table, there are some impacts to route directness due to the proposed baseball stadium, however, it is only to very localized and specific origin-destination pairs. The last two O-D pairs indicate specific scenarios that are affected by the reroute conditions. The route from the Micron Engineering Building to the Starbucks on the east side of Broadway Avenue would be cut off on Belmont Street from Euclid Avenue to Denver Avenue causing users to reroute to University Drive or Beacon Street to cross Broadway Avenue. However, there is currently no pedestrian crossing at the intersection of Belmont Street and Broadway Avenue and it is likely that pedestrians are already rerouting to University Drive or Beacon Avenue to use the designated crossings. In addition, Reroute Scenario 2 introduces a bicycle/pedestrian connection, reestablishing the connection from the Micron Engineering Building to Starbucks.

The route from the intersection of Grant Avenue and Rossi Street to Albertsons Stadium represents the worse-case scenario for the reroute conditions. In existing conditions, there is a direct path to Albertsons Stadium from the Grant/Rossi intersection. The proposed reroute scenarios would remove the north-south connection on Grant Avenue with the proposed baseball stadium. Users traveling from the Grant/Rossi intersection would have to reroute to Euclid Avenue or Denver Avenue to reach Albertsons Stadium.

Beyond these two specific scenarios, the proposed reroute conditions have no measurable effect on the route directness of the study area.

**NETWORK QUALITY**

Network quality is a measure of the quality of connectivity provided by the network. Even if a connection exists, it will only be usefulness to a broad range of pedestrians and bicyclists if it is of a high quality. Network quality can be measured in various ways using methods such as nonmotorized Level of Service, Bicycle Route Quality, or Pedestrian Index of Environment. For the purposes of this study, Level of Traffic Stress (LTS) was used to evaluate the quality of the bicycle facility network in the study area. The Bicycle Level of Service (BLOS) method was also considered, as the LTS method does not take into account vehicle volumes, but the change in traffic volume after the reroute conditions were applied was low enough that the BLOS did not change. LTS was a more useful measure of quality for this study. The pedestrian facility quality was determined to be high if there were sidewalks, except on Broadway Avenue where speed and volume of vehicle traffic along with unbuffered sidewalks creates higher stress for a pedestrian.

The LTS measures of network quality are based on the number of through lanes of the roadway, the speed limit, and the width of the bike lane (if present). Attachment J contains the maps of the LTS analysis classifications of the study area for existing conditions, Reroute Scenario 1, and Reroute Scenario 2.
Network quality was measured for each of the three scenarios for both bicycles and pedestrians by comparing the high quality nonmotorized facilities with the total available network (with or without facilities). Table 12 shows a summary of the network quality in the study area.

Table 12. Network Quality Measure

<table>
<thead>
<tr>
<th>Network Quality</th>
<th>Existing Conditions</th>
<th>Reroute Scenario 1</th>
<th>Reroute Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bike</td>
<td>Ped</td>
<td>Bike</td>
</tr>
<tr>
<td>Percent of network categorized as High Quality¹</td>
<td>55.8%</td>
<td>88.4%</td>
<td>52.3%</td>
</tr>
</tbody>
</table>

¹ Link categorized as high quality if it was LTS 1 or 2

The overall network quality for bicyclists in the study area decreases between the existing conditions and the reroute scenarios. This is due to the loss of three links of LTS 1 in Reroute Scenario 1 and to the loss of one link of LTS 1 in Reroute Scenario 2, which decreases the percentage of high quality facilities. The pedestrian network quality increases because of a loss of two links in Reroute 1 that currently do not have sidewalks, increasing the percentage of high quality facilities.

In general, the current overall network quality is only slightly decreased for bicyclists with the inclusion of a pedestrian/bicycle connection on the north side of the baseball stadium. The proposed street modifications will improve overall network quality for pedestrians.

**MULTIMODAL CONNECTIVITY SUMMARY**

The four categories used to evaluate the network connectivity of the study area were combined to create an overall score for each connectivity scenario. Each measure was given a score from -1 to 1, where -1 is the scenario scores negatively in the measure and 1 is the scenario scores positively in that measure. The measure scores were added and then normalized based on the number of measures in each category. Those scores were then combined to create a total score for each scenario for both bicycle and pedestrian facilities. Table 13 provides a summary of the evaluation criteria and gives the overall scores for network connectivity of the study area.

Table 13. Summary of Multimodal Network Connectivity

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Tier 1 Alternatives - Evaluation Scores</th>
<th>Existing Conditions</th>
<th>Reroute Scenario 1</th>
<th>Reroute Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bike</td>
<td>Ped</td>
<td>Bike</td>
</tr>
<tr>
<td>Network Completeness</td>
<td>Network Completeness Subtotal</td>
<td>-4.0</td>
<td>4.0</td>
<td>-1.0</td>
</tr>
<tr>
<td></td>
<td>Normalized Evaluation Subtotal</td>
<td>-1.0</td>
<td>1.0</td>
<td>-0.3</td>
</tr>
<tr>
<td>Network Density</td>
<td>Network Density Subtotal</td>
<td>-0.5</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Normalized Evaluation Subtotal</td>
<td>-0.1</td>
<td>0.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Route Directness</td>
<td>Route Directness Subtotal</td>
<td>1.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Normalized Evaluation Subtotal</td>
<td>0.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Network Quality</td>
<td>Network Quality Subtotal</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Normalized Evaluation Subtotal</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Evaluation Score</td>
<td></td>
<td>-3.0</td>
<td>7.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Normalized Evaluation Score</td>
<td></td>
<td>-0.6</td>
<td>2.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Evaluation of the connectivity criteria shows that Reroute Scenario 1 and Reroute Scenario 2 have higher overall ratings of multimodal connectivity than existing conditions. In addition, Reroute Scenario 2 ranks higher than Reroute Scenario 1 for bicycle facility connectivity. Pedestrian connectivity does not change given the proposed conditions.
09 | FINDINGS AND RECOMMENDATIONS

The results of this study indicate that the proposed Boise State University Master Plan updates can be implemented while maintaining acceptable traffic operations and better multimodal connectivity throughout the study area assuming the recommended mitigation measures are in place.

FINDINGS

• Year 2018 Existing Conditions
  o Vehicles
    ▪ All of the study intersections were found to operate at acceptable operations during the weekday p.m. peak hour, except for the intersection of Broadway Avenue/Belmont Street.
      ▪ Broadway Avenue/Belmont Street operates LOS E and a v/c ratio of 0.36. A signal is not warranted.
  o Pedestrians/Bicycles
    ▪ A majority of the pedestrian and bicycle usage is along University Drive.
    ▪ Counts show there is a demand for a signalized pedestrian/bicycle crossing on Beacon Street between Lincoln Avenue and Broadway Avenue.

• Year 2018 Rerouted Existing Conditions
  o Vehicles were routed to vehicle priority streets based on the proposed update to the campus master plan.
  o All of the study intersections were found to operate at acceptable operations during the weekday p.m. peak hour, except for the intersection of Broadway Avenue/Belmont Street.
    ▪ Broadway Avenue/Belmont Street operates LOS F and a v/c ratio of 0.25. A signal is not warranted.

• Year 2023 Background Conditions
  o To estimate year 2023 traffic conditions, existing rerouted volumes were grown by 1% per year for all study intersections except those on Broadway Avenue which were grown by 2% per year.
  o All of the study intersections were found to operate within ACHD standards, except for the intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street.
    ▪ Broadway Avenue/Belmont Street operates LOS F and a v/c ratio of 0.36. A signal is not warranted.

• Proposed Baseball Stadium Trip Generation/Distribution
  o The proposed baseball stadium is estimated to have a capacity of 2,000 attendees.
  o The proposed baseball stadium is estimated to have approximately 2,480 daily trips with 300 trips during the weekday p.m. peak hour.
  o A trip distribution for baseball stadium event trips was estimated based on traffic counts from a previous Boise State event management study in a similar area.

• Year 2023 Total Traffic Conditions – Surface Parking Lot
  o The surface parking lot would have approximately 211 spaces.
  o All of the study intersections were found to operate at acceptable operations during the weekday p.m. peak hour, except for the intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street.
    ▪ Broadway Avenue/Belmont Street operates LOS F and a v/c ratio of 0.43. A signal is not warranted.

• Year 2023 Total Traffic Conditions – Parking Garage
  o The parking garage would have approximately 750 spaces.
All of the study intersections were found to operate at acceptable operations during the weekday p.m. peak hour, except for the intersections of Broadway Avenue/Belmont Street and Michigan Avenue/Beacon Street.

- Broadway Avenue/Belmont Street operates LOS F and a v/c ratio of 0.43. A signal is not warranted.

**Year 2023 Total Traffic Conditions – No Adjacent Parking**

- This scenario assumed no new adjacent parking for the baseball stadium and assumed traffic would parking in the Albertsons Stadium parking or the Lincoln Parking Garage.

**Multi-Modal Connectivity**

- The FHWA Guidebook for Measuring Multimodal Network Connectivity recommended four analysis measures to measure connectivity:
  - Network Connectivity
  - Network Density
  - Route Directness
  - Network Quality

- In addition to existing conditions, two scenarios were analyzed:
  - The proposed street modifications and
  - The proposed street modifications plus a pedestrian/bicycle only east-west route along Belmont Street between Euclid Avenue and Denver Avenue.

- Both reroutes had higher rating than existing conditions. However, the reroute scenario with the added pedestrian/bicycle only east-west route ranked the highest in provided multimodal connectivity.

## RECOMMENDATIONS

- This study looks five years into the future. Projects beyond this five-year horizon should be evaluated in subsequent studies similar to this one.
- The planned street modifications can be implemented without impact to vehicle operations within the study area or without additional traffic mitigations required at the study intersections.
- The streets shown as vehicle priority, pedestrian/bicycle priority, and pedestrian/bicycle only in the planned connectivity map should be converted as shown as it improves the quality of the pedestrian/bicycle experience on the campus.
- Boise State University should implement the planned signalized pedestrian/bicycle crossing of Beacon Street at Manitou Street.
- A pedestrian/bicycle only route along Belmont Street between Euclid Avenue and Denver Avenue is recommended to be added to the campus plan update as it is consistent with the Boise State Master Plan goals of creating as much pedestrian/bicycle connectivity as possible.
REFERENCES


ATTACHMENTS

A. Transportation Study Scope of Work & Assumptions Memorandum
B. Traffic Count Worksheets
C. 2018 Existing Traffic Operations
D. Signal Warrant Analyses
E. 2018 Rerouted Existing Traffic Operations
F. Background Growth Documents
G. 2023 Rerouted Background Traffic Operations
H. 2023 Total Surface Lot Traffic Operations
I. 2023 Total Garage Traffic Operations
J. 2023 Total No Adjacent Parking Traffic Operations
K. Level of Traffic Stress Analysis
Date: May 14, 2018
Project #: 22452

To: Cristy Little, Ada County Highway District
Karen Gallagher, City of Boise

From: Sonia Hennum Daleiden, PE PTOE & Lauren Nuxoll

CC: Drew Alexander & Christy Jordan, Boise State University

Project: Boise State University South Campus Transportation Study
Subject: Transportation Study Scope of Work & Assumptions

This memorandum documents the intended scope of work and assumptions that will be used for the Boise State University South Campus Transportation Study. The information presented in this memorandum was developed based on conversations with Boise State University, the City of Boise, and Ada County Highway District (ACHD) and an initial scoping meeting with the agencies held on May 8, 2018.

This memorandum addresses the following items:

- Study Description
- Data Collection
- Growth & Development Assumptions
- Analysis Scenarios & Assumptions
- Analysis Tools
- Circulation & Connectivity Assessment

STUDY DESCRIPTION

Boise State University seeks to refine and modify portions of their land use master plan. At this time, the changes are primarily focused within the south campus area (i.e. the area bounded by University Drive to the north, Beacon Avenue to the south, Lincoln Avenue to the west, and Broadway Avenue to the east). The primary changes to be reviewed at this time are:

- Minor relocations and revisions to the proposed campus buildings within the south campus area

FILENAME: H:\22\22452 - BOISE STATE UNIVERSITY SE CAMPUS STUDY\REPORT\22452SCOPINGMEMO.DOCX
- Vacation of additional streets and alleys in the south campus area (Exhibit 1)
- Conversion of certain streets and alleys in the south campus area to pedestrian/bicycle priority or pedestrian/bicycle only routes (Exhibit 2)
- Development of a NCAA baseball stadium and associated parking on the property north of Beacon Avenue between Grant Avenue and Broadway Avenue (Exhibit 3)

The Boise State University South Campus Transportation Study will evaluate vehicle traffic operations and circulation impacts; pedestrian and bicycle user experience and circulation impacts; and network connectivity impacts of the above proposals.
EXHIBIT 2. Planned Connectivity

EXHIBIT 3. Proposed Master Plan Land Use
DATA COLLECTION

The following data will be collected as part of the study:

- Vehicle traffic counts at 14 locations in the SE campus area (Exhibit 4)
- Pedestrian and bicycle counts at 14 locations in the SE campus area (Exhibit 4)
  - Note that the vehicle, pedestrian, and bicycle counts were collected in mid-April 2018 while typical university classes and activities were in session
- Existing roadway and intersection geometry for the roadways and intersections in the south campus area (area bounded by University Drive, Broadway Avenue, Beacon Street, and Lincoln Avenue)
- Current signal timing information for signalized intersections in the south campus area (from ACHD)
- Current pedestrian and bicycle facilities and routes in the south campus area
- Current block spacing and pedestrian/bicycle route spacing (from GIS and aerial mapping)

EXHIBIT 4. Vehicle, Pedestrian, and Bicycle Count Locations
GROWTH & DEVELOPMENT ASSUMPTIONS

Quantifying trip generation for buildout of the campus master plan is unique and different than typical trip generation estimates for an isolated development. The university campus is a cohesive land use and each time a new building is created it is not necessarily creating an entirely new use within the campus or creating trips in and of itself. As has been done for other recent transportation studies for the campus, an overall campus growth rate will be established based on the general rate of growth in university enrollment, a review of any significant shift in traffic that may occur due to the land use changes, and a review of the land use assumptions and traffic growth shown in the COMPASS regional travel demand model. While the exact growth applied to existing volumes is yet to be determined based on this review, previous work for the university has consistently shown an approximate 2.5-percent per year growth rate based on enrollment and COMPASS model projections. It is anticipated that the review for this study will develop a similar annual growth rate.

This growth rate will be used for analysis of a typical weekday PM peak hour when evaluating vehicle, pedestrian, and bicycle impacts of the proposed master plan. In addition to a typical weekday PM peak hour analysis scenario, an event scenario analysis will also be included in the study to assess event impacts from the proposed baseball stadium as well as impacts during football season for Albertson’s Stadium activity. The majority of D1 NCAA baseball games are scheduled on Friday night, Saturday (usually night) and Sunday day so event activity at the stadium will not overlap with the typical peak hours on the adjacent street system. For this event scenario, ITE trip generation rates for a baseball stadium (Land Use Code 462, Reference 1) will be used. The ITE land use code is for a professional baseball stadium but the data in the manual is from major league baseball spring training stadiums which are likely representative for a university NCAA stadium. Currently available data that Boise State University maintains for mode split and shuttle ridership for football games will be used and extrapolated when assessing event impacts for the new baseball stadium.

ANALYSIS SCENARIOS & STUDY ASSUMPTIONS

The study will include the following analysis scenarios:

- Time Periods:
  - Weekday PM Peak Hour (4-6 PM)
  - Event Scenario for Baseball Game
  - Event Scenario for Football Game

- Vehicle Operations Study Intersections:
  - University Drive/Lincoln Avenue
  - University Drive/Euclid Avenue
  - University Drive/Broadway Avenue
  - Beacon Avenue/Lincoln Avenue
  - Beacon Avenue/Euclid Avenue
  - Beacon Avenue/Broadway Avenue

Kittelson & Associates, Inc.
Boise, Idaho
Roadway Segment Study Locations:
- University Drive: Lincoln Avenue to Broadway Avenue
- Belmont Street: Lincoln Avenue to Broadway Avenue
- Beacon Avenue: Lincoln Avenue to Broadway Avenue

Pedestrian & Bicycle Study Locations:
- University Drive/Lincoln Avenue
- University Drive/Euclid Avenue
- University Drive/Broadway Avenue
- Beacon Avenue/Lincoln Avenue
- Beacon Avenue/Euclid Avenue
- Beacon Avenue/Broadway Avenue
- Pedestrian and Bicycle Crossings of Beacon Avenue

Study Years
- Existing Conditions (Year 2018)
  - As assessment of the current conditions
- Existing Conditions plus Street Vacations
  - As assessment of current conditions (no additional build) but implementation of the planned street and alley right-of-way vacations
- Buildout of South Campus Area (assumed five year process Year 2023)
  - With assumed surface parking for the new baseball stadium
  - With assume parking structure near the new baseball stadium

ANALYSIS TOOLS AND OPERATING STANDARDS

The intersection operational analysis will be performed using the 2010 Highway Capacity Manual analysis procedures (Reference 2). To ensure that this analysis is based on a reasonable worst-case scenario, the peak 15-minute flow rate during the weekday PM peak hour will be used in the evaluation of all intersection level or service (LOS) and vehicle-to-capacity (V/C) ratios. The signalized and stop-controlled intersection operations analyses presented in this report will be completed using Synchro 10 software, and if needed for supplemental analysis, HCS 2010 software (version 6.90). For a signalized intersection’s overall V/C ratios, the HCM 2000 procedure will be utilized since the HCM 2010 procedure doesn’t produce an intersection V/C ratio. The analysis will be performed in accordance with the methodologies stated in Section 7106.6 of the ACHD Policy Manual (Reference 3). Intersection and segment level of service will be reported per ACHD 2016 CIP thresholds.

For pedestrian and bicycle analysis, factors that will be assessed are: level of stress, crossing distances, crossing location spacing, presence/absence of dedicated facilities, route connectivity, block spacing, and out of direction travel.
CIRCULATION & CONNECTIVITY ASSESSMENT

As discussed with the agencies, connectivity and circulation impacts of the proposed right-of-way vacations is of particular interest. The analysis described above will identify the effects of the proposed master plan on circulation and connectivity. Specifically, connectivity and circulation for the various modes will be assessed by summarizing the following for each analysis scenario:

- **Vehicles**
  - Intersection and roadway link operations with and without the proposed right-of-way vacations and Belmont Street connection to University Drive
  - Additional intersection and roadway widening/mitigations required to accommodate proposed right-of-way vacations and Belmont Street connection to University Drive
  - Block spacing and route spacing distance
  - Out of direction travel

- **Pedestrians and Bicycles**
  - Level of stress
  - Presence/absence of dedicated facilities
  - Route continuity
  - Route spacing distance
  - Out of direction travel
  - Crossing location frequency
  - Crossing distances

NEXT STEPS

We request ACHD and the City of Boise review this scoping memo and provide confirmation of the study scope and assumptions, so we can initiate the evaluation. Please provide any comments or questions you may have by May 21, 2018. Please contact Sonia Daleiden at 208.338.2683 or sdaleiden@kittelson.com if you have any questions or comments on the information presented in this memorandum.

REFERENCES

ATTACHEMENT B – TRAFFIC COUNTS
### Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway Avenue From North</th>
<th>Beacon Street From East</th>
<th>Broadway Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>35</td>
<td>293</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>37</td>
<td>232</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>49</td>
<td>288</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>42</td>
<td>261</td>
<td>22</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>1074</td>
<td>71</td>
<td>4</td>
<td>1312</td>
<td>61</td>
<td>213</td>
<td>207</td>
<td>11</td>
<td>492</td>
<td>89</td>
<td>668</td>
<td>77</td>
<td>10</td>
<td>844</td>
<td>146</td>
<td>168</td>
<td>155</td>
<td>9</td>
<td>478</td>
</tr>
</tbody>
</table>

### Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Apprch %</th>
<th>Total %</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>153</td>
<td>1129</td>
<td>9</td>
<td>9</td>
<td>1386</td>
<td>59</td>
<td>252</td>
</tr>
<tr>
<td>Grand Total</td>
<td>316</td>
<td>2203</td>
<td>166</td>
<td>13</td>
<td>2698</td>
<td>120</td>
<td>465</td>
</tr>
<tr>
<td>Apprch %</td>
<td>11.7</td>
<td>81.7</td>
<td>6.2</td>
<td>0.5</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total %</td>
<td>4.9</td>
<td>34.1</td>
<td>2.6</td>
<td>0.2</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>316</td>
<td>2200</td>
<td>166</td>
<td>8</td>
<td>2690</td>
<td>120</td>
<td>465</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>999</td>
<td>100</td>
<td>61.5</td>
<td>99.7</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>3.8</td>
<td>5</td>
<td>0.2</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Study: KITT0108
Intersection: Beacon St / Broadway Ave
City, State: Boise, Idaho
Control: Signalized

File Name: Beacon Street & Broadway Avenue
Site Code: 00000000
Start Date: 4/17/2018
Page No: 2

Control: Signalized

4/17/2018 04:00 PM
4/17/2018 05:45 PM
General Traffic/Peds
3+ Axle Heavy Trucks
Bikes

Packet Pg. 473
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:30 PM</td>
<td>49 288 14 0 351</td>
<td>11 56 52 1 120</td>
<td>28 158 15 6 207</td>
<td>41 34 40 3 118</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td>42 261 22 1 326</td>
<td>19 56 56 5 136</td>
<td>19 185 19 2 225</td>
<td>37 47 42 3 129</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td>45 294 26 1 366</td>
<td>14 77 91 0 182</td>
<td>31 171 12 1 215</td>
<td>33 53 29 2 117</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:15 PM</td>
<td>47 306 25 1 379</td>
<td>18 57 59 2 136</td>
<td>31 184 24 1 240</td>
<td>20 52 39 0 111</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Volume**
- Broadway Avenue: 183
- Beacon Street: 1149
- Total: 850

**% App. Total**
- Broadway Avenue: 12.9
- Beacon Street: 80.8
- Total: 100%

**PHF**
- Broadway Avenue: 1.148
- Beacon Street: 0.814
- Total: 0.934

**General Traffic/Peds**
- Broadway Avenue: 1148
- Beacon Street: 100
- Total: 1231

**3+ Axle Heavy Trucks**
- Broadway Avenue: 0
- Beacon Street: 0
- Total: 0

**Bikes**
- Broadway Avenue: 0
- Beacon Street: 0
- Total: 0

---

**Peak Hour Data**

Peak Hour Begins at 04:30 PM

**General Traffic/Peds**
- Broadway Avenue: 1148
- Beacon Street: 100
- Total: 1238

**3+ Axle Heavy Trucks**
- Broadway Avenue: 0
- Beacon Street: 0
- Total: 0

**Bikes**
- Broadway Avenue: 3
- Beacon Street: 4
- Total: 7

---

**Packet Pg. 474**
<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway Avenue From North</th>
<th>Broadway Avenue From East</th>
<th>Broadway Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>49</td>
<td>288</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>42</td>
<td>261</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>45</td>
<td>294</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>47</td>
<td>306</td>
<td>25</td>
<td>1</td>
</tr>
</tbody>
</table>

**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

**Peak Hour for Each Approach Begins at:**

- **04:30 PM:** 49, 56, 56, 5, 136
- **04:45 PM:** 51, 171, 12, 1, 215
- **05:00 PM:** 38, 45, 38, 1, 122

**Total Volume**

- **Broadway Avenue From North:** 183
- **Beacon Street From East:** 66
- **Broadway Avenue From South:** 110
- **Beacon Street From West:** 90

**% App. Total**

- **Broadway Avenue From North:** 12.9
- **Beacon Street From East:** 80.8
- **Broadway Avenue From South:** 6.1
- **Beacon Street From West:** 0.2

**PHF**

- **Broadway Avenue From North:** 0.934
- **Beacon Street From East:** 0.939
- **Broadway Avenue From South:** 0.837
- **Beacon Street From West:** 0.750

**General Traffic/Peds**

- **Broadway Avenue From North:** 100
- **Beacon Street From East:** 99.9
- **Broadway Avenue From South:** 100
- **Beacon Street From West:** 100

**% General Traffic/Peds**

- **Broadway Avenue From North:** 100
- **Beacon Street From East:** 99.9
- **Broadway Avenue From South:** 100
- **Beacon Street From West:** 100

**3+ Axle Heavy Trucks**

- **Broadway Avenue From North:** 0
- **Beacon Street From East:** 0.1
- **Broadway Avenue From South:** 0
- **Beacon Street From West:** 0

**% 3+ Axle Heavy Trucks**

- **Broadway Avenue From North:** 0
- **Beacon Street From East:** 0.1
- **Broadway Avenue From South:** 0
- **Beacon Street From West:** 0

**Bikes**

- **Broadway Avenue From North:** 0
- **Beacon Street From East:** 0
- **Broadway Avenue From South:** 3
- **Beacon Street From West:** 4

**% Bikes**

- **Broadway Avenue From North:** 0.2
- **Beacon Street From East:** 0.7
- **Broadway Avenue From South:** 33.3
- **Beacon Street From West:** 1.9

---

**Study:** KITT0108  
**Intersection:** Beacon St / Broadway Ave  
**City, State:** Boise, Idaho  
**Control:** Signalized
### Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Denver Avenue From North</th>
<th>Beacon Street From East</th>
<th>Business Access From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
<td>App. Total</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>3 0 2 3 8</td>
<td>1 105 3 0 109</td>
<td>3 0 0 1 4</td>
<td>0 108 3 1 112</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>3 0 3 5 11</td>
<td>3 92 0 0 95</td>
<td>0 0 0 2 2</td>
<td>0 104 2 5 111</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>6 1 4 0 11</td>
<td>0 116 0 0 116</td>
<td>0 1 0 1 2</td>
<td>0 119 4 1 124</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>3 0 4 0 7</td>
<td>3 112 0 2 117</td>
<td>0 0 0 1 1</td>
<td>0 91 1 0 92</td>
</tr>
<tr>
<td>Total</td>
<td>15 1 13 8 37</td>
<td>7 425 3 2 437</td>
<td>3 1 0 5 9</td>
<td>0 422 10 7 439</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>6 0</td>
<td>5 3 14</td>
<td>2 148</td>
<td>0 0 150</td>
<td>0 0 0 1 1</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>2 0</td>
<td>1 2 5</td>
<td>3 155</td>
<td>0 0 158</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>3 0</td>
<td>2 2 7</td>
<td>4 118</td>
<td>0 0 122</td>
<td>1 0 0 1 2</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>1 0</td>
<td>2 0 3</td>
<td>2 97</td>
<td>0 0 99</td>
<td>0 0 0 1 1</td>
</tr>
<tr>
<td>Total</td>
<td>12 0</td>
<td>10 7 29</td>
<td>11 518</td>
<td>0 0 529</td>
<td>1 0 0 3 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grand Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 1 23 6 57</td>
<td>18 943</td>
<td>3 2 966</td>
<td>4 1 8 13</td>
<td>0 853 18 7 878</td>
<td></td>
</tr>
<tr>
<td>Total %</td>
<td>1.4 0.1 1.2 0.8 3.4</td>
<td>0.9 49 0.2 0.1 50.2</td>
<td>0.2 0.1 0.4 0.7</td>
<td>0.4 44.4 0.9 0.4 45.7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 100 100 40 86.4</td>
<td>100 100 100 99.9</td>
</tr>
<tr>
<td>27 1 23 6 57</td>
<td>18 943 3 2 965</td>
</tr>
<tr>
<td>% General Traffic/Peds</td>
<td>% General Traffic/Peds</td>
</tr>
<tr>
<td>0.1</td>
<td>0 1 0 0 1</td>
</tr>
<tr>
<td>25 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
</tbody>
</table>

| % Bikes | 0 0 0 60 13.6 | 0 0 0 0 0 | 0 0 0 37.5 23.1 | 0 0 0 0 0 |

<table>
<thead>
<tr>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0 9 9</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
</tbody>
</table>

---

**Total %**

- General Traffic/Peds: 1.4 0.1 1.2 0.8 3.4
- 3+ Axle Heavy Trucks: 0.1
- Bikes: 0.6
Study: KITT0108
Intersection: Beacon St / Denver Avenue
City, State: Boise, Idaho
Control: Stop Sign

Peak Hour Data
- Peak Hour Begins at 04:30 PM
- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
- Peak Hour for Entire Intersection Begins at 04:30 PM
- Total Volume
- % App. Total
- PHF
- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: KITT0108  
Intersection: Beacon St / Denver Avenue  
City, State: Boise, Idaho  
Control: Stop Sign

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

#### Peak Hour for Each Approach Begins at:

- **04:00 PM**
  - Right: 8
  - Thru: 0
  - Left: 7
  - Peds: 0

#### Peak Hour Data

### General Traffic/Peds

- % General Traffic/Peds: 100 100 100 25 86

### 3+ Axle Heavy Trucks

- % 3+ Axle Heavy Trucks: 0 0 0 0 0

### Bikes

- % Bikes: 0 0 0 75 14

### PHF

- General Traffic/Peds: 0.750 0.250 0.800 0.400 0.866
- 3+ Axle Heavy Trucks: 0.250 0.866
- Bikes: 0.000 0.250

### Total Volume

- In - Peak Hour: 04:15 PM
  - Total Volume: 18 1 16 8 43

- In - Peak Hour: 04:45 PM
  - Total Volume: 547

- In - Peak Hour: 04:00 PM
  - Total Volume: 439

### Start Time Breakdown

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Denver Avenue From North</th>
<th>Beacon Street From East</th>
<th>Business Access From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:15 PM</td>
<td>3 0 3 5 11</td>
<td>3 112 0 2 117</td>
<td>3 0 0 1 4</td>
<td>0 108 3 1 112</td>
</tr>
<tr>
<td>+0 mins.</td>
<td>3 0 3 5 11</td>
<td>3 112 0 2 117</td>
<td>3 0 0 1 4</td>
<td>0 108 3 1 112</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>6 1 4 0 11</td>
<td>2 148 0 0 150</td>
<td>0 0 0 2 2</td>
<td>0 104 2 5 111</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>3 0 4 0 7</td>
<td>3 155 0 0 158</td>
<td>0 1 0 1 2</td>
<td>0 119 4 1 124</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>6 0 5 3 14</td>
<td>4 118 0 0 122</td>
<td>0 0 0 1 1</td>
<td>0 91 1 0 92</td>
</tr>
</tbody>
</table>

### Interval Total

- PHF: 0.750 0.250 0.800 0.400 0.866
Study: KITT0108  
Intersection: Beacon St / Euclid Ave  
City, State: Boise, Idaho  
Control: Stop Sign

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>99</td>
<td>1</td>
<td>3</td>
<td>106</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>97</td>
<td>7</td>
<td>1</td>
<td>109</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>8</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>14</td>
<td>3</td>
<td>99</td>
<td>1</td>
<td>2</td>
<td>105</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>96</td>
<td>4</td>
<td>0</td>
<td>102</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>117</td>
<td>1</td>
<td>0</td>
<td>120</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>2</td>
<td>108</td>
<td>4</td>
<td>0</td>
<td>114</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>110</td>
<td>2</td>
<td>3</td>
<td>117</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>79</td>
<td>5</td>
<td>1</td>
<td>86</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>45</td>
<td>10</td>
<td>425</td>
<td>5</td>
<td>8</td>
<td>448</td>
<td>11</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>25</td>
<td>9</td>
<td>380</td>
<td>20</td>
<td>2</td>
<td>411</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>154</td>
<td>3</td>
<td>2</td>
<td>160</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>85</td>
<td>2</td>
<td>3</td>
<td>92</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>153</td>
<td>1</td>
<td>1</td>
<td>156</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>101</td>
<td>3</td>
<td>4</td>
<td>110</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>123</td>
<td>7</td>
<td>0</td>
<td>131</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>113</td>
<td>0</td>
<td>1</td>
<td>119</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>95</td>
<td>1</td>
<td>3</td>
<td>101</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>106</td>
<td>7</td>
<td>2</td>
<td>116</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>34</td>
<td>5</td>
<td>525</td>
<td>12</td>
<td>6</td>
<td>548</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td>2</td>
<td>22</td>
<td>10</td>
<td>405</td>
<td>12</td>
<td>10</td>
<td>437</td>
</tr>
</tbody>
</table>

Grand Total | 51  | 5  | 14  | 9  | 79  | 15  | 950  | 17  | 14  | 996  | 19  | 5  | 18  | 5  | 47  | 19  | 785  | 32  | 12  | 848  | 197  |

Approach % | 64.6  | 6.3  | 17.7  | 11.4  | 1.5  | 95.4  | 1.7  | 1.4  | 40.4  | 10.6  | 38.3  | 10.6  | 2.2  | 92.6  | 3.8  | 1.4  | 197  |

Total % | 2.6  | 0.3  | 0.7  | 0.5  | 4  | 0.8  | 48.2  | 0.9  | 0.7  | 50.6  | 1  | 0.3  | 0.9  | 0.3  | 2.4  | 1  | 39.8  | 1.6  | 0.6  | 43  |

General Traffic/Peds | 51  | 5  | 14  | 9  | 79  | 15  | 950  | 17  | 14  | 996  | 19  | 5  | 18  | 5  | 47  | 19  | 785  | 32  | 12  | 848  | 197  |

% General Traffic/Peds | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |

3+ Axle Heavy Trucks | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

% 3+ Axle Heavy Trucks | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

Bikes | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

% Bikes | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
Study: KITT0108
Intersection: Beacon St / Euclid Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Beacon Street & Euclid Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 2

Control: Stop Sign

North
4/18/2018 04:00 PM
4/18/2018 05:45 PM
General Traffic/Peds
3+ Axle Heavy Trucks
Bikes

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993
Study: KITT0108  
Intersection: Beacon St / Euclid Ave  
City, State: Boise, Idaho  
Control: Stop Sign

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. To</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>54</td>
<td>3</td>
<td>2</td>
<td>160</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>85</td>
<td>2</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>153</td>
<td>1</td>
<td>1</td>
<td>156</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>101</td>
<td>3</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>123</td>
<td>7</td>
<td>0</td>
<td>131</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>113</td>
<td>1</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>95</td>
<td>1</td>
<td>3</td>
<td>101</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>101</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Volume</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. To</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>34</td>
<td>5</td>
<td>525</td>
<td>12</td>
<td>6</td>
<td>548</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td>2</td>
<td>22</td>
<td>104</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. To</th>
</tr>
</thead>
<tbody>
<tr>
<td>61.8%</td>
<td>0.9</td>
<td>95.8</td>
<td>2.2</td>
<td>11.1</td>
<td>36.4</td>
<td>9.1</td>
<td>45.5</td>
<td>9.1</td>
<td>2.3</td>
<td>92.7</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
<td>2.3</td>
<td>918</td>
<td>9</td>
</tr>
</tbody>
</table>

### General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

### Peak Hour Data
- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

---

**L2 Data Collection**  
L2DataCollection.com  
Idaho (208) 860-7554 Utah (801) 431-2993
**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

Peak Hour for Each Approach Begins at:

<table>
<thead>
<tr>
<th>+0 mins.</th>
<th>+15 mins.</th>
<th>+30 mins.</th>
<th>+45 mins.</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:15 PM</td>
<td>04:30 PM</td>
<td>04:45 PM</td>
<td>05:00 PM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Euclid Avenue From North</th>
<th>Beacon Street From East</th>
<th>Euclid Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total Volume</td>
<td>32</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>% App. Total</td>
<td>68.1</td>
<td>4.3</td>
<td>17.1</td>
</tr>
</tbody>
</table>

**PHF**

<table>
<thead>
<tr>
<th>North</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Peak Hour Data**

- **Euclid Avenue**
  - In - Peak Hour: 04:15 PM
  - Right: 8
  - Thru: 2
  - Left: 1
  - Peds: 5

- **Beacon Street**
  - In - Peak Hour: 04:30 PM
  - Right: 12
  - Thru: 3
  - Left: 8
  - Peds: 3

- **Euclid Avenue**
  - In - Peak Hour: 04:45 PM
  - Right: 10
  - Thru: 3
  - Left: 11
  - Peds: 3

- **Beacon Street**
  - In - Peak Hour: 05:00 PM
  - Right: 10
  - Thru: 2
  - Left: 3
  - Peds: 25

- **General Traffic/Peds**
  - 3+ Axle Heavy Trucks
  - Bikes

- **phf**
  - 0.889

- **Legend**
  - Right
  - Thru
  - Left
  - Peds

- **Graphs**
  - Peak Hour Analysis Diagram
  - Time Trends

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
Study: KITT0108
Intersection: Beacon St / Euclid Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Beacon Street & Euclid Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 5

Image 1
### Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Lincoln Avenue From North</th>
<th>Beacon Street From East</th>
<th>Lincoln Avenue From South</th>
<th>Beacon Street From West</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>30 9 23 4 66</td>
<td>15 102 3 7 127</td>
<td>1 7 1 0 9</td>
<td>0 71 16 0 87</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td>35 14 24 8 81</td>
<td>24 105 2 8 139</td>
<td>0 11 0 2 13</td>
<td>2 73 23 4 102</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:30 PM</td>
<td>29 4 24 2 59</td>
<td>17 123 0 5 145</td>
<td>1 7 2 0 10</td>
<td>1 77 21 3 102</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td>32 9 23 3 67</td>
<td>14 102 3 6 125</td>
<td>4 6 1 0 11</td>
<td>0 49 11 2 62</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>126 36 94 17 273</td>
<td>70 432 8 26 536</td>
<td>6 31 4 2 43</td>
<td>3 270 71 9 353</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td>30 7 25 4 66</td>
<td>16 149 5 3 173</td>
<td>0 3 0 0 3</td>
<td>0 61 17 5 83</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:15 PM</td>
<td>27 8 16 10 61</td>
<td>40 143 2 7 192</td>
<td>0 5 0 1 6</td>
<td>1 78 15 1 95</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:30 PM</td>
<td>19 12 24 5 60</td>
<td>34 103 3 6 146</td>
<td>0 10 1 1 12</td>
<td>2 93 21 7 123</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:45 PM</td>
<td>28 9 17 3 57</td>
<td>26 92 1 8 127</td>
<td>3 12 0 3 18</td>
<td>0 82 18 2 102</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104 36 82 22 244</td>
<td>116 487 11 24 638</td>
<td>3 30 1 5 39</td>
<td>3 314 71 15 403</td>
<td>132</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>230 72 176 39 517</td>
<td>186 919 19 50 1174</td>
<td>9 61 5 7 82</td>
<td>6 584 142 24 756</td>
<td>252</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total %</strong></td>
<td>44.5 13.9 34 7.5</td>
<td>15.8 78.3 1.6 4.3</td>
<td>11 74.4 6.1 8.5</td>
<td>0.8 77.2 18.8 3.2</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>% General Traffic/Peds</strong></td>
<td>100 100 100 100 100 100</td>
<td>100 100 100 100 100 100</td>
<td>100 100 100 100 100 100</td>
<td>100 100 100 100 100 100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>% 3+ Axle Heavy Trucks</strong></td>
<td>0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>% Bikes</strong></td>
<td>0 0 0 53.8 4.1</td>
<td>0.5 0 0 32 1.4</td>
<td>0 0 0 85.7 7.3</td>
<td>0 0 0 50 1.6</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Study:** KITT0108  
**Intersection:** Beacon St / Lincoln Avenue  
**City, State:** Boise, Idaho  
**Control:** Signalized  
**File Name:** Beacon Street & Lincoln Avenue  
**Site Code:** 00000000  
**Start Date:** 4/18/2018  
**Page No:** 1
### Study Data

**Study:** KITT0108  
**Intersection:** Beacon St / Lincoln Avenue  
**City, State:** Boise, Idaho  
**Control:** Signalized

### Traffic Counts

#### Beacon Street

<table>
<thead>
<tr>
<th>Direction</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>176</td>
<td>0</td>
<td>176</td>
</tr>
<tr>
<td>Thru</td>
<td>72</td>
<td>0</td>
<td>72</td>
</tr>
<tr>
<td>Left</td>
<td>389</td>
<td>0</td>
<td>389</td>
</tr>
<tr>
<td>Peds</td>
<td>18</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>388</strong></td>
<td><strong>496</strong></td>
<td><strong>884</strong></td>
</tr>
</tbody>
</table>

#### Lincoln Avenue

<table>
<thead>
<tr>
<th>Direction</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>185</td>
<td>0</td>
<td>185</td>
</tr>
<tr>
<td>Thru</td>
<td>919</td>
<td>0</td>
<td>919</td>
</tr>
<tr>
<td>Left</td>
<td>19</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Peds</td>
<td>34</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>769</strong></td>
<td><strong>1157</strong></td>
<td><strong>1926</strong></td>
</tr>
</tbody>
</table>

#### North

<table>
<thead>
<tr>
<th>Direction</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Thru</td>
<td>61</td>
<td>0</td>
<td>61</td>
</tr>
<tr>
<td>Left</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Peds</td>
<td>12</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97</strong></td>
<td><strong>76</strong></td>
<td><strong>173</strong></td>
</tr>
</tbody>
</table>

### Time Periods

- **4/18/2018 04:00 PM**
- **4/18/2018 05:45 PM**

### General Traffic/Peds

- 3+ Axle Heavy Trucks
- Bikes

---

**Attachment:** PZ_Project_Report_January_6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

**Peak Hour for Entire Intersection Begins at 05:00 PM**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>30</td>
<td>7</td>
<td>25</td>
<td>4</td>
<td>66</td>
<td>16</td>
<td>149</td>
<td>5</td>
<td>3</td>
<td>173</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>61</td>
<td>17</td>
<td>5</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:15 PM</td>
<td>27</td>
<td>8</td>
<td>16</td>
<td>10</td>
<td>61</td>
<td>40</td>
<td>143</td>
<td>2</td>
<td>7</td>
<td>192</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>78</td>
<td>15</td>
<td>1</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:30 PM</td>
<td>19</td>
<td>12</td>
<td>24</td>
<td>5</td>
<td>60</td>
<td>34</td>
<td>103</td>
<td>3</td>
<td>6</td>
<td>146</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>93</td>
<td>21</td>
<td>7</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:45 PM</td>
<td>28</td>
<td>9</td>
<td>17</td>
<td>3</td>
<td>57</td>
<td>26</td>
<td>92</td>
<td>1</td>
<td>8</td>
<td>127</td>
<td>3</td>
<td>12</td>
<td>0</td>
<td>3</td>
<td>18</td>
<td>0</td>
<td>82</td>
<td>18</td>
<td>2</td>
<td>102</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Total Volume:**
  - Lincoln Avenue: 104, 36, 82, 22, 244
  - Beacon Street: 116, 487, 11, 24, 638

- **% App. Total:**
  - Lincoln Avenue: 42.6, 14.8, 33.6, 22
  - Beacon Street: 18.2, 76.3, 1.7, 11

- **PHF:**
  - Lincoln Avenue: 0.867, 0.750, 0.820, 0.550, 0.924
  - Beacon Street: 0.725, 0.817, 0.550, 0.831

- **General Traffic/Peds:**
  - North: 100, 100, 100, 54.5, 95.9
  - East: 99.1, 100, 100, 70.8, 98.7
  - South: 100, 100, 100, 20.0, 89.7
  - West: 100, 100, 100, 46.7, 98.0

- **% General Traffic/Peds:**
  - North: 97.7
  - East: 99.1
  - South: 100
  - West: 100

- **% 3+ Axle Heavy Trucks:**
  - North: 0, 0, 0, 0, 0
  - East: 0, 0, 0, 0, 0
  - South: 0, 0, 0, 0, 0
  - West: 0, 0, 0, 0, 0

- **% Bikes:**
  - North: 0, 0, 0, 45.5, 4.1
  - East: 0, 0, 0, 45.5, 4.1
  - South: 0, 0, 0, 45.5, 4.1
  - West: 0, 0, 0, 45.5, 4.1

---

**Lincoln Avenue**

- **In:** 216, 30, 31
- **Out:** 217, 36, 82
- **Total:** 450
- **Right:** 104
- **Thru:** 104
- **Left:** 104
- **Ped:** 3

**Beacon Street**

- **In:** 334, 57, 58
- **Out:** 538, 96, 95
- **Total:** 893
- **Right:** 73
- **Thru:** 73
- **Left:** 73
- **Ped:** 3

**Peak Hour Begins at 05:00 PM**

**General Traffic/Peds**

**3+ Axle Heavy Trucks**

**Bikes**

**Peak Hour Data**

---

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

<table>
<thead>
<tr>
<th></th>
<th>04:00 PM</th>
<th>04:15 PM</th>
<th>04:30 PM</th>
<th>04:45 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lincoln Avenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>From North</strong></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>9</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td><strong>From East</strong></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>149</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td><strong>From South</strong></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>103</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>From West</strong></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>92</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

Total Volume
- **Lincoln Avenue**
  - From North: 126
  - From East: 40
  - From South: 34
  - From West: 26

Total Volume
- **Beacon Street**
  - From North: 38
  - From East: 71
  - From South: 120
  - From West: 70

### General Traffic/Peds
- **Lincoln Avenue**
  - Total: 35.3
  - From North: 100
  - From East: 100
  - From South: 100
  - From West: 100

### 3+ Axle Heavy Trucks
- **Lincoln Avenue**
  - Total: 0
  - From North: 0
  - From East: 0
  - From South: 0
  - From West: 0

### Bikes
- **Lincoln Avenue**
  - Total: 64.7
  - From North: 0
  - From East: 0
  - From South: 0
  - From West: 0

### Peak Hour Data

#### Lincoln Avenue
- In - Peak Hour: 04:00 PM
  - Right: 262
  - Thru: 0
  - Left: 41

#### Beacon Street
- In - Peak Hour: 04:00 PM
  - Right: 7
  - Thru: 3
  - Left: 2

#### General Traffic/Peds
- **Lincoln Avenue**
  - Total: 126
  - From North: 262
  - From East: 0
  - From South: 120

###Peak Hour Data

#### Lincoln Avenue
- In - Peak Hour: 04:00 PM
  - Right: 262
  - Thru: 0
  - Left: 41

#### Beacon Street
- In - Peak Hour: 04:00 PM
  - Right: 7
  - Thru: 3
  - Left: 2

#### General Traffic/Peds
- **Lincoln Avenue**
  - Total: 126
  - From North: 262
  - From East: 0
  - From South: 120

###Peak Hour Data

#### Lincoln Avenue
- In - Peak Hour: 04:00 PM
  - Right: 262
  - Thru: 0
  - Left: 41

#### Beacon Street
- In - Peak Hour: 04:00 PM
  - Right: 7
  - Thru: 3
  - Left: 2

#### General Traffic/Peds
- **Lincoln Avenue**
  - Total: 126
  - From North: 262
  - From East: 0
  - From South: 120
## Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Manitou Avenue From North</th>
<th>Beacon Street From East</th>
<th>Manitou Avenue From South</th>
<th>Beacon Street From West</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>Right 3 1 Thru 3 2 Left 2 9 Peds 9 App. Total 113</td>
<td>Right 2 2 Thru 0 Left 0 Peds 4 App. Total 4</td>
<td>Right 0 107 Thru 0 Left 6 Peds 113 App. Total 4</td>
<td>Right 100 Thru 2 Left 2 Peds 104 App. Total 23</td>
<td>23</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>Right 5 3 Thru 3 7 Left 1 18 Peds 18 App. Total 109</td>
<td>Right 2 2 Thru 2 Left 1 Peds 7 App. Total 7</td>
<td>Right 2 98 Thru 3 Left 6 Peds 109 App. Total 7</td>
<td>Right 96 Thru 8 Left 3 Peds 111 App. Total 24</td>
<td>24</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>Right 4 0 Thru 4 2 Left 10 Peds 10 App. Total 132</td>
<td>Right 1 0 Thru 1 Left 1 Peds 3 App. Total 3</td>
<td>Right 3 123 Thru 2 Left 4 Peds 132 App. Total 3</td>
<td>Right 106 Thru 1 Left 2 Peds 111 App. Total 25</td>
<td>25</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>Right 2 0 Thru 1 Left 5 Peds 8 App. Total 124</td>
<td>Right 3 0 Thru 4 Left 1 Peds 8 App. Total 8</td>
<td>Right 3 119 Thru 1 Left 1 Peds 124 App. Total 8</td>
<td>Right 81 Thru 1 Left 0 Peds 83 App. Total 22</td>
<td>22</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>Right 6 1 Thru 1 Left 5 Peds 13 App. Total 167</td>
<td>Right 0 2 Thru 0 Left 0 Peds 2 App. Total 2</td>
<td>Right 0 167 Thru 0 Left 0 Peds 167 App. Total 167</td>
<td>Right 91 Thru 3 Left 0 Peds 96 App. Total 96</td>
<td>96</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>Right 5 0 Thru 1 Left 3 Peds 9 App. Total 153</td>
<td>Right 2 1 Thru 2 Left 1 Peds 6 App. Total 6</td>
<td>Right 1 151 Thru 0 Left 1 Peds 153 App. Total 153</td>
<td>Right 107 Thru 1 Left 3 Peds 113 App. Total 113</td>
<td>113</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>Right 6 3 Thru 0 Left 3 Peds 12 App. Total 132</td>
<td>Right 4 2 Thru 3 Left 0 Peds 9 App. Total 9</td>
<td>Right 2 126 Thru 2 Left 2 Peds 132 App. Total 132</td>
<td>Right 114 Thru 5 Left 3 Peds 128 App. Total 128</td>
<td>128</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>Right 6 2 Thru 8 Left 3 Peds 19 App. Total 111</td>
<td>Right 2 0 Thru 1 Left 4 Peds 7 App. Total 7</td>
<td>Right 0 106 Thru 2 Left 3 Peds 111 App. Total 111</td>
<td>Right 104 Thru 3 Left 6 Peds 115 App. Total 115</td>
<td>115</td>
</tr>
<tr>
<td>Apprch %</td>
<td>37.8 10.2 21.4 30.6</td>
<td>34.8 19.6 28.3 17.4</td>
<td>37.8 10.2 21.4 30.6</td>
<td>37.8 10.2 21.4 30.6</td>
<td></td>
</tr>
<tr>
<td>Total %</td>
<td>1.8 0.5 1.5 4.8</td>
<td>0.8 0.4 0.6 0.4</td>
<td>1.8 0.5 1.5 4.8</td>
<td>1.8 0.5 1.5 4.8</td>
<td></td>
</tr>
</tbody>
</table>

### General Traffic/Peds
- **Total**: 37 10 21 18 86
- **Apprch %**: 37.8 10.2 21.4 30.6
- **Total %**: 1.8 0.5 1.5 4.8

### 3+ Axle Heavy Trucks
- **Total**: 0 0 0 0 0
- **Apprch %**: 0 0 0 0 0
- **Total %**: 0 0 0 0 0

### Bikes
- **Total**: 0 0 0 12 12
- **Apprch %**: 0 0 0 40 12.2
- **Total %**: 0 0 0 40 12.2

---

## Beacon Street & Manitou Avenue PM

### Site Code
- Site Code: 00000000

### Start Date
- Start Date: 4/18/2018

### Control
- Control: Stop Sign

### Study
- Study: KITT0108

### Intersection
- Intersection: Beacon St / Manitou Ave

### City, State
- City, State: Boise, Idaho

### General Traffic/Peds
- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

### Traffic Counts

#### Beacon Street

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44</td>
<td>86</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>98</td>
<td>142</td>
</tr>
</tbody>
</table>

#### Manitou Avenue

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>37</td>
<td>10</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>21</td>
<td>58</td>
</tr>
</tbody>
</table>

#### Manitou Avenue

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39</td>
<td>42</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>46</td>
<td>85</td>
</tr>
</tbody>
</table>

### Time Periods
- 4/18/2018 04:00 PM
- 4/18/2018 05:45 PM

### L2 Data Collection
- L2DataCollection.com
- Idaho (208) 860-7554
- Utah (801) 431-2993

### Attachment
**Study: KITT0108**  
**Intersection: Beacon St / Manitou Ave**  
**City, State: Boise, Idaho**  
**Control: Stop Sign**  

**File Name:** Beacon Street & Manitou Avenue  
**Site Code:** 00000000  
**Start Date:** 4/18/2018  
**Page No:** 3

- **Manitou Avenue from North:**
  - Right: 6
  - Thru: 1
  - Left: 5
  - Peds: 13
  - Total: 167

- **Beacon Street from East:**
  - Right: 2
  - Thru: 2
  - Left: 1
  - Peds: 0
  - Total: 5

- **Manitou Avenue from South:**
  - Right: 3
  - Thru: 2
  - Left: 3
  - Peds: 12
  - Total: 111

- **Beacon Street from West:**
  - Right: 6
  - Thru: 9
  - Left: 1
  - Peds: 0
  - Total: 6

---

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

- **Peak Hour Begins at 05:00 PM**

#### General Traffic/Peds
- General Traffic/Peds
- Total Volume: 23
- % App. Total: 43.4

#### 3+ Axle Heavy Trucks
- 3+ Axle Heavy Trucks
- Total Volume: 6
- % App. Total: 11.3

#### Bikes
- Bikes
- Total Volume: 2
- % App. Total: 18.9

---

**Peak Hour Data**

- **Manitou Avenue**
  - Out: 20
  - In: 48
  - Total: 68

- **Beacon Street**
  - Out: 57
  - In: 63
  - Total: 120

---

**Note:**
- Data collection equipment: L2 Data Collection
- Equipment: L2DataCollection.com
- Idaho (208) 860-7554    Utah (801) 431-2993

---

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001  (CPA19-00001 / Boise State University)
<table>
<thead>
<tr>
<th>Start Time</th>
<th>Manitou Avenue From North</th>
<th>Beacon Street From East</th>
<th>Manitou Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Thru Left Peds</td>
<td>Right Thru Left Peds</td>
<td>Right Thru Left Peds</td>
<td>Right Thru Left Peds</td>
<td></td>
</tr>
<tr>
<td>04:00 PM</td>
<td>6 1 1 5 13</td>
<td>3 123 2 4 132</td>
<td>3 0 4 8</td>
<td>82 91 3 0 96</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>5 0 1 3 9</td>
<td>3 119 1 1 124</td>
<td>0 2 0 0</td>
<td>2 2 107 1 3 113</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>6 3 0 3 12</td>
<td>0 167 0 0 167</td>
<td>2 1 2 1 6</td>
<td>6 114 5 3 128</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>6 2 8 3 19</td>
<td>1 151 0 1 153</td>
<td>4 2 3 0 9</td>
<td>2 104 3 6 115</td>
</tr>
<tr>
<td>Total Volume</td>
<td>23 6 10 14 53</td>
<td>7 560 3 6 576</td>
<td>9 5 9 2 25</td>
<td>12 416 12 12 452</td>
</tr>
<tr>
<td>% App. Total</td>
<td>43.4 11.3 18.9 26.4</td>
<td>1.2 97.2 0.5 1</td>
<td>36 20 36 8</td>
<td>2.7 92 2.7 2</td>
</tr>
<tr>
<td>PHF</td>
<td>0.958 0.500 0.313 0.700</td>
<td>0.697 0.583 0.375 0.375</td>
<td>0.862 0.563 0.625 0.563</td>
<td>0.694 0.500 0.912 0.600 0.500 0.883</td>
</tr>
</tbody>
</table>

**Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1**

Peak Hour for Each Approach Begins at:

- **04:00 PM:**
  - Manitou Avenue From North (Right Thru Left Peds) 6 1 1 5 13
  - Beacon Street From East (Right Thru Left Peds) 3 123 2 4 132
  - Manitou Avenue From South (Right Thru Left Peds) 3 0 4 8
  - Beacon Street From West (Right Thru Left Peds) 82 91 3 0 96

- **04:15 PM:**
  - Manitou Avenue From North (Right Thru Left Peds) 5 0 1 3 9
  - Beacon Street From East (Right Thru Left Peds) 3 119 1 1 124
  - Manitou Avenue From South (Right Thru Left Peds) 0 2 0 0
  - Beacon Street From West (Right Thru Left Peds) 2 2 107 1 3 113

- **04:30 PM:**
  - Manitou Avenue From North (Right Thru Left Peds) 6 3 0 3 12
  - Beacon Street From East (Right Thru Left Peds) 0 167 0 0 167
  - Manitou Avenue From South (Right Thru Left Peds) 2 1 2 1 6
  - Beacon Street From West (Right Thru Left Peds) 6 114 5 3 128

- **04:45 PM:**
  - Manitou Avenue From North (Right Thru Left Peds) 6 2 8 3 19
  - Beacon Street From East (Right Thru Left Peds) 1 151 0 1 153
  - Manitou Avenue From South (Right Thru Left Peds) 4 2 3 0 9
  - Beacon Street From West (Right Thru Left Peds) 2 104 3 6 115

**Total Volume:**
- Manitou Avenue From North: 23 6 10 14 53
- Beacon Street From East: 7 560 3 6 576
- Manitou Avenue From South: 9 5 9 2 25
- Beacon Street From West: 12 416 12 12 452

**% App. Total:**
- Manitou Avenue From North: 43.4%
- Beacon Street From East: 11.3%
- Manitou Avenue From South: 18.9%
- Beacon Street From West: 26.4%

**PHF:**
- Manitou Avenue From North: 0.958
- Beacon Street From East: 0.500
- Manitou Avenue From South: 0.313
- Beacon Street From West: 0.700

**General Traffic/Peds:**
- Manitou Avenue From North: 100%
- Beacon Street From East: 100%
- Manitou Avenue From South: 100%
- Beacon Street From West: 100%

**3+ Axle Heavy Trucks:**
- Manitou Avenue From North: 0%
- Beacon Street From East: 0%
- Manitou Avenue From South: 0%
- Beacon Street From West: 0%

**Bikes:**
- Manitou Avenue From North: 0%
- Beacon Street From East: 0%
- Manitou Avenue From South: 0%
- Beacon Street From West: 0%

**% Bikes:**
- Manitou Avenue From North: 35.7%
- Beacon Street From East: 9.4%
- Manitou Avenue From South: 50%
- Beacon Street From West: 75%

**In - Peak Hour:**
- Manitou Avenue From North (Right Thru Left Peds) 6 1 1 5 13
- Beacon Street From East (Right Thru Left Peds) 3 123 2 4 132
- Manitou Avenue From South (Right Thru Left Peds) 3 0 4 8
- Beacon Street From West (Right Thru Left Peds) 82 91 3 0 96

- Manitou Avenue From North (Right Thru Left Peds) 5 0 1 3 9
- Beacon Street From East (Right Thru Left Peds) 3 119 1 1 124
- Manitou Avenue From South (Right Thru Left Peds) 0 2 0 0
- Beacon Street From West (Right Thru Left Peds) 2 2 107 1 3 113

- Manitou Avenue From North (Right Thru Left Peds) 6 3 0 3 12
- Beacon Street From East (Right Thru Left Peds) 0 167 0 0 167
- Manitou Avenue From South (Right Thru Left Peds) 2 1 2 1 6
- Beacon Street From West (Right Thru Left Peds) 6 114 5 3 128

- Manitou Avenue From North (Right Thru Left Peds) 6 2 8 3 19
- Beacon Street From East (Right Thru Left Peds) 1 151 0 1 153
- Manitou Avenue From South (Right Thru Left Peds) 4 2 3 0 9
- Beacon Street From West (Right Thru Left Peds) 2 104 3 6 115

**Overall Total:**
- Manitou Avenue From North: 23 6 10 14 53
- Beacon Street From East: 7 560 3 6 576
- Manitou Avenue From South: 9 5 9 2 25
- Beacon Street From West: 12 416 12 12 452

**% General Traffic/Peds:**
- Manitou Avenue From North: 100%
- Beacon Street From East: 100%
- Manitou Avenue From South: 100%
- Beacon Street From West: 100%

**% 3+ Axle Heavy Trucks:**
- Manitou Avenue From North: 0%
- Beacon Street From East: 0%
- Manitou Avenue From South: 0%
- Beacon Street From West: 0%

**% Bikes:**
- Manitou Avenue From North: 35.7%
- Beacon Street From East: 9.4%
- Manitou Avenue From South: 50%
- Beacon Street From West: 75%
<table>
<thead>
<tr>
<th>Start Time</th>
<th>Michigan Avenue From North</th>
<th>Beacon Street From East</th>
<th>Michigan Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>9</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>18</td>
<td>0</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9</td>
<td>1</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>2</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>17</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>10</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>3</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Grand Total</td>
<td>81</td>
<td>5</td>
<td>37</td>
<td>18</td>
</tr>
<tr>
<td>Apprch %</td>
<td>57.4</td>
<td>3.5</td>
<td>26.2</td>
<td>12.8</td>
</tr>
<tr>
<td>Total %</td>
<td>3.9</td>
<td>0.2</td>
<td>1.8</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Groups Printed: General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

- **General Traffic/Peds**: 81% from north, 57.4% from east, 100% from south, 100% from west.
- **3+ Axle Heavy Trucks**: 0% from north, 0% from east, 7% from south, 10% from west.
- **Bikes**: 0% from north, 0% from east, 0% from south, 0% from west.

**Apprch %**: 57.4% from north, 1.5% from east, 26.2% from south, 12.8% from west.

**Total %**: 3.9% from north, 0.3% from east, 1.8% from south, 0.9% from west.

**% General Traffic/Peds**: 100% from north, 100% from east, 100% from south, 100% from west.

**% 3+ Axle Heavy Trucks**: 0% from north, 0% from east, 38.9% from south, 20% from west.

**% Bikes**: 0% from north, 0% from east, 0% from south, 0% from west.
Study: KITT0108
Intersection: Beacon St / Michigan Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Beacon Street & Michigan Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 2

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Packet Pg. 498
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>17</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>23</td>
<td>6</td>
<td>163</td>
<td>2</td>
<td>4</td>
<td>175</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>84</td>
<td>1</td>
<td>1</td>
<td>87</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>18</td>
<td>3</td>
<td>170</td>
<td>1</td>
<td>2</td>
<td>176</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>93</td>
<td>4</td>
<td>3</td>
<td>101</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>10</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>15</td>
<td>2</td>
<td>135</td>
<td>1</td>
<td>2</td>
<td>140</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>112</td>
<td>6</td>
<td>3</td>
<td>121</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>4</td>
<td>14</td>
<td>5</td>
<td>110</td>
<td>1</td>
<td>0</td>
<td>116</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>98</td>
<td>3</td>
<td>6</td>
<td>108</td>
</tr>
</tbody>
</table>

**Total Volume**
- Michigan Avenue From North: 42
- Beacon Street From East: 14
- Michigan Avenue From South: 11
- Beacon Street From West: 70

**% App. Total**
- Michigan Avenue From North: 60
- Beacon Street From East: 4.3
- Michigan Avenue From South: 20
- Beacon Street From West: 15.7

**PHF**
- Michigan Avenue From North: 0.750
- Beacon Street From East: 0.700
- Michigan Avenue From South: 0.550
- Beacon Street From West: 0.761

**General Traffic/Peds**
- Michigan Avenue From North: 100
- Beacon Street From East: 100
- Michigan Avenue From South: 54.5
- Beacon Street From West: 92.9

**3+ Axle Heavy Trucks**
- Michigan Avenue From North: 0
- Beacon Street From East: 0
- Michigan Avenue From South: 0
- Beacon Street From West: 0

**Bikes**
- Michigan Avenue From North: 0
- Beacon Street From East: 0
- Michigan Avenue From South: 0
- Beacon Street From West: 0

---

**Michigan Avenue**

<table>
<thead>
<tr>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>65</td>
<td>98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>70</td>
<td>103</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Peak Hour Data**

- Michigan Avenue:
  - In: 33
  - Out: 0

- Beacon Street:
  - In: 621
  - Out: 11

---

**Michigan Avenue**

- In: 33
- Out: 0
- Total: 98

- Right: 33
- Thru: 65
- Left: 98
- Peds: 0

**Peak Hour Begins at 05:00 PM**

- General Traffic/Peds:
  - Michigan Avenue From North: 100
  - Beacon Street From East: 100

- 3+ Axle Heavy Trucks:
  - Michigan Avenue From North: 0
  - Beacon Street From East: 0

- Bikes:
  - Michigan Avenue From North: 0
  - Beacon Street From East: 0

---

**Michigan Avenue**

- In: 621
- Out: 11
- Total: 702

- Right: 42
- Thru: 14
- Left: 3
- Peds: 6
**Study:** KITT0108  
**Intersection:** Beacon St / Michigan Ave  
**City, State:** Boise, Idaho  
**Control:** Stop Sign

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

<table>
<thead>
<tr>
<th>Time</th>
<th>Michigan Avenue From North</th>
<th>Beacon Street From East</th>
<th>Michigan Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td>18 0 7 3 28</td>
<td>7 117 3 1 128</td>
<td>3 1 2 3 9</td>
<td>1 84 1 1 87</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9 1 8 2 20</td>
<td>6 163 2 4 175</td>
<td>1 1 0 1 3</td>
<td>1 93 4 3 101</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>3 1 5 1 10</td>
<td>3 170 1 2 176</td>
<td>2 1 1 0 4</td>
<td>0 112 6 3 121</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>17 1 3 2 23</td>
<td>2 135 1 2 140</td>
<td>2 0 1 0 3</td>
<td>1 98 3 6 108</td>
</tr>
</tbody>
</table>

**Peak Hour Data**

```
<table>
<thead>
<tr>
<th>Michigan Avenue From North</th>
<th>Beacon Street From East</th>
<th>Michigan Avenue From South</th>
<th>Beacon Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>3 3 1 6</td>
<td>3 3 1 6</td>
<td>3 3 1 6</td>
</tr>
</tbody>
</table>

---

**General Traffic/Peds**

- Total Volume: 473,750,719,667,723
- % App. Total: 58,3.7,28.4,9.9,2.9,94.5,1.1,1.5
- PHF: 0.653,0.750,0.719,0.667,0.723

---

**% General Traffic/Peds**

- 100 100 100 62.5 96.3
- 100 100 100 33.3 99
- 100 100 100 25 84.2
- 100 100 100 53.8 98.6

---

**% 3+ Axle Heavy Trucks**

- 0 0 0 37.5 3.7
- 0 0 0 66.7 1
- 0 0 0 75 15.8
- 0 0 0 46.2 1.4

---

**% Bikes**

- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0

---

**3+ Axle Heavy Trucks**

- 0 0 0 3 3
- 0 0 0 6 6
- 0 0 0 3 3
- 0 0 0 6 6

---

**Bikes**

- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0

---

**% Bikes**

- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0
- 0 0 0 0 0

---

**PHF**

- 0.653,0.750,0.719,0.667,0.723
- 0.500,0.333,0.528,0.750,0.864
### Study: KITT0108
Intersection: Belmont St / Broadway Ave
City, State: Boise, Idaho
Control: Stop Sign

**Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway Avenue From North</th>
<th>Belmont Street From East</th>
<th>Broadway Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>6</td>
<td>331</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>4</td>
<td>299</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>7</td>
<td>328</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>5</td>
<td>318</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>1276</td>
<td>29</td>
<td>1</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>5</td>
<td>375</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>7</td>
<td>358</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>10</td>
<td>294</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>6</td>
<td>311</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>1338</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>Grand Total</td>
<td>50</td>
<td>2614</td>
<td>66</td>
<td>2</td>
</tr>
<tr>
<td>Apprch %</td>
<td>1.8</td>
<td>95.7</td>
<td>2.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Total %</td>
<td>1.1</td>
<td>55</td>
<td>1.4</td>
<td>0</td>
</tr>
</tbody>
</table>

- **% General Traffic/Peds**
  - 100
  - Idaho: 99.9%
  - 3+ Axle Heavy Trucks
    - 0
  - % Bikes
    - 0

---

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Total Volume

<table>
<thead>
<tr>
<th>Time</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>28</td>
<td>1338</td>
<td>1404</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>32</td>
<td>1338</td>
<td>1404</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>32</td>
<td>1338</td>
<td>1404</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>924</td>
<td>1338</td>
<td>2328</td>
</tr>
</tbody>
</table>

% General Traffic/Peds

- 100 99.9 100 100 99.9
- 100 100 100 100 100 99.9
- 100 100 100 100 100 99.9
- 100 100 100 100 100 99.9

% 3+ Axle Heavy Trucks

- 0 0.1 0 0.1 0 0.1
- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0

% Bikes

- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0

PHF

- 1336
- 2 2 2 2 2 2
- 2 2 2 2 2 2
- 2 2 2 2 2 2
- 2 2 2 2 2 2

General Traffic/Peds

- 100 99.9 100 100 99.9
- 100 100 100 100 100 99.9
- 100 100 100 100 100 99.9
- 100 100 100 100 100 99.9

3+ Axle Heavy Trucks

- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0

Bikes

- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0

% Bikes

- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0
- 0 0 0 0 0 0

Peak Hour Begins at 05:00 PM

General Traffic/Peds

- 3+ Axle Heavy Trucks
- Bikes

<table>
<thead>
<tr>
<th>Time</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>923</td>
<td>1402</td>
<td>2325</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>28</td>
<td>1338</td>
<td>1404</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Peak Hour Data

- North
- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes

<table>
<thead>
<tr>
<th>Time</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>15</td>
<td>888</td>
<td>251</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>15</td>
<td>888</td>
<td>251</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>15</td>
<td>888</td>
<td>251</td>
</tr>
</tbody>
</table>

L2 Data Collection

L2DataCollection.com

Idaho (208) 860-7554    Utah (801) 431-2993
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway Avenue From North</th>
<th>Belmont Street From East</th>
<th>Broadway Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td>1443</td>
<td>1</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>05:15 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:45 PM</td>
<td>1443</td>
<td>1</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Volume
- PHF: \(0.857\)
- General Traffic/Peds: 100%
- 3+ Axle Heavy Trucks: 0%
- Bikes: 0%

Peak Hour Data

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway Avenue From North</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:30 PM</td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td></td>
</tr>
<tr>
<td>05:15 PM</td>
<td></td>
</tr>
<tr>
<td>05:30 PM</td>
<td></td>
</tr>
<tr>
<td>05:45 PM</td>
<td></td>
</tr>
</tbody>
</table>
Study: KITT0108
Intersection: Belmont St / Broadway Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Belmont Street & Broadway Avenue
Site Code: 00000000
Start Date: 4/17/2018
Page No: 5

Image 1
### Groups Printed: General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5</td>
<td>17</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2</td>
<td>17</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

**Grand Total**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Approach %**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>9.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>45.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>6.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>38.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**General Traffic/Peds**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**3+ Axle Heavy Trucks**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Bikes**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Study: KITT0108
Intersection: Belmont St / Grant Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Belmont Street & Grant Avenue
Site Code: 00000000
Start Date: 4/17/2018
Page No: 2

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

#### Peak Hour for Entire Intersection Begins at 05:00 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:00 PM</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>12</td>
<td>6</td>
<td>5</td>
<td>24</td>
</tr>
</tbody>
</table>

**Total Volume**

| 05:00 PM | 2     | 17   | 4    | 12   | 35         |
|          | 6     | 28   | 11   | 10   | 55         |
|          | 6     | 7    | 5    | 13   | 31         |
|          | 2     | 34   | 10   | 13   | 59         |

**% App. Total**

| 05:00 PM | 5.7   | 48.6  | 11.4  | 34.3  |
|          | 10.9  | 50.9  | 20.0  | 18.2  |
|          | 19.4  | 22.6  | 16.1  | 41.9  |
|          | 3.4   | 57.6  | 16.9  | 20.0  |

**General Traffic/Peds**

| 05:00 PM | 100   | 100   | 100   | 100   |
|          | 100   | 100   | 70.0  | 94.5  |
|          | 100   | 100   | 69.2  | 87.1  |
|          | 100   | 100   | 76.9  | 94.9  |

**3+ Axle Heavy Trucks**

| 05:00 PM | 0     | 0     | 0     | 0     |
|          | 0     | 0     | 0     | 0     |
|          | 0     | 0     | 0     | 0     |
|          | 0     | 0     | 0     | 0     |

**Bikes**

| 05:00 PM | 0     | 0     | 0     | 0     |
|          | 0     | 0     | 0     | 30.0  |
|          | 0     | 0     | 3     | 3     |
|          | 0     | 0     | 3     | 3     |
|          | 0     | 0     | 3     | 3     |

**% Bikes**

| 05:00 PM | 0     | 0     | 0     | 0     |
|          | 0     | 0     | 30.0  | 5.5   |
|          | 0     | 0     | 30.8  | 12.9  |
|          | 0     | 0     | 23.1  | 5.1   |
|          | 0     | 0     | 31.0  | 16.9  |

### Peak Hour Data

- **Grant Avenue**
  - **From North**
    - Right: 23
    - Thru: 35
    - Left: 58
  - **From East**
    - Right: 2
    - Thru: 5
    - Left: 11

- **Belmont Street**
  - **From North**
    - Right: 6
    - Thru: 9
    - Left: 15
  - **From South**
    - Right: 25
    - Thru: 17
    - Left: 42

- **Peak Hour Begins at 05:00 PM**
- **General Traffic/Peds**
- **3+ Axle Heavy Trucks**
- **Bikes**
- **% Bikes**
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

#### Peak Hour for Each Approach Begins at:

- **04:15 PM**
- **05:00 PM**
- **04:45 PM**
- **05:00 PM**

#### Total Volume

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>12</td>
</tr>
</tbody>
</table>

#### % App. Total

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>13.3%</td>
<td>44.4%</td>
<td>4.4%</td>
<td>37.8%</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>90.9%</td>
<td>50.9%</td>
<td>20.8%</td>
<td>18.2%</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>16.1%</td>
<td>22.6%</td>
<td>61.6%</td>
<td>45.2%</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>3.4%</td>
<td>57.6%</td>
<td>16.9%</td>
<td>22%</td>
</tr>
</tbody>
</table>

#### PHF

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>.750</td>
<td>.833</td>
<td>.500</td>
<td>.804</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>.100</td>
<td>.100</td>
<td>.941</td>
<td>.978</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>.100</td>
<td>.100</td>
<td>.700</td>
<td>.945</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>.100</td>
<td>.100</td>
<td>.100</td>
<td>.714</td>
</tr>
</tbody>
</table>

#### General Traffic/Peds

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>100%</td>
<td>100%</td>
<td>94.1%</td>
<td>97.8%</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### 3+ Axle Heavy Trucks

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### % Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Grant Avenue From North</th>
<th>Belmont Street From East</th>
<th>Grant Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
### Study: KITT0108
Intersection: Belmont St / Vermont Ave
City, State: Boise, Idaho
Control: Stop Sign

## Groups Printed: General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Belmont Street From East</th>
<th>Vermont Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>4</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>13</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>7</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>7</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>13</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Belmont Street From East</th>
<th>Vermont Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>7</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>11</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>9</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>9</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>11</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Belmont Street From East</th>
<th>Vermont Avenue From South</th>
<th>Belmont Street From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>Grand Total</td>
<td>67</td>
<td>24</td>
<td>59</td>
<td>150</td>
</tr>
<tr>
<td>Approch %</td>
<td>44.7</td>
<td>16</td>
<td>39.3</td>
<td>44.6</td>
</tr>
<tr>
<td>Total %</td>
<td>16.3</td>
<td>5.9</td>
<td>14.4</td>
<td>36.6</td>
</tr>
</tbody>
</table>

General Traffic/Peds: 67 24 36 127 25 14 12 51 19 88 86 193 3
% General Traffic/Peds: 100 100 61 84.7 100 100 70.6 91.1 100 100 88.7 94.6 9

3+ Axle Heavy Trucks: 0 0 0 0 0 0 0 0 0 0 0 0
% 3+ Axle Heavy Trucks: 0 0 0 0 0 0 0 0 0 0 0 0

Bikes: 0 0 23 23 0 0 5 5 0 0 11 11
% Bikes: 0 0 15.3 0 0 29.4 8.9 0 0 11.3 5.4 9

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: KITT0108
Intersection: Belmont St / Vermont Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: Belmont Street & Vermont Avenue
Site Code: 00000000
Start Date: 4/17/2018
Page No: 2

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

4/17/2018 04:00 PM
4/17/2018 05:45 PM
General Traffic/Peds
3+ Axle Heavy Trucks
Bikes

43
51
94
0
0
0
43
56
99

Out In Total
Vermont Avenue

L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:30 PM</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>19</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>10</td>
<td>1</td>
<td>14</td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>12</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>20</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>12</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>05:15 PM</td>
<td>11</td>
<td>3</td>
<td>9</td>
<td>23</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>3</td>
<td>10</td>
<td>19</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

| Total Volume | 32   | 11   | 26   | 69         | 17   | 9    | 11   | 37         | 12   | 38   | 61   | 111        | 2          |
| % App. Total | 46.4 | 15.9 | 37.7 |            | 45.9 | 24.3 | 29.7 |            | 10.8 | 34.2 | 55   |            |            |
| PHF         | .727 | .550 | .722 | .750       | .607 | .563 | .688 | .661       | .600 | .679 | .763 | .867        | .7         |

| General Traffic/Peds | 32   | 11   | 18   | 61         | 17   | 9    | 6    | 32         | 12   | 38   | 53   | 103        | 1          |
| % General Traffic/Peds | 100  | 100  | 69.2 | 88.4       | 100  | 100  | 54.5 | 86.5       | 100  | 100  | 86.9 | 92.8       | 90         |
| 3+ Axle Heavy Trucks | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0          | 0          |
| % 3+ Axle Heavy Trucks | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0          | 0          |
| Bikes         | 0    | 0    | 8    | 8          | 0    | 0    | 5    | 5          | 0    | 0    | 8    | 8          | 0          |
| % Bikes       | 0    | 0    | 30.8 | 11.6       | 0    | 0    | 45.5 | 13.5       | 0    | 0    | 13.1 | 7.2         | 0          |

### Peak Hour Data

- General Traffic/Peds
- 3+ Axle Heavy Trucks
- Bikes
## Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

### Peak Hour Details

#### Start Time: 05:00 PM

<table>
<thead>
<tr>
<th>Time Interval</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 mins.</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>15</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>10</td>
<td>1</td>
<td>14</td>
<td>10</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>11</td>
<td>3</td>
<td>9</td>
<td>23</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>20</td>
<td>28</td>
<td>8</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>9</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>12</td>
<td>26</td>
<td>11</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>9</td>
<td>5</td>
<td>11</td>
<td>25</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>3</td>
<td>10</td>
<td>19</td>
<td>32</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Volume:**
- General Traffic/Peds: 36
- 3+ Axle Heavy Trucks: 0
- Bikes: 0

**% General Traffic/Peds:**
- 100%

**% 3+ Axle Heavy Trucks:**
- 0%

**% Bikes:**
- 0%

**PHF:**
- 0.818

#### Start Time: 04:30 PM

<table>
<thead>
<tr>
<th>Time Interval</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 mins.</td>
<td>36</td>
<td>11</td>
<td>16</td>
<td>63</td>
<td>17</td>
<td>9</td>
<td>6</td>
<td>32</td>
<td>12</td>
<td>38</td>
<td>61</td>
<td>111</td>
<td>3</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>100</td>
<td>100</td>
<td>51.6</td>
<td>80.8</td>
<td>100</td>
<td>100</td>
<td>54.5</td>
<td>86.5</td>
<td>100</td>
<td>100</td>
<td>86.9</td>
<td>92.8</td>
<td>6</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Volume:**
- General Traffic/Peds: 36
- 3+ Axle Heavy Trucks: 0
- Bikes: 0

**% General Traffic/Peds:**
- 100%

**% 3+ Axle Heavy Trucks:**
- 0%

**% Bikes:**
- 0%

**PHF:**
- 10.8

### Graphs

- **Peak Hour Data**
- **In - Peak Hour: 05:00 PM Belmont Street**
- **In - Peak Hour: 04:30 PM Vermont Avenue**
### Groups Printed - Unshifted

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Broadway from Myrtle From North</th>
<th>Private Access (US Bank) From East</th>
<th>Broadway from Beacon From South</th>
<th>University from Lincoln From West</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
<td>Right</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>30</td>
<td>295</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>29</td>
<td>245</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>42</td>
<td>315</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>25</td>
<td>299</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>1154</td>
<td>12</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>32</td>
<td>322</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>20</td>
<td>377</td>
<td>5</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>48</td>
<td>317</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>31</td>
<td>280</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>1296</td>
<td>14</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

| Grand Total | 257  | 2450 | 26   | 0    | 21    | 8    | 29   | 0    | 41    | 1518 | 215 | 0    | 288  | 10   | 339 | 0    | 522   |
| Apprch %    | 9.4  | 89.6 | 1    | 0    | 36.2  | 13.8 | 50   | 0    | 2.3   | 85.6 | 12.1 | 0    | 45.2 | 1.6  | 53.2 | 0    | 5.5   |
| Total %     | 4.9  | 47.1 | 0.5  | 0    | 0.4   | 0.2  | 0.6  | 0    | 0.8   | 29.2 | 4.1  | 0    | 5.5  | 0.2  | 6.5  | 0    | 5.5   |

---

**Ada County Highway District**

3775 N Adams St
Garden City, ID 83714

Operator: D White
P Cloudy, 60 Degrees

File Name: Broadway & University
Site Code: 00000000
Start Date: 4/25/2017
Page No: 1

### Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 5:00:00 PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Broadway from Myrtle From North</th>
<th>Private Access (US Bank) From East</th>
<th>Broadway from Beacon From South</th>
<th>University from Lincoln From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>5:00:00 PM</td>
<td>32</td>
<td>322</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>5:15:00 PM</td>
<td>20</td>
<td>377</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>5:30:00 PM</td>
<td>48</td>
<td>317</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>5:45:00 PM</td>
<td>31</td>
<td>280</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

### Peak Hour Data

- **North**
  - Peak Hour Begins at 05:00 PM
  - Unshifted

### Traffic Volume and PHF

<table>
<thead>
<tr>
<th>Time</th>
<th>Total Volume</th>
<th>% App. Total</th>
<th>PHF</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00:00 PM</td>
<td>131 1296 14 0 1441</td>
<td>9.1 89.9 1 0</td>
<td>682 .859 .700 .000 .896</td>
</tr>
<tr>
<td>5:15:00 PM</td>
<td>11 5 17 0 33</td>
<td>33.3 15.2 51.5 0</td>
<td>458 626 .531 .000 .750</td>
</tr>
<tr>
<td>5:30:00 PM</td>
<td>19 819 113 0 951</td>
<td>2 86.1 11.9 0</td>
<td>.679 .883 .764 .000 .877</td>
</tr>
<tr>
<td>5:45:00 PM</td>
<td>149 5 157 0 311</td>
<td>47.9 1.6 50.5 0</td>
<td>931 .625 .853 .000 .915</td>
</tr>
</tbody>
</table>

- PHF: 0.682 0.859 0.700 0.000 0.896 0.458 0.626 0.531 0.000 0.750 0.679 0.883 0.764 0.000 0.877 0.931 0.625 0.853 0.000 0.915
### Groups Printed: General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>University Drive From East</th>
<th>Denver Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>55</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>71</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>46</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>58</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>230</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>46</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>58</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>73</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>58</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>235</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Grand Total

<table>
<thead>
<tr>
<th>Approc %</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>95.7</td>
<td>465</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2.9</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>1.4</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total %</td>
<td>37.1</td>
<td>1.1</td>
<td>0.6</td>
<td>38.8</td>
</tr>
</tbody>
</table>

#### Apprach %

<table>
<thead>
<tr>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>465</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>14</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>99.4</td>
</tr>
</tbody>
</table>

#### Total

<table>
<thead>
<tr>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>465</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>14</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>99.8</td>
</tr>
</tbody>
</table>

#### Apprach %

<table>
<thead>
<tr>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>465</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>14</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>99.8</td>
</tr>
</tbody>
</table>

#### Total

<table>
<thead>
<tr>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>465</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>14</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>99.8</td>
</tr>
</tbody>
</table>
**Study:** KITT0108  
**Intersection:** University Dr/ Denver Ave  
**City, State:** Boise, Idaho  
**Control:** Stop Sign

### Traffic Data

**File Name:** University Drive & Denver Avenue  
**Site Code:** 00000000  
**Start Date:** 4/18/2018  
**Page No.:** 2

#### Total Traffic

<table>
<thead>
<tr>
<th>Direction</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>616</td>
<td>612</td>
<td>1228</td>
</tr>
<tr>
<td>South</td>
<td>480</td>
<td>480</td>
<td>960</td>
</tr>
</tbody>
</table>

#### Left Traffic

<table>
<thead>
<tr>
<th>Direction</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>18</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>South</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Right Traffic

<table>
<thead>
<tr>
<th>Direction</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South</td>
<td>18</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

#### Pedestrian Traffic

<table>
<thead>
<tr>
<th>Direction</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**4/18/2018 04:00 PM**  
**4/18/2018 05:45 PM**

**General Traffic/Peds**  
**3+ Axle Heavy Trucks**  
**Bikes**

---

**University Drive**

**Denver Avenue**

---

**L2 Data Collection**  
L2DataCollection.com  
Idaho (208) 860-7554 Utah (801) 431-2993

---

Study: KITT0108
Intersection: University Dr/ Denver Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: University Drive & Denver Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 3

Study: KITT0108
Intersection: University Dr/ Denver Ave
City, State: Boise, Idaho
Control: Stop Sign

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>University Drive From East</th>
<th>Denver Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td>71</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>46</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>58</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Volume: 230, 5, 4, 239
% App. Total: 96.2, 2.1, 1.7
PHF: 810, 625, 500, 797

General Traffic/Peds: 230, 5, 4, 239
% General Traffic/Peds: 100, 100, 100, 100

3+ Axle Heavy Trucks: 0, 0, 0, 0
% 3+ Axle Heavy Trucks: 0, 0, 0, 0

Bikes: 0, 0, 0, 0
% Bikes: 0, 0, 0, 0

Total Volume In: 367, 239, 606
Total Volume Out: 578, 340, 579

General Traffic/Peds: 368, 239, 607
% General Traffic/Peds: 100, 100, 100

3+ Axle Heavy Trucks: 1, 0, 0, 1
% 3+ Axle Heavy Trucks: 0.2, 0, 0, 0.3

Bikes: 10, 10, 10, 10
% Bikes: 34.5, 13.3, 34.5, 13.3

Peak Hour Begins at 04:00 PM
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

**Peak Hour for Each Approach Begins at:**

- **In - Peak Hour: 05:00 PM**
  - University Drive From East: 46 Thru, 3 Left, 0 Peds, 49 App. Total
  - Denver Avenue From South: 10 Thru, 2 Left, 10 Peds, 22 App. Total
  - University Drive From West: 4 Thru, 111 Left, 0 Peds, 115 App. Total

- **In - Peak Hour: 04:15 PM**
  - University Drive From East: 58 Thru, 3 Left, 1 Peds, 62 App. Total
  - Denver Avenue From South: 11 Thru, 4 Left, 8 Peds, 23 App. Total
  - University Drive From West: 2 Thru, 87 Left, 2 Peds, 91 App. Total

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>05:00 PM</strong></td>
<td>46</td>
<td>3</td>
<td>0</td>
<td>49</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>22</td>
<td>4</td>
<td>111</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>+40 mins.</td>
<td>3</td>
<td>0</td>
<td>49</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+15 mins.</td>
<td>58</td>
<td>3</td>
<td>1</td>
<td>62</td>
<td>11</td>
<td>4</td>
<td>8</td>
<td>23</td>
<td>2</td>
<td>87</td>
<td>2</td>
<td>91</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>73</td>
<td>1</td>
<td>0</td>
<td>74</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>13</td>
<td>3</td>
<td>55</td>
<td>0</td>
<td>58</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>58</td>
<td>2</td>
<td>2</td>
<td>62</td>
<td>7</td>
<td>2</td>
<td>10</td>
<td>19</td>
<td>2</td>
<td>78</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total Volume</strong></td>
<td>235</td>
<td>9</td>
<td>3</td>
<td>247</td>
<td>33</td>
<td>10</td>
<td>34</td>
<td>77</td>
<td>11</td>
<td>331</td>
<td>2</td>
<td>344</td>
</tr>
<tr>
<td>% App. Total</td>
<td>95.1</td>
<td>3.6</td>
<td>1.2</td>
<td>84.9</td>
<td>42.9</td>
<td>13</td>
<td>44.2</td>
<td>77</td>
<td>3.2</td>
<td>96.2</td>
<td>0.6</td>
<td>84.9</td>
</tr>
<tr>
<td>PHF</td>
<td>805</td>
<td>750</td>
<td>375</td>
<td>834</td>
<td>.750</td>
<td>625</td>
<td>850</td>
<td>837</td>
<td>.688</td>
<td>.745</td>
<td>.250</td>
<td>.748</td>
</tr>
<tr>
<td>General Traffic/Peds</td>
<td>235</td>
<td>9</td>
<td>0</td>
<td>244</td>
<td>33</td>
<td>10</td>
<td>24</td>
<td>67</td>
<td>11</td>
<td>331</td>
<td>2</td>
<td>344</td>
</tr>
<tr>
<td>3+ Axle Heavy Trucks</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bikes</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>% Bikes</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>1.2</td>
<td>0</td>
<td>0</td>
<td>29.4</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Study: KITT0108
Intersection: University Dr/ Denver Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: University Drive & Denver Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No. 5

Image 1

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Bronco Lane (East Offset) From North</th>
<th>University Drive From East</th>
<th>Euclid Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>5</td>
<td>0</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>8</td>
<td>1</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9</td>
<td>1</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>8</td>
<td>43</td>
<td>36</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>8</td>
<td>2</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>6</td>
<td>3</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>8</td>
<td>2</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>8</td>
<td>43</td>
<td>36</td>
</tr>
</tbody>
</table>

| Grand Total | 48    | 13   | 105  | 80   | 246      | 64    | 452  | 29   | 26   | 571      | 33    | 8    | 25   | 129  | 195      | 22    | 299  | 27   | 117  | 465      | 147   |
| Total %     | 19.5  | 5.3  | 42.7 | 32.5 |          | 11.2  | 79.2 | 5.1  | 4.6  |          | 4.3   | 30.6 | 2.1  | 18.7 | 3.8      | 2.2   | 0.5  | 1.7  | 8.7  | 13.2      | 1.5   |

| General Traffic/Peds | 48    | 13   | 105  | 80   | 246      | 64    | 452  | 29   | 26   | 571      | 33    | 8    | 25   | 129  | 195      | 22    | 299  | 27   | 117  | 465      |
| % General Traffic/Peds | 100   | 100  | 100  | 95.5 |          | 100   | 100  | 100  | 96.7 |          | 100   | 100  | 100  | 96.7 |          | 100   | 99.7 | 100  | 91.5 | 97.6      |
| 3+ Axle Heavy Trucks | 0     | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0        |
| % 3+ Axle Heavy Trucks | 0.0   | 0.0  | 0.0  | 0.0  | 0.0      | 0.0   | 0.0  | 0.0  | 0.0  | 0.0      | 0.0   | 0.0  | 0.0  | 0.0  | 0.0      | 0.0   | 0.0  | 0.0  | 0.0  | 0.0      |
| Bikes | 0     | 0    | 0    | 11   | 11       | 0     | 0    | 0    | 19   | 19       | 0     | 0    | 0    | 14   | 14       | 0     | 0    | 0    | 10   | 10       |
| % Bikes | 0.0   | 0.0  | 0.0  | 19.8 | 45.4     | 0.0   | 0.0  | 0.0  | 46.1 | 46.1     | 0.0   | 0.0  | 0.0  | 14.1 | 14.1     | 0.0   | 0.0  | 0.0  | 10.9 | 10.9     |
Study: KITT0108
Intersection: University Dr/ Euclid Ave
City, State: Boise, Idaho
Control: Stop Sign

<table>
<thead>
<tr>
<th>Bronco Lane (East Offset)</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>99</td>
<td>233</td>
<td>334</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>99</td>
<td>246</td>
<td>345</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/18/2018 04:00 PM</td>
<td>4/18/2018 05:45 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Traffic/Peds</td>
<td>3+ Axle Heavy Trucks</td>
<td>Bikes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Drive Total</th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>555</td>
<td>525</td>
<td>1080</td>
</tr>
<tr>
<td></td>
<td>107</td>
<td>107</td>
<td>214</td>
</tr>
<tr>
<td></td>
<td>117</td>
<td>117</td>
<td>234</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Left</th>
<th>Thru</th>
<th>Right</th>
<th>Peds</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Dr</td>
<td>25</td>
<td>8</td>
<td>33</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Euclid Ave</td>
<td>64</td>
<td>181</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>64</td>
<td>195</td>
<td>259</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>99</td>
<td>233</td>
<td>334</td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>13</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>13</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Dr</td>
<td>64</td>
<td>181</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>64</td>
<td>195</td>
<td>259</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>North</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Traffic/Peds</td>
<td>3+ Axle Heavy Trucks</td>
<td>Bikes</td>
</tr>
</tbody>
</table>

File Name: University Drive & Euclid Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 2
### Study: KITT0108
Intersection: University Dr/ Euclid Ave
City, State: Boise, Idaho
Control: Stop Sign

#### Site Code: 00000000
Start Date: 4/18/2018
Page No: 3

#### File Name: University Drive & Euclid Avenue

#### Control: Stop Sign

<table>
<thead>
<tr>
<th>Study</th>
<th>Intersection: University Dr/ Euclid Ave</th>
<th>City, State: Boise, Idaho</th>
<th>Control: Stop Sign</th>
</tr>
</thead>
</table>

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>5</td>
<td>0</td>
<td>15</td>
<td>13</td>
<td>33</td>
<td>4</td>
<td>60</td>
<td>3</td>
<td>4</td>
<td>71</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>20</td>
<td>2</td>
<td>51</td>
<td>3</td>
<td>15</td>
<td>71</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td>8</td>
<td>1</td>
<td>27</td>
<td>15</td>
<td>51</td>
<td>5</td>
<td>60</td>
<td>4</td>
<td>3</td>
<td>72</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>28</td>
<td>39</td>
<td>3</td>
<td>42</td>
<td>4</td>
<td>23</td>
<td>72</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9</td>
<td>1</td>
<td>12</td>
<td>6</td>
<td>28</td>
<td>8</td>
<td>46</td>
<td>9</td>
<td>0</td>
<td>63</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>24</td>
<td>33</td>
<td>4</td>
<td>42</td>
<td>1</td>
<td>11</td>
<td>58</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>10</td>
<td>23</td>
<td>10</td>
<td>50</td>
<td>4</td>
<td>1</td>
<td>65</td>
<td>5</td>
<td>0</td>
<td>6</td>
<td>12</td>
<td>23</td>
<td>4</td>
<td>35</td>
<td>3</td>
<td>9</td>
<td>51</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Volume | 24   | 5    | 62   | 44   | 135        | 27   | 216  | 20   | 8    | 271        | 22   | 6    | 15   | 72   | 115        | 13   | 170  | 11   | 58   | 252        | 74    |
| % App. Total  | 17.8 | 3.7  | 45.9 | 32.6 | 67.4       | 19.1 | 5.2  | 13   | 62.6 | 5.2        | 5.8  | 13   | 62.6 | 5.2  | 67.5       | 5.2  | 67.5 | 4.4  | 23    | 77         |
| PHF          | 0.667| 0.417| 0.574| 0.733| 0.662      | 0.667| 0.417| 0.574| 0.733| 0.662      | 0.667| 0.417| 0.574| 0.733| 0.662      | 0.667| 0.417| 0.574| 0.733| 0.662      |

### General Traffic/Peds

| 3+ Axle Heavy Trucks | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 |
|----------------------|----------|----------|--------|--------|------------|----------|--------|--------|--------|------------|----------|--------|--------|--------|------------|----------|--------|--------|--------|------------|----------|--------|--------|--------|------------|
| Bikes                | 0 0 0 5 5 | 0 0 0 7 7 | 0 0 0 4 4 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 | 0 0 0 1 1 | 0 0 0 3 3 |
| % Bikes              | 0 0 0 11.4 3.7 | 0 0 0 87.5 2.6 | 0 0 0 5.6 3.5 | 0 0 0 1.7 0.4 | 0 0 0 11.4 3.7 | 0 0 0 87.5 2.6 | 0 0 0 5.6 3.5 | 0 0 0 1.7 0.4 | 0 0 0 11.4 3.7 | 0 0 0 87.5 2.6 | 0 0 0 5.6 3.5 | 0 0 0 1.7 0.4 | 0 0 0 11.4 3.7 | 0 0 0 87.5 2.6 | 0 0 0 5.6 3.5 | 0 0 0 1.7 0.4 | 0 0 0 11.4 3.7 | 0 0 0 87.5 2.6 |

**Bronco Lane (East Offset)**

<table>
<thead>
<tr>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>130</td>
<td>174</td>
</tr>
<tr>
<td>24</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>5</td>
<td>29</td>
</tr>
</tbody>
</table>

**University Drive**

<table>
<thead>
<tr>
<th>Out</th>
<th>In</th>
<th>Left</th>
<th>Thru</th>
<th>Right</th>
<th>Peds</th>
<th>App. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Euclid Avenue**

<table>
<thead>
<tr>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>111</td>
<td>149</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>38</td>
<td>115</td>
<td>153</td>
</tr>
</tbody>
</table>

**Peak Hour Begins at 04:00 PM**

**General Traffic/Peds**

**3+ Axle Heavy Trucks**

**Bikes**

**% General Traffic/Peds**

8

---

Packet Pg. 526
**Study:** KITT0108  
**Intersection:** University Dr/ Euclid Ave  
**City, State:** Boise, Idaho  
**Control:** Stop Sign  

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Bronco Lane (East Offset) From North</th>
<th>University Drive From East</th>
<th>Euclid Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>5</td>
<td>15</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>8</td>
<td>27</td>
<td>15</td>
<td>51</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>9</td>
<td>1</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

**Total Volume**  
- Bronco Lane (East Offset) From North: 24 5 62 44 135  
- University Drive From East: 37 236 9 18 300  
- Euclid Avenue From South: 22 4 12 80 118  
- University Drive From West: 13 170 11 58 252

**% App. Total**  
- Bronco Lane (East Offset) From North: 17.8 3.7 45.9 32.6 12.3  
- University Drive From East: 33.3 96.6  
- Euclid Avenue From South: 95 96.3  
- University Drive From West: 100 3.7 12.3  

**PHF**  
- Bronco Lane (East Offset) From North: .667  
- University Drive From East: .417  
- Euclid Avenue From South: .574  
- University Drive From West: .733  

**General Traffic/Peds**  
- Bronco Lane (East Offset) From North: 100 100 100 88.6 96.3  
- University Drive From East: 100 100 100 33.3 96.6  
- Euclid Avenue From South: 100 100 100 95 96.6  
- University Drive From West: 100 99.4 100 98.3 99.2

**3+ Axle Heavy Trucks**  
- Bronco Lane (East Offset) From North: 0 0 0 0 0  
- University Drive From East: 0 0 0 0 0  
- Euclid Avenue From South: 0 0 0 0 0  
- University Drive From West: 0 0 0 0 0

**Bikes**  
- Bronco Lane (East Offset) From North: 0 0 0 5 5  
- University Drive From East: 0 0 0 12 12  
- Euclid Avenue From South: 0 0 0 4 4  
- University Drive From West: 0 0 0 1 1

**% Bikes**  
- Bronco Lane (East Offset) From North: 0 0 0 11.4 3.7  
- University Drive From East: 0 0 0 66.7 4  
- Euclid Avenue From South: 0 0 0 5 3.4  
- University Drive From West: 0 0 0 1.7 0  

---

**Peak Hour Data**

- **Bronco Lane (East Offset)**:  
  - In - Peak Hour: 04:00 PM  
  - Right: 130  
  - Thru: 0  
  - Left: 5  
  - Peds: 135

- **University Drive From East**:  
  - In - Peak Hour: 04:00 PM  
  - Right: 24  
  - Thru: 5  
  - Left: 62  
  - Peds: 39

- **University Drive From South**:  
  - In - Peak Hour: 04:15 PM  
  - Right: 114  
  - Thru: 0  
  - Left: 4  
  - Peds: 118

- **University Drive From West**:  
  - In - Peak Hour: 04:00 PM  
  - Right: 114  
  - Thru: 0  
  - Left: 4  
  - Peds: 118

---

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
Study: KITT0108
Intersection: University Dr/ Euclid Ave
City, State: Boise, Idaho
Control: Stop Sign

File Name: University Drive & Euclid Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 5

Study: KITT0108  
Intersection: University Dr/ Lincoln Ave  
City, State: Boise, Idaho  
Control: Signalized

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Lincoln Avenue From North</th>
<th>University Drive From East</th>
<th>Lincoln Avenue From South</th>
<th>Ped Only From West</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>46</td>
<td>43</td>
<td>1</td>
<td>90</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>58</td>
<td>45</td>
<td>0</td>
<td>103</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>45</td>
<td>37</td>
<td>0</td>
<td>82</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>48</td>
<td>33</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>158</td>
<td>6</td>
<td>361</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>53</td>
<td>33</td>
<td>0</td>
<td>86</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>38</td>
<td>21</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>46</td>
<td>35</td>
<td>1</td>
<td>82</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>46</td>
<td>36</td>
<td>2</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td>183</td>
<td>125</td>
<td>4</td>
<td>312</td>
</tr>
</tbody>
</table>

Grand Total

<table>
<thead>
<tr>
<th>Approach %</th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>380 283 10 673</td>
<td>0 0 0 0</td>
<td>0 0</td>
<td>100 1.5</td>
</tr>
<tr>
<td>Total %</td>
<td>15.2 11.4 0.4 27</td>
<td>0.4 0.1 0.2 0.5</td>
<td>0.2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Appendix

<table>
<thead>
<tr>
<th></th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>380 283 0 663</td>
<td>0 0 0 0</td>
<td>0 0</td>
<td>0</td>
</tr>
<tr>
<td>Total %</td>
<td>15.2 11.4 0.4 27</td>
<td>0.4 0.1 0.2 0.5</td>
<td>0.2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>380 283 0 663</td>
<td>0 0 0 0</td>
<td>0 0</td>
<td>0</td>
</tr>
<tr>
<td>Total %</td>
<td>15.2 11.4 0.4 27</td>
<td>0.4 0.1 0.2 0.5</td>
<td>0.2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: KITT0108
Intersection: University Dr/ Lincoln Ave
City, State: Boise, Idaho
Control: Signalized

File Name: University Drive & Lincoln Avenue
Site Code: 00000000
Start Date: 4/18/2018
Page No: 2

Lincoln Avenue

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>949</td>
<td>663</td>
<td>1612</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>950</td>
<td>673</td>
<td>1623</td>
</tr>
<tr>
<td>Thru</td>
<td>380</td>
<td>283</td>
<td>663</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Left</td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Peds</td>
<td>380</td>
<td>283</td>
<td>663</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Out</th>
<th>In</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>460</td>
<td>59</td>
<td>519</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>460</td>
<td>59</td>
<td>519</td>
</tr>
<tr>
<td>Thru</td>
<td>465</td>
<td>808</td>
<td>1273</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Right</td>
<td>465</td>
<td>808</td>
<td>1273</td>
</tr>
<tr>
<td>Peds</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

4/18/2018 04:00 PM
4/18/2018 05:45 PM
General Traffic/Peds
3+ Axle Heavy Trucks
Bikes

Thru Right Peds
Peds

Out In Total

---

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

**Peak Hour for Entire Intersection Begins at 04:00 PM**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>46</td>
<td>43</td>
<td>1</td>
<td>90</td>
<td>58</td>
<td>11</td>
<td>74</td>
<td>143</td>
<td>4</td>
<td>45</td>
<td>29</td>
<td>78</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:15 PM</td>
<td>58</td>
<td>45</td>
<td>0</td>
<td>103</td>
<td>63</td>
<td>8</td>
<td>88</td>
<td>159</td>
<td>6</td>
<td>65</td>
<td>56</td>
<td>127</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:30 PM</td>
<td>45</td>
<td>37</td>
<td>0</td>
<td>82</td>
<td>52</td>
<td>15</td>
<td>47</td>
<td>114</td>
<td>11</td>
<td>57</td>
<td>40</td>
<td>108</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td>48</td>
<td>33</td>
<td>5</td>
<td>86</td>
<td>58</td>
<td>10</td>
<td>44</td>
<td>112</td>
<td>7</td>
<td>43</td>
<td>26</td>
<td>76</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Linear Avenue**

- **Ped Only**
  - From North
  - From East
  - From South
  - From West

**University Drive**

- **Ped Only**
  - From North
  - From East
  - From South
  - From West

**General Traffic/Peds**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>197</td>
<td>158</td>
<td>6</td>
<td>361</td>
<td>231</td>
<td>44</td>
<td>253</td>
<td>528</td>
<td>28</td>
<td>210</td>
<td>151</td>
<td>389</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>129</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>100</td>
<td>100</td>
<td>0</td>
<td>98.3</td>
<td>99.6</td>
<td>100</td>
<td>94.9</td>
<td>97.3</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.4</td>
<td>0</td>
<td>0.2</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

**Bikes**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>2</td>
</tr>
</tbody>
</table>

**PHF**

- **Lincoln Avenue**
  - Total Volume: 197, 158, 6, 361
  - % App. Total: 54.6, 43.8, 1.7
  - % General Traffic/Peds: 100, 100, 0, 98.3
  - % 3+ Axle Heavy Trucks: 0, 0, 0, 0
  - % Bikes: 0, 0, 100, 1.7

- **University Drive**
  - Total Volume: 231, 44, 253, 528
  - % App. Total: 43.8, 8.3, 47.9
  - % General Traffic/Peds: 100, 100, 100, 100
  - % 3+ Axle Heavy Trucks: 0.4, 0, 0, 0.2
  - % Bikes: 0, 0, 5.1, 2.5

**General Traffic/Peds**

- Total Volume: 440, 355, 795
- % App. Total: 54.6, 43.8, 1.7
- % General Traffic/Peds: 100, 100, 0, 98.3
- % 3+ Axle Heavy Trucks: 0, 0, 0, 0
- % Bikes: 0, 0, 5.1, 2.5

**3+ Axle Heavy Trucks**

- Total Volume: 6, 6, 6, 6
- % App. Total: 0, 0, 0, 0
- % General Traffic/Peds: 0, 0, 0, 0
- % 3+ Axle Heavy Trucks: 0, 0, 0, 0
- % Bikes: 0, 0, 0, 0

**Bikes**

- Total Volume: 12, 12, 12, 12
- % App. Total: 100, 100, 100, 100
- % General Traffic/Peds: 0, 0, 0, 0
- % 3+ Axle Heavy Trucks: 0, 0, 0, 0
- % Bikes: 100, 100, 100, 100
### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

#### Peak Hour for Each Approach Begins at:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>46</td>
<td>43</td>
<td>1</td>
<td>90</td>
<td>58</td>
<td>11</td>
<td>74</td>
<td>143</td>
<td>1</td>
<td>49</td>
<td>36</td>
<td>86</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>+0 mins.</td>
<td>46</td>
<td>43</td>
<td>1</td>
<td>90</td>
<td>58</td>
<td>11</td>
<td>74</td>
<td>143</td>
<td>1</td>
<td>49</td>
<td>36</td>
<td>86</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>+15 mins.</td>
<td>58</td>
<td>45</td>
<td>0</td>
<td>103</td>
<td>63</td>
<td>8</td>
<td>88</td>
<td>159</td>
<td>13</td>
<td>58</td>
<td>25</td>
<td>96</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>+30 mins.</td>
<td>45</td>
<td>37</td>
<td>0</td>
<td>82</td>
<td>52</td>
<td>15</td>
<td>47</td>
<td>114</td>
<td>8</td>
<td>72</td>
<td>30</td>
<td>110</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>+45 mins.</td>
<td>48</td>
<td>33</td>
<td>5</td>
<td>86</td>
<td>58</td>
<td>10</td>
<td>44</td>
<td>112</td>
<td>9</td>
<td>71</td>
<td>47</td>
<td>127</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Total Volume
- Lincoln Avenue From North: 197, 158, 6, 361
- University Drive From East: 231, 44, 253, 528
- Lincoln Avenue From South: 31, 250, 419, 13
- Ped Only From West: 45, 37, 0, 82

<table>
<thead>
<tr>
<th>% App. Total</th>
<th>PHF</th>
<th>General Traffic/Peds</th>
<th>% General Traffic/Peds</th>
<th>3+ Axle Heavy Trucks</th>
<th>% 3+ Axle Heavy Trucks</th>
<th>Bikes</th>
<th>% Bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.6</td>
<td>849</td>
<td>197</td>
<td>355</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>43.8</td>
<td>.878</td>
<td>230</td>
<td>240</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.7</td>
<td>.300</td>
<td>99.6</td>
<td>94.9</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.7</td>
<td>.876</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.878</td>
<td>.733</td>
<td>0.4</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.300</td>
<td>.719</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.876</td>
<td>.830</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.878</td>
<td>.830</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.300</td>
<td>.825</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.876</td>
<td>.542</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.878</td>
<td>.542</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### General Traffic/Peds
- 197, 158, 0, 355
- 230, 44, 240, 514
- 99.6, 100, 94.9, 97.3
- 100, 100, 100, 100

#### 3+ Axle Heavy Trucks
- 0, 0, 0, 0
- 0, 0, 0, 1
- 0, 0, 0, 0
- 0, 0, 0, 0

#### Bikes
- 0, 0, 6, 6
- 0, 0, 13, 13
- 0, 0, 0, 0
- 0, 0, 0, 0

### Peak Hour Data

**Lincoln Avenue**
- In - Peak Hour: 04:00 PM
- Total Volume: 197, 158, 6, 361
- % App. Total: 54.6, 43.8, 1.7
- PHF: 0.878

**University Drive**
- In - Peak Hour: 05:00 PM
- Total Volume: 231, 44, 253, 528
- % App. Total: 44.8, 8.3, 47.9
- PHF: 0.733

**Lincoln Avenue**
- In - Peak Hour: 04:15 PM
- Total Volume: 31, 250, 419, 13
- % App. Total: 1.7, 4.7, 10.0
- PHF: 0.719

**General Traffic/Peds**
- In - Peak Hour: 04:00 PM
- Total Volume: 197, 158, 0, 355
- % General Traffic/Peds: 100.0, 99.6, 100.0
- PHF: 0.876

**3+ Axle Heavy Trucks**
- In - Peak Hour: 04:15 PM
- Total Volume: 0, 0, 0, 1
- % 3+ Axle Heavy Trucks: 0.4, 0.0, 0.2
- PHF: 0.542

**Bikes**
- In - Peak Hour: 04:00 PM
- Total Volume: 0, 0, 6, 6
- % Bikes: 0.0, 0.0, 100.0
- PHF: 0.542
### Groups Printed- General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Building Driveway From North</th>
<th>University Drive From East</th>
<th>Manitou Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Grand Total</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>113</td>
</tr>
<tr>
<td>% Approch</td>
<td>1.7</td>
<td>0</td>
<td>0</td>
<td>98.3</td>
</tr>
<tr>
<td>Total %</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>7.2</td>
</tr>
<tr>
<td>General Traffic/Peds</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>93</td>
</tr>
<tr>
<td>% General Traffic/Peds</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>82.3</td>
</tr>
<tr>
<td>3+ Axle Heavy Trucks</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>% 3+ Axle Heavy Trucks</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Bikes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>% Bikes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17.7</td>
</tr>
<tr>
<td>Int. To</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Other Data:
- Study: KITT0108
- Intersection: University Dr/ Manitou Ave
- City, State: Boise, Idaho
- Control: Stop Sign
- Site Code: 00000000
- Start Date: 4/18/2018
- Page No: 1

---

**L2 Data Collection**
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

---

**Packet Pg. 534**
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>Total</th>
<th>Right</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>Total</th>
<th>Int. To</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>0</td>
<td>66</td>
<td>3</td>
<td>0</td>
<td>69</td>
<td>5</td>
<td>0</td>
<td>57</td>
<td>0</td>
<td>64</td>
<td>2</td>
<td>48</td>
<td>0</td>
<td>246</td>
<td>0</td>
<td>93</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>0</td>
<td>67</td>
<td>3</td>
<td>1</td>
<td>71</td>
<td>5</td>
<td>1</td>
<td>60</td>
<td>0</td>
<td>66</td>
<td>2</td>
<td>45</td>
<td>1</td>
<td>232</td>
<td>1</td>
<td>107</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>45</td>
<td>0</td>
<td>24</td>
<td>75</td>
<td>21</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>57</td>
<td>10</td>
<td>42</td>
<td>0</td>
<td>98</td>
<td>61</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Volume: 246, 257, 220, 241

% App. Total: 100, 95.7, 3.9, 0.4

PHF: 0.938, 0.938, 0.000, 0.918

General Traffic/Peds: 85.0, 85.0, 100, 100

3+ Axle Heavy Trucks: 0, 0, 0, 0

Bikes: 9, 9, 37, 37

% Bikes: 15.0, 15.0, 16.8, 16.8

Peak Hour Begins at 04:00 PM

General Traffic/Peds

3+ Axle Heavy Trucks

Bikes

% Bikes

Peak Hour Begins at 04:00 PM

General Traffic/Peds

3+ Axle Heavy Trucks

Bikes

% Bikes

Total Volume

% App. Total

PHF

General Traffic/Peds

3+ Axle Heavy Trucks

Bikes

% Bikes
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

+0 mins. 04:00 PM
Right: 0 0 0 16 16
Thru: 0 49 5 0 54
Left: 5 0 1 50 56
App. Total: 0 0 0 16 16

+15 mins. 04:15 PM
Right: 0 0 0 16 16
Thru: 0 70 3 1 74
Left: 5 1 1 81 88
App. Total: 0 0 0 16 16

+30 mins. 04:30 PM
Right: 0 0 0 15 15
Thru: 0 73 2 0 75
Left: 4 0 3 60 67
App. Total: 0 0 0 15 15

+45 mins. 04:45 PM
Right: 0 0 0 13 13
Thru: 0 60 4 0 64
Left: 1 0 0 29 30
App. Total: 0 0 0 13 13

Total Volume
0 0 0 60 60

% App. Total
0 0 0 100 100

PHF: .000 .000 .000 938 938

General Traffic/Peds
0 0 0 85 85

% General Traffic/Peds
0 0 0 100 100

3+ Axle Heavy Trucks
0 0 0 0 0

% 3+ Axle Heavy Trucks
0 0 0 0 0

Bikes
0 0 0 9 9

% Bikes
0 0 0 15 15
### Groups Printed - General Traffic/Peds - 3+ Axle Heavy Trucks - Bikes

<table>
<thead>
<tr>
<th>Start Time</th>
<th>University Drive From East</th>
<th>Michigan Avenue From South</th>
<th>University Drive From West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thru</td>
<td>Left</td>
<td>Peds</td>
</tr>
<tr>
<td>04:00 PM</td>
<td>69</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>68</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>71</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>66</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>274</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>05:00 PM</td>
<td>62</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>05:15 PM</td>
<td>71</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>05:30 PM</td>
<td>85</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>05:45 PM</td>
<td>79</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>297</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>

Grand Total:
- University Drive From East: 571 Thru, 44 Left, 14 Peds, 629 App. Total
- Michigan Avenue From South: 57 Thru, 17 Left, 312 Peds, 386 App. Total
- University Drive From West: 3.4 App. Total

Appr Ch %:
- General Traffic/Peds: 90.8%
- 3+ Axle Heavy Trucks: 9%
- Bikes: 9%

% General Traffic/Peds:
- General Traffic/Peds: 99.8%
- 3+ Axle Heavy Trucks: 0.2%
- Bikes: 0.8%

% 3+ Axle Heavy Trucks:
- General Traffic/Peds: 0.1%
- 3+ Axle Heavy Trucks: 0.2%
- Bikes: 0.0%

% Bikes:
- General Traffic/Peds: 100%
- 3+ Axle Heavy Trucks: 0.0%
- Bikes: 0.0%
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. To</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:00 PM</td>
<td>69</td>
<td>7</td>
<td>6</td>
<td>82</td>
<td>4</td>
<td>5</td>
<td>31</td>
<td>40</td>
<td>1</td>
<td>46</td>
<td>50</td>
<td>97</td>
<td>2</td>
</tr>
<tr>
<td>04:15 PM</td>
<td>68</td>
<td>6</td>
<td>2</td>
<td>76</td>
<td>10</td>
<td>3</td>
<td>61</td>
<td>74</td>
<td>3</td>
<td>48</td>
<td>65</td>
<td>116</td>
<td>2</td>
</tr>
<tr>
<td>04:30 PM</td>
<td>71</td>
<td>7</td>
<td>0</td>
<td>78</td>
<td>5</td>
<td>0</td>
<td>48</td>
<td>53</td>
<td>2</td>
<td>49</td>
<td>33</td>
<td>84</td>
<td>2</td>
</tr>
<tr>
<td>04:45 PM</td>
<td>66</td>
<td>7</td>
<td>2</td>
<td>75</td>
<td>14</td>
<td>1</td>
<td>12</td>
<td>27</td>
<td>2</td>
<td>39</td>
<td>42</td>
<td>83</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Volume
- General Traffic/Peds: 273
- 3+ Axle Heavy Trucks: 1
- Bikes: 0

% App. Total
- General Traffic/Peds: 99.6
- 3+ Axle Heavy Trucks: 0.4
- Bikes: 0

PHF
- General Traffic/Peds: .965
- 3+ Axle Heavy Trucks: .417
- Bikes: .62

General Traffic/Peds
- 04:00 PM: 69
- 04:15 PM: 68
- 04:30 PM: 71
- 04:45 PM: 66

3+ Axle Heavy Trucks
- 04:00 PM: 1
- 04:15 PM: 0
- 04:30 PM: 0
- 04:45 PM: 0

Bikes
- 04:00 PM: 0
- 04:15 PM: 0
- 04:30 PM: 0
- 04:45 PM: 0

% 3+ Axle Heavy Trucks
- General Traffic/Peds: 99.6
- 3+ Axle Heavy Trucks: 100
- Bikes: 100

% Bikes
- General Traffic/Peds: 100
- 3+ Axle Heavy Trucks: 0
- Bikes: 0

Peak Hour Begins at 04:00 PM

General Traffic/Peds
- University Drive From East: 82
- Michigan Avenue From South: 76
- University Drive From West: 71

3+ Axle Heavy Trucks
- University Drive From East: 1
- Michigan Avenue From South: 0
- University Drive From West: 0

Bikes
- University Drive From East: 0
- Michigan Avenue From South: 0
- University Drive From West: 0

% App. Total
- General Traffic/Peds: 88.1
- 3+ Axle Heavy Trucks: 17
- Bikes: 50

% General Traffic/Peds
- University Drive From East: 273
- Michigan Avenue From South: 305
- University Drive From West: 273

% 3+ Axle Heavy Trucks
- University Drive From East: 100
- Michigan Avenue From South: 100
- University Drive From West: 100

% Bikes
- University Drive From East: 5
- Michigan Avenue From South: 5
- University Drive From West: 5

PHF
- General Traffic/Peds: .965
- 3+ Axle Heavy Trucks: .417
- Bikes: .62
Study: KITT0108  
Intersection: University Dr/Michigan Ave  
City, State: Boise, Idaho  
Control: Stop Sign

---

**Study:** KITT0108  
**Intersection:** University Dr/Michigan Ave  
**City, State:** Boise, Idaho  
**Control:** Stop Sign  
**Site Code:** 00000000  
**Start Date:** 4/18/2018

---

### Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

**Peak Hour for Each Approach Begins at:**

- 04:15 PM
- 04:30 PM
- 04:45 PM
- 05:00 PM

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Thru</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Left</th>
<th>Peds</th>
<th>App. Total</th>
<th>Right</th>
<th>Thru</th>
<th>Peds</th>
<th>App. Total</th>
<th>Int. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:15 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04:45 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Volume:**
- General Traffic/Peds: 297 17 1 315
- 3+ Axle Heavy Trucks: 0 0 0 0
- Bikes: 0 0 3 3

**% General Traffic/Peds:**
- 100 100 25 99.1
- % 3+ Axle Heavy Trucks: 0 0 0 0
- % Bikes: 0 0 75 0.9

**% App. Total:**
- 93.4 5.3 1.3 16.9
- 2.5 80.6 10.1

**PHF:**
- 300 300 300 300

**In - Peak Hour:**
- 04:15 PM
- 05:00 PM

---

**Peak Hour Data**

---

**Attachment:** PZ_Project_Report_January_6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
ATTACHMENT C – 2018 EXISTING TRAFFIC OPERATIONS
### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Switch Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Initial (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>10.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Minimum Split (s)</td>
<td>33.0</td>
<td>33.0</td>
<td>31.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Total Split (s)</td>
<td>33.0</td>
<td>33.0</td>
<td>31.0</td>
<td>11.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Total Split (%)</td>
<td>44.0%</td>
<td>44.0%</td>
<td>41.3%</td>
<td>14.7%</td>
<td>56.0%</td>
</tr>
<tr>
<td>Yellow Time (s)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>All-Red Time (s)</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Lost Time Adjust (s)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Lost Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lead/Lag</td>
<td>Lag</td>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead-Lag Optimize?</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recall Mode</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Act Effct Green (s)</td>
<td>7.1</td>
<td>7.1</td>
<td>12.4</td>
<td>20.7</td>
<td>20.7</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.19</td>
<td>0.19</td>
<td>0.32</td>
<td>0.54</td>
<td>0.54</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.14</td>
<td>0.62</td>
<td>0.55</td>
<td>0.26</td>
<td>0.21</td>
</tr>
<tr>
<td>Control Delay</td>
<td>15.7</td>
<td>9.7</td>
<td>15.8</td>
<td>5.8</td>
<td>5.3</td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Delay</td>
<td>15.7</td>
<td>9.7</td>
<td>15.8</td>
<td>5.8</td>
<td>5.3</td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>10.6</td>
<td>15.8</td>
<td>5.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **Cycle Length:** 75
- **Actuated Cycle Length:** 38.3
- **Natural Cycle:** 75
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.62
- **Intersection Signal Delay:** 10.5
- **Intersection LOS:** B
- **Intersection Capacity Utilization** 38.6%
- **ICU Level of Service** A
- **Analysis Period (min)** 15

---

**Splits and Phases:**

```
\*\[\*\]
```

---

**Attachment:** PZ_Project_Report_January_6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)

---

Kittelson & Associates, Inc.
### Movement WBL WBR NBT NBR SBL SBT

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>31</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>31</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Ideal Flow (vph)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.47</td>
<td>0.98</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>0.85</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>751</td>
<td>1831</td>
<td>1805</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.37</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1805</td>
<td>751</td>
<td>1831</td>
<td>707</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>48</td>
<td>269</td>
<td>291</td>
<td>36</td>
<td>145</td>
<td>213</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>220</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>48</td>
<td>49</td>
<td>321</td>
<td>0</td>
<td>145</td>
<td>213</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>253</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>7.1</td>
<td>7.1</td>
<td>12.4</td>
<td>21.9</td>
<td>21.9</td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>7.1</td>
<td>7.1</td>
<td>12.4</td>
<td>21.9</td>
<td>21.9</td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.18</td>
<td>0.18</td>
<td>0.32</td>
<td>0.56</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>328</td>
<td>136</td>
<td>582</td>
<td>523</td>
<td>1066</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.03</td>
<td>c0.07</td>
<td>c0.18</td>
<td>c0.03</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.15</td>
<td>0.36</td>
<td>0.55</td>
<td>0.28</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>13.4</td>
<td>14.0</td>
<td>11.0</td>
<td>4.6</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.1</td>
<td>0.6</td>
<td>0.6</td>
<td>0.1</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>13.5</td>
<td>14.6</td>
<td>11.6</td>
<td>4.7</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>14.4</td>
<td>11.6</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>9.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Level of Service</td>
<td>A</td>
</tr>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.45</td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>39.0</td>
</tr>
<tr>
<td>Sum of lost time (s)</td>
<td>15.0</td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>38.6%</td>
</tr>
<tr>
<td>ICU Level of Service</td>
<td>A</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
</tr>
</tbody>
</table>

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn
Kittelton & Associates, Inc.
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>31</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>41</td>
<td>231</td>
<td>250</td>
<td>31</td>
<td>125</td>
<td>183</td>
</tr>
<tr>
<td>Number</td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Ped-Bike Adj(A_pbT)

| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 0.77 | 1.00 |

### Parking Bus, Adj

| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### Adj Sat Flow, veh/h/ln

| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1900 | 1900 |

### Adj Flow Rate, veh/h

| Adj Flow Rate, veh/h | 48   | 269  | 291  | 36   | 145  | 213  |

### Adj No. of Lanes

| Adj No. of Lanes | 1    | 1    | 1    | 1    | 1    | 1    |

### Peak Hour Factor

| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |

### Percent Heavy Veh, %

| Percent Heavy Veh, % | 0    | 0    | 0    | 0    | 0    | 0    |

### Cap, veh/h

| Cap, veh/h | 390  | 349  | 433  | 54   | 502  | 973  |

### Arrive On Green

| Arrive On Green | 0.22 | 0.22 | 0.27 | 0.27 | 0.11 | 0.51 |

### Sat Flow, veh/h

| Sat Flow, veh/h | 1810 | 1615 | 1599 | 198  | 1810 | 1900 |

### Grp Volume(v), veh/h

| Grp Volume(v), veh/h | 48   | 269  | 0    | 327  | 145  | 213  |

### Q Serve(g_s), s

| Q Serve(g_s), s | 0.8  | 5.8  | 0.0  | 6.0  | 1.8  | 2.3  |

### Cycle Q Clear(g_c), s

| Cycle Q Clear(g_c), s | 0.8  | 5.8  | 0.0  | 6.0  | 1.8  | 2.3  |

### Prop In Lane

| Prop In Lane | 1.00 | 1.00 | 0.11 | 1.00 |

### Lane Grp Cap(c), veh/h

| Lane Grp Cap(c), veh/h | 390  | 349  | 0    | 487  | 502  | 973  |

### V/C Ratio(X)

| V/C Ratio(X) | 0.12 | 0.77 | 0.00 | 0.67 | 0.29 | 0.22 |

### Avail Cap(c_a), veh/h

| Avail Cap(c_a), veh/h | 1379 | 1230 | 0    | 1271 | 608  | 1913 |

### HCM Platoon Ratio

| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### Upstream Filter(I)

| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### Uniform Delay (d), s/veh

| Uniform Delay (d), s/veh | 11.6 | 13.6 | 0.0  | 11.9 | 7.5  | 4.9  |

### Incr Delay (d2), s/veh

| Incr Delay (d2), s/veh | 0.1  | 1.4  | 0.0  | 0.6  | 0.1  | 0.0  |

### Initial Q Delay(d3), s/veh

| Initial Q Delay(d3), s/veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

### %ile BackOfQ(50%),veh/ln

| %ile BackOfQ(50%),veh/ln | 0.4  | 2.7  | 0.0  | 3.0  | 0.9  | 1.2  |

### LnGrp Delay(d),s/veh

| LnGrp Delay(d),s/veh | 11.7 | 14.9 | 0.0  | 12.5 | 7.6  | 5.0  |

### LnGrp LOS

| LnGrp LOS | B    | B    | B    | A    | A    |

### Approach Vol, veh/h

| Approach Vol, veh/h | 317  | 327  | 358  |

### Approach Delay, s/veh

| Approach Delay, s/veh | 14.4 | 12.5 | 6.0  |

### Approach LOS

| Approach LOS | B    | B    | A    |

### Timer

| Timer | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |

### Assigned Phs

| Assigned Phs | 2    | 4    | 7    | 8    |

### Phs Duration (G+Y+Rc), s

| Phs Duration (G+Y+Rc), s | 12.9 | 23.8 | 8.9  | 15.0 |

### Change Period (Y+Rc), s

| Change Period (Y+Rc), s | 5.0  | 5.0  | 5.0  | 5.0  |

### Max Green Setting (Gmax), s

| Max Green Setting (Gmax), s | 28.0 | 37.0 | 6.0  | 26.0 |

### Max Q Clear Time (g_c+I1), s

| Max Q Clear Time (g_c+I1), s | 7.8  | 4.3  | 3.8  | 8.0  |

### Green Ext Time (p_c), s

| Green Ext Time (p_c), s | 0.5  | 0.7  | 0.0  | 1.1  |

### Intersection Summary

| HCM 2010 Ctrl Delay | 10.8 |
| HCM 2010 LOS | B |
### Intersection

<table>
<thead>
<tr>
<th>Int Delay, s/veh</th>
<th>0.9</th>
</tr>
</thead>
</table>

### Movement

#### Traffic Vol, veh/h
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/05/2018 Existing Conditions</td>
<td>144</td>
<td>16</td>
<td>17</td>
<td>297</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>144</td>
<td>16</td>
<td>17</td>
<td>297</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

#### Storage Length

| Veh in Median Storage, # | 0 | - | 0 | 0 | - | - |
| Grade, % | 0 | - | 0 | 0 | - | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |

### Major/Minor

#### Conflicting Flow All

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>186</td>
</tr>
<tr>
<td>0</td>
<td>562</td>
<td>177</td>
</tr>
</tbody>
</table>

#### Critical Hdwy

| Stage 1 | - | - | 177 |
| Stage 2 | - | - | 385 |

#### Critical Hdwy Stg 1

| - | 4.1 | 6.4 | 6.2 |

#### Critical Hdwy Stg 2

| - | - | 5.4 |

#### Follow-up Hdwy

| - | 2.2 | 3.5 | 3.3 |

#### Pot Cap-1 Maneuver

| Stage 1 | - | - | 859 |
| Stage 2 | - | - | 692 |

#### Platoon blocked, %

| - | - |

#### Mov Cap-1 Maneuver

| Stage 1 | - | - | 485 |
| Stage 2 | - | - | 555 |

#### Mov Cap-2 Maneuver

| Stage 1 | - | - | 847 |
| Stage 2 | - | - | 692 |

### Approach

#### HCM Control Delay, s

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.4</td>
<td>10</td>
</tr>
</tbody>
</table>

#### HCM LOS

| B |

### Minor Lane/Major Mvmt

#### Capacity (veh/h)

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>762</td>
<td>-</td>
<td>-</td>
<td>1401</td>
<td>-</td>
</tr>
</tbody>
</table>

#### HCM Lane V/C Ratio

| 0.049 | -   | -   | 0.014 |

#### HCM Control Delay (s)

| 10    | -   | 7.6 |

#### HCM Lane LOS

| B     | -   | A   |

#### HCM 95th %tile Q(veh)

| 0.2   | -   | 0   |
### Intersection

**Int Delay, s/veh**
1

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Ped, #/hr</th>
<th>Sign Control</th>
<th>RT Channelized</th>
<th>Storage Length</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>3188</td>
</tr>
<tr>
<td>EBT</td>
<td>139</td>
<td>139</td>
<td>0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td>EBR</td>
<td>25</td>
<td>25</td>
<td>0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>WBL</td>
<td>14</td>
<td>14</td>
<td>0</td>
<td>Free</td>
<td>None</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WBT</td>
<td>252</td>
<td>252</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>WBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>NBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Major Flow

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>341</td>
<td>0</td>
<td>222</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>0</td>
<td>0</td>
<td>222</td>
<td>0</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1229</td>
<td>-</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>0</td>
<td>0</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>0</td>
<td>0</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1229</td>
<td>-</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>1229</td>
<td>-</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>0</td>
<td>0</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>0</td>
<td>0</td>
<td>1359</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.1</td>
<td>0.4</td>
<td>11</td>
<td>14.2</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>639</td>
<td>1229</td>
<td>-</td>
<td>-</td>
<td>1359</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>395</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.061</td>
<td>0.002</td>
<td>-</td>
<td>0.014</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.007</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11</td>
<td>7.9</td>
<td>-</td>
<td>7.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>14.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn
Kittelson & Associates, Inc.
### Intersection

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>2.7</th>
</tr>
</thead>
</table>

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>16</td>
<td>129</td>
<td>9</td>
<td>9</td>
<td>236</td>
<td>37</td>
<td>10</td>
<td>2</td>
<td>11</td>
<td>43</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>16</td>
<td>129</td>
<td>9</td>
<td>9</td>
<td>236</td>
<td>37</td>
<td>10</td>
<td>2</td>
<td>11</td>
<td>43</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>25</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
</tbody>
</table>

### Major/Major

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>317</td>
<td>0</td>
<td>160</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1255</td>
<td>-</td>
<td>1432</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1255</td>
<td>-</td>
<td>1432</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.8</td>
<td>0.2</td>
<td>11.5</td>
<td>13.3</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>577</td>
<td>1255</td>
<td>-</td>
<td>-</td>
<td>1432</td>
<td>-</td>
<td>-</td>
<td>520</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.046</td>
<td>0.015</td>
<td>-</td>
<td>-</td>
<td>0.007</td>
<td>-</td>
<td>-</td>
<td>0.168</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11.5</td>
<td>7.9</td>
<td>-</td>
<td>-</td>
<td>7.5</td>
<td>-</td>
<td>-</td>
<td>13.3</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.6</td>
</tr>
</tbody>
</table>

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn
Kittelson & Associates, Inc.
### Intersection

**Int Delay, s/veh**: 1.1

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>154</td>
<td>9</td>
<td>9</td>
<td>208</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>154</td>
<td>9</td>
<td>9</td>
<td>208</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>- None</td>
<td>- None</td>
<td>- None</td>
<td>- None</td>
<td></td>
</tr>
</tbody>
</table>

| Storage Length | - | 25 | - | 0 | - |

| Grade, % | 0 | - | 0 | 0 | - |

| Peak Hour Factor | 25 | 25 | 25 | 25 | 25 |

| Veh in Median Storage, # | 0 | - | - | 0 | 0 |

| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 |

| Mvmt Flow | 616 | 36 | 36 | 832 | 32 | 40 |

#### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>0</th>
<th>0</th>
<th>652</th>
<th>0</th>
<th>1538</th>
<th>634</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>634</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>904</td>
<td></td>
</tr>
</tbody>
</table>

| Critical Hdwy | - | - | 4.1 | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 |
| Follow-up Hdwy | - | - | 2.2 | - | 3.5 | 3.3 |

| Pot Cap-1 Maneuver | - | - | 944 | - | 129 | 483 |
| Stage 1 | - | - | - | - | 532 |
| Stage 2 | - | - | - | - | 398 |

| Platoon blocked, % | - | - | - | - |

| Mov Cap-1 Maneuver | - | - | 944 | - | 124 | 483 |
| Mov Cap-2 Maneuver | - | - | - | - | 248 |

| Stage 1 | - | - | - | 512 |
| Stage 2 | - | - | - | 398 |

#### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>0</th>
<th>0.4</th>
<th>18.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>340</td>
<td>-</td>
<td>-</td>
<td>944</td>
<td>-</td>
</tr>
</tbody>
</table>

| HCM Lane V/C Ratio | 0.212 | - | - | 0.038 | - |
| HCM Control Delay (s) | 18.4 | - | - | 9 | - |
| HCM Lane LOS | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.8 | - | - | 0.1 | - |
### Intersection

**Int Delay, s/veh** | 1
--- | ---

### Movement

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>267</td>
<td>9</td>
<td>9</td>
<td>235</td>
<td>7</td>
<td>38</td>
</tr>
<tr>
<td>Future</td>
<td>267</td>
<td>9</td>
<td>9</td>
<td>235</td>
<td>7</td>
<td>38</td>
</tr>
</tbody>
</table>

### Conflicting Peds, #/hr

<table>
<thead>
<tr>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

### Storage Length

| Veh in Median Storage, # | 0    | 0    | 0    | 0    | 0    | 0    |

### Grade, %

| Peak Hour Factor | 90   | 90   | 90   | 90   | 90   | 90   |

### Heavy Vehicles, %

| Mvmt Flow | 297  | 10   | 10   | 261  | 8    | 42   |

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwrd</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwrd Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwrd Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hwrd</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.3</td>
<td>10.5</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>707</td>
<td>-</td>
<td>-</td>
<td>1265</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Lane V/C Ratio

| 0.071 | 0.008 | 0.008 |

### HCM Control Delay (s)

| 10.5 | 7.9 |

### HCM Lane LOS

| B | A |

### HCM 95th %tile Q(veh)

| 0.2 | 0 |

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn
Kittelson & Associates, Inc.
### Lane Group Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

#### Traffic Volume (vph)

- **108: Broadway Ave & University Dr**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday PM Peak Hour</td>
<td>157</td>
<td>5</td>
<td>149</td>
<td>5</td>
<td>113</td>
<td>819</td>
<td>14</td>
<td>1296</td>
<td></td>
</tr>
</tbody>
</table>

#### Turn Type

- **pm+pt NA**

#### Protected Phases

- **1 6 2 3 8 7 4**

#### Permitted Phases

- **6 6 2 8 4**

#### Detector Phase

- **1 6 6 2 3 8 7 4**

#### Switch Phase

- **Minimum Initial (s): 5.0 8.0 8.0 10.0 10.0 5.0 10.0 5.0 10.0**
- **Minimum Split (s): 11.0 33.0 33.0 34.0 34.0 11.0 20.0 11.0 27.0**
- **Total Split (s): 15.0 50.0 50.0 35.0 35.0 25.0 75.0 15.0 65.0**
- **Total Split (%): 10.7% 35.7% 35.7% 25.0% 25.0% 17.9% 53.6% 10.7% 46.4%**

#### Yellow Time (s)

- **4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0**

#### All-Red Time (s)

- **2.0 2.0 2.0 2.0 2.0 2.0 1.0 2.0 1.0**

#### Lost Time Adjust (s)

- **0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0**

#### Total Lost Time (s)

- **6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0**

#### Lead/Lag Optimize?

- **Yes Yes Yes Yes Yes Yes Yes**

#### Recall Mode

- **None None None None None None C-Min None C-Min**

#### Actuated g/C Ratio

- **0.18 0.18 0.18 0.07 0.74 0.71 0.66 0.63**

#### v/c Ratio

- **0.59 0.02 0.38 0.29 0.41 0.34 0.03 0.46**

#### Control Delay

- **58.9 40.4 8.7 52.5 19.3 7.4 8.3 16.0**

#### Queue Delay

- **0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0**

#### Total Delay

- **58.9 40.4 8.7 52.5 19.3 7.4 8.3 16.0**

#### LOS

- **A B A A B**

#### Approach Delay

- **34.6 52.5 8.8 15.9**

#### Approach LOS

- **C D A B**

### Intersection Summary

- **Cycle Length: 140**
- **Actuated Cycle Length: 140**
- **Offset: 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green**
- **Natural Cycle: 85**
- **Control Type: Actuated-Coordinated**
- **Maximum v/c Ratio: 0.59**
- **Intersection Signal Delay: 16.0**
- **Intersection LOS: B**
- **Intersection Capacity Utilization 63.3% ICU Level of Service B**
- **Analysis Period (min) 15**

### Splits and Phases:

- **108: Broadway Ave & University Dr**

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452Existing_pm.syn
Kittelson & Associates, Inc.

---

Synchro 10 Report
Page 9

Packet Pg. 553
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>157</td>
<td>5</td>
<td>149</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>13</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1296</td>
<td>131</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>157</td>
<td>5</td>
<td>149</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>13</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1296</td>
<td>131</td>
</tr>
<tr>
<td><strong>Ideal Flow (vphpl)</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Total Lost time (s)</strong></td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Lane Util. Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.85</td>
<td>0.96</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flt Protected</strong></td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satd. Flow (prot)</strong></td>
<td>1805</td>
<td>1900</td>
<td>1615</td>
<td>1770</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>5116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flt Permitted</strong></td>
<td>0.66</td>
<td>1.00</td>
<td>1.00</td>
<td>0.83</td>
<td>0.12</td>
<td>1.00</td>
<td>0.32</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satd. Flow (perm)</strong></td>
<td>1260</td>
<td>1900</td>
<td>1615</td>
<td>1511</td>
<td>229</td>
<td>3598</td>
<td>601</td>
<td>5116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak-hour factor, PHF</strong></td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adj. Flow (vph)</strong></td>
<td>164</td>
<td>5</td>
<td>155</td>
<td>18</td>
<td>5</td>
<td>11</td>
<td>118</td>
<td>853</td>
<td>20</td>
<td>15</td>
<td>1350</td>
<td>136</td>
</tr>
<tr>
<td><strong>RTOR Reduction (vph)</strong></td>
<td>0</td>
<td>0</td>
<td>125</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>Lane Group Flow (vph)</strong></td>
<td>164</td>
<td>5</td>
<td>30</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>118</td>
<td>872</td>
<td>0</td>
<td>15</td>
<td>1480</td>
<td>0</td>
</tr>
<tr>
<td><strong>Heavy Vehicles (%)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Green, G (s)</strong></td>
<td>26.9</td>
<td>26.9</td>
<td>26.9</td>
<td>6.0</td>
<td>102.1</td>
<td>94.0</td>
<td>87.7</td>
<td>85.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective Green, g (s)</strong></td>
<td>26.9</td>
<td>26.9</td>
<td>26.9</td>
<td>6.0</td>
<td>102.1</td>
<td>94.0</td>
<td>87.7</td>
<td>85.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.19</td>
<td>0.19</td>
<td>0.19</td>
<td>0.04</td>
<td>0.73</td>
<td>0.67</td>
<td>0.63</td>
<td>0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clearance Time (s)</strong></td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vehicle Extension (s)</strong></td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap (vph)</strong></td>
<td>300</td>
<td>365</td>
<td>310</td>
<td>64</td>
<td>285</td>
<td>2415</td>
<td>394</td>
<td>3128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Prot</strong></td>
<td>c0.06</td>
<td>0.00</td>
<td>c0.03</td>
<td>0.24</td>
<td>0.00</td>
<td>c0.29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Perm</strong></td>
<td>c0.05</td>
<td>0.02</td>
<td>0.02</td>
<td>0.27</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.55</td>
<td>0.01</td>
<td>0.10</td>
<td>0.37</td>
<td>0.41</td>
<td>0.36</td>
<td>0.04</td>
<td>0.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uniform Delay, d1</strong></td>
<td>50.4</td>
<td>45.8</td>
<td>46.5</td>
<td>65.2</td>
<td>9.0</td>
<td>10.0</td>
<td>9.9</td>
<td>14.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Progression Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.25</td>
<td>0.72</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incremental Delay, d2</strong></td>
<td>1.1</td>
<td>0.0</td>
<td>0.0</td>
<td>1.3</td>
<td>0.3</td>
<td>0.4</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Delay (s)</strong></td>
<td>51.5</td>
<td>45.8</td>
<td>46.6</td>
<td>66.4</td>
<td>20.5</td>
<td>7.6</td>
<td>9.9</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Service</strong></td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach Delay (s)</strong></td>
<td>49.1</td>
<td>66.4</td>
<td>9.1</td>
<td>15.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>D</td>
<td>E</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HCM 2000 Control Delay</strong></td>
<td>17.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HCM 2000 Level of Service</strong></td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HCM 2000 Volume to Capacity ratio</strong></td>
<td>0.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Cycle Length (s)</strong></td>
<td>140.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sum of lost time (s)</strong></td>
<td>23.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intersection Capacity Utilization</strong></td>
<td>63.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ICU Level of Service</strong></td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis Period (min)</strong></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c Critical Lane Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>157</td>
<td>5</td>
<td>149</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>113</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1296</td>
<td>131</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>157</td>
<td>5</td>
<td>149</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>113</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1296</td>
<td>131</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>164</td>
<td>5</td>
<td>155</td>
<td>18</td>
<td>5</td>
<td>11</td>
<td>118</td>
<td>853</td>
<td>20</td>
<td>15</td>
<td>1350</td>
<td>136</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>296</td>
<td>339</td>
<td>288</td>
<td>84</td>
<td>27</td>
<td>34</td>
<td>309</td>
<td>2467</td>
<td>58</td>
<td>508</td>
<td>3179</td>
<td>320</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.18</td>
<td>0.18</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.66</td>
<td>0.66</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>622</td>
<td>384</td>
<td>481</td>
<td>1810</td>
<td>1805</td>
<td>1885</td>
<td>1810</td>
<td>1729</td>
<td>1815</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>164</td>
<td>5</td>
<td>155</td>
<td>34</td>
<td>0</td>
<td>0</td>
<td>118</td>
<td>427</td>
<td>446</td>
<td>15</td>
<td>975</td>
<td>1204</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>1488</td>
<td>0</td>
<td>0</td>
<td>1810</td>
<td>1805</td>
<td>1885</td>
<td>1810</td>
<td>1729</td>
<td>1815</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>9.0</td>
<td>0.3</td>
<td>12.2</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>18.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>9.0</td>
<td>0.3</td>
<td>12.2</td>
<td>2.7</td>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>18.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.53</td>
<td>0.32</td>
<td>1.00</td>
<td>0.04</td>
<td>1.00</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>296</td>
<td>339</td>
<td>288</td>
<td>146</td>
<td>0</td>
<td>0</td>
<td>309</td>
<td>2467</td>
<td>58</td>
<td>508</td>
<td>3179</td>
<td>320</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.55</td>
<td>0.01</td>
<td>0.54</td>
<td>0.23</td>
<td>0.00</td>
<td>0.00</td>
<td>0.38</td>
<td>0.35</td>
<td>0.35</td>
<td>0.03</td>
<td>0.42</td>
<td>0.42</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>296</td>
<td>597</td>
<td>508</td>
<td>339</td>
<td>0</td>
<td>0</td>
<td>489</td>
<td>1235</td>
<td>1290</td>
<td>596</td>
<td>2295</td>
<td>1204</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>55.7</td>
<td>47.4</td>
<td>52.3</td>
<td>61.6</td>
<td>0.0</td>
<td>0.0</td>
<td>8.2</td>
<td>0.0</td>
<td>0.0</td>
<td>7.3</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>1.4</td>
<td>0.0</td>
<td>0.6</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.3</td>
<td>0.8</td>
<td>0.7</td>
<td>0.0</td>
<td>0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>1.6</td>
<td>0.2</td>
<td>5.5</td>
<td>1.3</td>
<td>0.0</td>
<td>0.0</td>
<td>1.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>9.0</td>
<td>9.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>57.0</td>
<td>47.4</td>
<td>52.8</td>
<td>61.9</td>
<td>0.0</td>
<td>0.0</td>
<td>8.5</td>
<td>0.8</td>
<td>0.7</td>
<td>7.3</td>
<td>11.6</td>
<td>12.1</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>324</td>
<td>34</td>
<td>991</td>
<td>1501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>54.9</td>
<td>61.9</td>
<td>1.7</td>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>E</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 13.7
- **HCM 2010 LOS**: B

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452Existing_pm.syn
Kittelson & Associates, Inc.

Synchro 10 Report
Page 11
### Intersection

**Int Delay, s/veh** 4.7

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>64</td>
<td>0</td>
<td>217</td>
<td>0</td>
<td>0</td>
<td>224</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>64</td>
<td>0</td>
<td>217</td>
<td>0</td>
<td>0</td>
<td>224</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Sign Control**

<table>
<thead>
<tr>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>75</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>256</td>
<td>0</td>
<td>868</td>
<td>0</td>
<td>0</td>
<td>896</td>
<td>0</td>
</tr>
</tbody>
</table>

**Major/Minor**

<table>
<thead>
<tr>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>1892</td>
<td>1764</td>
<td>896</td>
</tr>
<tr>
<td>Stage 1</td>
<td>896</td>
<td>896</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>996</td>
<td>868</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Critical Hdyw Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdyw</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>54</td>
<td>85</td>
<td>342</td>
</tr>
<tr>
<td>Stage 1</td>
<td>338</td>
<td>362</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>297</td>
<td>372</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>15</td>
<td>85</td>
<td>342</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>15</td>
<td>85</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>338</td>
<td>362</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>83</td>
<td>372</td>
<td>-</td>
</tr>
</tbody>
</table>

**Approach**

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>37.4</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

**Minor Lane/Major Mvmt**

<table>
<thead>
<tr>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>766</td>
<td>-</td>
<td>-</td>
<td>355</td>
<td>785</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.721</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>37.4</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>E</td>
<td>A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## 110: Michigan Ave & Belmont St
### Weekday PM Peak Hour
#### 2018 Existing Conditions

**Intersection Delay, s/veh** 0

**Intersection LOS** -

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Approach</td>
<td>WB</td>
<td>EB</td>
<td>SB</td>
<td>NB</td>
</tr>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Intersection

Intersection Delay, s/veh 7.2
Intersection LOS A

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>44</td>
<td>10</td>
<td>11</td>
<td>36</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>44</td>
<td>10</td>
<td>11</td>
<td>36</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>59</td>
<td>13</td>
<td>15</td>
<td>48</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>NB</td>
<td>EB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>WB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1WBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>30%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>0%</td>
<td>81%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>70%</td>
<td>19%</td>
</tr>
<tr>
<td>Sign Control Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>23</td>
<td>54</td>
</tr>
<tr>
<td>LT Vol</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td>RT Vol</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>31</td>
<td>72</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0.032</td>
<td>0.078</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.775</td>
<td>3.889</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>941</td>
<td>922</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.83</td>
<td>1.912</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.033</td>
<td>0.078</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>7</td>
<td>7.2</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0.1</td>
<td>0.3</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**

0

### Movement

#### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Traffic Control

- **Sign Control**: Free, Free, Free, Free, Free, Free, Stop, Stop, Stop, Stop, Stop
- **RT Channelized**: None, None, None, None, None, None, None, None, None, None, None
- **Storage Length**: - - - - - - - - - - -
- **Veh in Median Storage, #**: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
- **Grade, %**: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
- **Heavy Vehicles, %**: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
- **Mvmt Flow**: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

#### Conflicting Flow

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1631</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1631</td>
</tr>
</tbody>
</table>

### Additional Data

- **Platoon blocked, %**: - - - -

---

### Intersection

**Intersection Delay, s/veh** | 0
---|---
**Intersection LOS** | -

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SBL</td>
<td>WBL</td>
<td>SBR</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>WBL</td>
<td>WBT</td>
<td>WBR</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane Flow Rate</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 4.1 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

#### Lane Configurations

| Traffic Vol, veh/h | 10 34 2 11 28 6 5 7 6 4 17 2 |
| Future Vol, veh/h | 10 34 2 11 28 6 5 7 6 4 17 2 |

#### Conflicting Peds, #/hr

| 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Sign Control

| Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop |

#### Veh in Median Storage, #

| 0 - - - - - - |

#### Grade, %

| 0 - - - - - - |

#### Peak Hour Factor

| 90 90 90 90 90 90 90 90 90 90 90 90 |

#### Heavy Vehicles, %

| 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Mvmt Flow

| 11 38 2 12 31 7 6 8 7 4 19 2 |

### Major/Minor

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
</table>

#### Conflicting Flow All

| 38 0 40 0 130 123 39 128 121 35 |

#### Critical Hdwy

| 4.1 - 4.1 - 6.1 6.5 6.2 6.1 6.5 6.2 |

#### Critical Hdwy Stg

| - - - - 6.1 5.5 - 6.1 5.5 |

#### Follow-up Hdwy

| 2.2 - 2.2 - 3.5 4 3.3 4 3.3 |

#### Pot Cap-1 Maneuver

| 1585 - 1583 - 847 771 1038 850 773 1044 |

#### Mov Cap-1 Maneuver

| 1585 - 1583 - 820 759 1038 829 761 1044 |

#### Mov Cap-2 Maneuver

| 1585 - 1583 - 820 759 - 829 761 |

#### Platoon blocked, %

| - - - - |

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
</table>

#### HCM Control Delay, s

| 1.6 | 1.8 | 9.3 | 9.7 |

#### HCM LOS

| A  | A  | A  | A  |

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
</table>

#### Capacity (veh/h)

| 853 | 1585 - 1583 - 791 |

#### HCM Lane V/C Ratio

| 0.023 | 0.007 - 0.008 - 0.032 |

#### HCM Control Delay (s)

| 9.3 | 7.3 | 0 - 7.3 0 - 9.7 |

#### HCM Lane LOS

| A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  |

#### HCM 95th %tile Q(veh)

| 0.1 | 0 - | 0 - | 0 - | 0.1 |
### Intersection

| Int Delay, s/veh | 0 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

### Lane Configurations

| Traffic Vol, veh/h | 0 0 0 0 0 0 0 0 0 0 0 0 |

| Future Vol, veh/h | 0 0 0 0 0 0 0 0 0 0 0 0 |

| Conflicting Peds, #/hr | 0 0 0 0 0 0 0 0 0 0 0 0 |

### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
</tr>
</thead>
</table>

| Storage Length | - | - | - | - | - | - | - | - | - |

| Veh in Median Storage, # | - | 0 | - | 0 | - | 0 | - | 0 | - |

| Grade, % | 0 0 0 0 0 0 0 0 0 0 0 0 |

| Peak Hour Factor | 92 92 92 92 92 92 92 92 92 |

| Heavy Vehicles, % | 0 0 0 0 0 0 0 0 0 0 0 0 |

### Major/Minor

<table>
<thead>
<tr>
<th>Minor Flow</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
</table>

### Critical Hdwy

| Critical Hdwy | 7.1 6.5 6.2 7.1 6.5 6.2 4.1 - - - |

| Critical Hdwy Stg 1 | 6.1 5.5 - 6.1 5.5 - - - - - |

| Critical Hdwy Stg 2 | 6.1 5.5 - 6.1 5.5 - - - - - |

### Follow-up Hdwy

| Follow-up Hdwy | 3.5 4 3.3 3.5 4 3.3 2.2 - - - |

### Pot Cap-1 Maneuver

| Pot Cap-1 Maneuver | 1027 899 1090 1027 899 - 1635 - - - |

### Platoon blocked, %

### Mov Cap-1 Maneuver

### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | - 899 1090 1027 899 - 1635 - - - |

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
</table>

| HCM Control Delay, s | 0 0 0 0 |

| HCM LOS | A A |

### Minor Lane/Major Mvmt

| Capacity (veh/h) | 1635 - - - - - - |

| HCM Lane V/C Ratio | - - - - - - - - |

| HCM Control Delay (s) | 0 - 0 0 0 0 - |

| HCM Lane LOS | A - A A A A |

| HCM 95th %tile Q(veh) | 0 - - - - - - |
### Intersection

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>1.6</th>
</tr>
</thead>
</table>

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>40</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1338</td>
<td>28</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>40</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1338</td>
<td>28</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Int Delay, s/veh</th>
<th>1.6</th>
</tr>
</thead>
</table>

#### Traffic Vol, veh/h

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday PM Peak Hour</td>
<td>07/05/2018</td>
<td>H:\22452\22452-existing_pm.syn Synchro 10 Report Kittelson &amp; Associates, Inc. Page 19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Conflicting Flow

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>1501</td>
<td>1501</td>
<td>980</td>
<td>980</td>
</tr>
<tr>
<td>Stage 2</td>
<td>500</td>
<td>993</td>
<td>643</td>
<td>1515</td>
</tr>
</tbody>
</table>

#### Critical Hdwy Stg 1

| Critical Hdwy Stg 1 | 6.5 | 5.5 | 6.7 | 5.5 |

#### Critical Hdwy Stg 2

| Critical Hdwy Stg 2 | 6.5 | 5.5 | 6.7 | 5.5 |

#### Follow-up Hdwy

| Follow-up Hdwy | 3.65 | 4 | 3.65 | 4 |

#### Pot Cap-1 Maneuver

| Pot Cap-1 Maneuver | 48 | 29 | 322 | 88 |

#### Platoon blocked, %

| Platoon blocked, % | - | - | - | - |

#### Mov Cap-1 Maneuver

| Mov Cap-1 Maneuver | 41 | 26 | 322 | 63 |

#### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | 41 | 26 | 322 | 63 |

#### Stage 1

| Stage 1 | 92 | 187 | 265 | 331 |

#### Stage 2

| Stage 2 | 510 | 326 | 406 | 184 |

#### Platoon blocked, %

| Platoon blocked, % | - | - | - | - |

#### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | 41 | 26 | 322 | 63 |

#### Stage 1

| Stage 1 | 86 | 177 | 248 | 309 |

#### Stage 2

| Stage 2 | 447 | 304 | 328 | 174 |

#### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>44.6</td>
<td>25.9</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

#### HCM LOS

<table>
<thead>
<tr>
<th>HCM LOS</th>
<th>E</th>
<th>D</th>
</tr>
</thead>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>244</td>
<td>-</td>
<td>-</td>
<td>139</td>
<td>214</td>
<td>724</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.065</td>
<td>-</td>
<td>-</td>
<td>0.356</td>
<td>0.197</td>
<td>0.054</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>20.8</td>
<td>-</td>
<td>-</td>
<td>44.6</td>
<td>25.9</td>
<td>10.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
<td>1.5</td>
<td>0.7</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### 117: Lincoln Ave & Beacon St 2018 Existing Conditions

#### Weekday PM Peak Hour

**07/05/2018**

- **H:\22\22452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn**

**Kittelson & Associates, Inc.**

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>71</td>
<td>314</td>
<td>11</td>
<td>487</td>
<td>1</td>
<td>30</td>
<td>82</td>
<td>36</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>71</td>
<td>314</td>
<td>11</td>
<td>487</td>
<td>1</td>
<td>30</td>
<td>82</td>
<td>36</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

**Switch Phase**

- Minimum Initial (s): 4.0, 10.0, 4.0, 10.0, 4.0, 10.0, 4.0, 10.0
- Minimum Split (s): 9.5, 28.0, 9.5, 25.0, 9.5, 31.0, 9.5, 31.0
- Total Split (s): 11.0, 28.0, 9.5, 26.5, 9.5, 32.9, 9.6, 33.0
- Total Split (%): 13.8%, 35.0%, 11.9%, 33.1%, 11.9%, 41.1%, 12.0%, 41.3%
- Yellow Time (s): 4.0, 4.0, 4.0, 4.0, 4.0, 4.0, 4.0, 4.0
- All-Red Time (s): 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0
- Lost Time Adjust (s): 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
- Total Lost Time (s): 5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0
- Lead/Lag: Lead, Lag, Lead, Lag, Lead, Lag, Lead, Lag
- Lead-Lag Optimize?: Yes, Yes, Yes, Yes, Yes, Yes, Yes, Yes
- Recall Mode: None, None, None, None, None, Min, None, Min
- Act Effct Green (s): 21.1, 20.1, 18.4, 16.1, 14.1, 10.8, 17.1, 16.3
- Actuated g/C Ratio: 0.42, 0.40, 0.37, 0.32, 0.28, 0.21, 0.34, 0.32
- v/c Ratio: 0.21, 0.23, 0.03, 0.56, 0.00, 0.09, 0.19, 0.24
- Control Delay: 9.4, 10.9, 7.8, 16.6, 14.0, 20.6, 15.0, 8.7
- Queue Delay: 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
- Total Delay: 9.4, 10.9, 7.8, 16.6, 14.0, 20.6, 15.0, 8.7
- LOS: A, B, A, B, B, C, B, A
- Approach Delay: 10.6, 16.5, 20.4, 11.0
- Approach LOS: B, B, C, B

**Intersection Summary**

- Cycle Length: 80
- Actuated Cycle Length: 50.3
- Natural Cycle: 80
- Control Type: Actuated-Uncoordinated
- Maximum v/c Ratio: 0.56
- Intersection Signal Delay: 13.8
- Intersection LOS: B
- Intersection Capacity Utilization: 44.8%
- ICU Level of Service: A
- Analysis Period (min): 15

**Splits and Phases**: 117: Lincoln Ave & Beacon St
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>71</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>82</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>71</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>82</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3605</td>
<td>1805</td>
<td>3506</td>
<td>1805</td>
<td>1876</td>
<td>1805</td>
<td>1688</td>
<td>1805</td>
<td>1688</td>
<td>1805</td>
<td>1688</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.28</td>
<td>1.00</td>
<td>0.55</td>
<td>1.00</td>
<td>0.66</td>
<td>1.00</td>
<td>0.61</td>
<td>1.00</td>
<td>0.61</td>
<td>1.00</td>
<td>0.61</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>524</td>
<td>3605</td>
<td>1043</td>
<td>3506</td>
<td>1258</td>
<td>1876</td>
<td>1164</td>
<td>1688</td>
<td>1164</td>
<td>1688</td>
<td>1164</td>
<td>1688</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>76</td>
<td>334</td>
<td>3</td>
<td>12</td>
<td>658</td>
<td>123</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>87</td>
<td>38</td>
<td>111</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>76</td>
<td>336</td>
<td>0</td>
<td>12</td>
<td>617</td>
<td>0</td>
<td>1</td>
<td>33</td>
<td>0</td>
<td>87</td>
<td>69</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>23.1</td>
<td>20.1</td>
<td>18.5</td>
<td>17.8</td>
<td>14.3</td>
<td>13.6</td>
<td>19.7</td>
<td>16.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>23.1</td>
<td>20.1</td>
<td>18.5</td>
<td>17.8</td>
<td>14.3</td>
<td>13.6</td>
<td>19.7</td>
<td>16.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.40</td>
<td>0.35</td>
<td>0.32</td>
<td>0.31</td>
<td>0.25</td>
<td>0.24</td>
<td>0.34</td>
<td>0.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>275</td>
<td>1253</td>
<td>343</td>
<td>1079</td>
<td>317</td>
<td>441</td>
<td>434</td>
<td>476</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.01</td>
<td>0.09</td>
<td>0.00</td>
<td>c0.18</td>
<td>0.00</td>
<td>0.02</td>
<td>c0.01</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.10</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>c0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.28</td>
<td>0.27</td>
<td>0.03</td>
<td>0.57</td>
<td>0.00</td>
<td>0.07</td>
<td>0.20</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>11.3</td>
<td>13.6</td>
<td>13.5</td>
<td>16.8</td>
<td>16.4</td>
<td>17.2</td>
<td>13.3</td>
<td>15.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>11.5</td>
<td>13.7</td>
<td>13.5</td>
<td>17.5</td>
<td>16.4</td>
<td>17.2</td>
<td>13.3</td>
<td>15.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>13.3</td>
<td>17.5</td>
<td>17.2</td>
<td>14.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>15.7</th>
<th>HCM 2000 Level of Service</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>57.8</td>
<td>Sum of lost time (s)</td>
<td>20.0</td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>44.8%</td>
<td>ICU Level of Service</td>
<td>A</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**c** Critical Lane Group
### Movement Table

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>71</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>82</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>71</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>82</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj (A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>76</td>
<td>334</td>
<td>3</td>
<td>12</td>
<td>518</td>
<td>123</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>87</td>
<td>38</td>
<td>111</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>331</td>
<td>1128</td>
<td>10</td>
<td>424</td>
<td>774</td>
<td>183</td>
<td>395</td>
<td>355</td>
<td>33</td>
<td>521</td>
<td>113</td>
<td>330</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.05</td>
<td>0.31</td>
<td>0.31</td>
<td>0.01</td>
<td>0.27</td>
<td>0.27</td>
<td>0.00</td>
<td>0.21</td>
<td>0.21</td>
<td>0.06</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>3666</td>
<td>33</td>
<td>1810</td>
<td>2899</td>
<td>685</td>
<td>1810</td>
<td>1711</td>
<td>160</td>
<td>1810</td>
<td>428</td>
<td>1251</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>76</td>
<td>164</td>
<td>173</td>
<td>12</td>
<td>322</td>
<td>319</td>
<td>1</td>
<td>35</td>
<td>3</td>
<td>87</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1894</td>
<td>1810</td>
<td>1805</td>
<td>1779</td>
<td>1810</td>
<td>0</td>
<td>1872</td>
<td>1810</td>
<td>0</td>
<td>1679</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>1.4</td>
<td>3.3</td>
<td>3.3</td>
<td>0.2</td>
<td>7.7</td>
<td>7.7</td>
<td>0</td>
<td>0.7</td>
<td>1.8</td>
<td>0.0</td>
<td>3.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>1.4</td>
<td>3.3</td>
<td>3.3</td>
<td>0.2</td>
<td>7.7</td>
<td>7.7</td>
<td>0</td>
<td>0.7</td>
<td>1.8</td>
<td>0.0</td>
<td>3.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.02</td>
<td>1.00</td>
<td>0.07</td>
<td>1.00</td>
<td>0.09</td>
<td>1.00</td>
<td>0.09</td>
<td>1.00</td>
<td>0.09</td>
<td>1.00</td>
<td>0.43</td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>331</td>
<td>555</td>
<td>583</td>
<td>424</td>
<td>482</td>
<td>475</td>
<td>395</td>
<td>0</td>
<td>389</td>
<td>521</td>
<td>0</td>
<td>443</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.23</td>
<td>0.30</td>
<td>0.30</td>
<td>0.03</td>
<td>0.67</td>
<td>0.67</td>
<td>0.00</td>
<td>0.09</td>
<td>0.17</td>
<td>0.00</td>
<td>0.34</td>
<td>0.00</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>460</td>
<td>862</td>
<td>905</td>
<td>571</td>
<td>806</td>
<td>794</td>
<td>560</td>
<td>0</td>
<td>1084</td>
<td>591</td>
<td>0</td>
<td>976</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>12.3</td>
<td>12.7</td>
<td>12.7</td>
<td>12.6</td>
<td>15.7</td>
<td>15.8</td>
<td>15.1</td>
<td>0.0</td>
<td>15.4</td>
<td>13.7</td>
<td>0.0</td>
<td>14.3</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.1</td>
<td>0.3</td>
<td>0.3</td>
<td>0.0</td>
<td>1.6</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>0.7</td>
<td>1.7</td>
<td>1.8</td>
<td>0.1</td>
<td>4.0</td>
<td>3.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>0.9</td>
<td>0.0</td>
<td>1.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>12.4</td>
<td>13.0</td>
<td>13.0</td>
<td>12.6</td>
<td>17.3</td>
<td>17.4</td>
<td>15.1</td>
<td>0.0</td>
<td>15.4</td>
<td>13.7</td>
<td>0.0</td>
<td>14.5</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>413</td>
<td>653</td>
<td>36</td>
<td>236</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>12.9</td>
<td>17.3</td>
<td>15.4</td>
<td>14.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>7.6</td>
<td>17.9</td>
<td>5.1</td>
<td>17.7</td>
<td>5.6</td>
<td>19.8</td>
<td>7.8</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>6.0</td>
<td>21.5</td>
<td>4.5</td>
<td>28.0</td>
<td>4.5</td>
<td>23.0</td>
<td>4.6</td>
<td>27.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+I1), s</td>
<td>3.4</td>
<td>9.7</td>
<td>2.0</td>
<td>5.5</td>
<td>2.2</td>
<td>5.3</td>
<td>3.8</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.0</td>
<td>3.1</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>1.8</td>
<td>0.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

| HCM 2010 Ctrl Delay | 15.3 |
| HCM 2010 LOS | B |
### Intersection

**Int Delay, s/veh** 1.1

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>14</td>
<td>387</td>
<td>3</td>
<td>5</td>
<td>578</td>
<td>16</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>14</td>
<td>387</td>
<td>3</td>
<td>5</td>
<td>578</td>
<td>16</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

- Free
- Stop

### Veh in Median Storage, #

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Grade, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Peak Hour Factor

- 93
- 93
- 93
- 93
- 93
- 93
- 93
- 93
- 93
- 93
- 93
- 93

### Heavy Vehicles, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Mvmt Flow

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>639</td>
<td>0</td>
<td>419</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>955</td>
<td>-</td>
<td>1151</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>955</td>
<td>-</td>
<td>1151</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>0.1</td>
<td>15</td>
<td>14.7</td>
</tr>
</tbody>
</table>

### HCM Control Delay, s

- 0.4
- 0.1
- 15
- 14.7

### HCM LOS

- C
- B

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>369</td>
<td>955</td>
<td>-</td>
<td>-</td>
<td>1151</td>
<td>-</td>
<td>-</td>
<td>436</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.026</td>
<td>0.016</td>
<td>-</td>
<td>-</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>0.146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15</td>
<td>8.8</td>
<td>0.1</td>
<td>-</td>
<td>8.1</td>
<td>0</td>
<td>-</td>
<td>14.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 4.9 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>12</td>
<td>394</td>
<td>0</td>
<td>0</td>
<td>568</td>
<td>11</td>
<td>20</td>
<td>0</td>
<td>36</td>
<td>10</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>12</td>
<td>394</td>
<td>0</td>
<td>0</td>
<td>568</td>
<td>11</td>
<td>20</td>
<td>0</td>
<td>36</td>
<td>10</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Traffic Vol, veh/h
- EBL: 12
- EBT: 394
- EBR: 0
- WBL: 0
- WBT: 568
- WBR: 11
- NBL: 20
- NBT: 0
- NBR: 36
- SBL: 10
- SBT: 10
- SBR: 11

### Conflicting Peds, #/hr
- EBL: 0
- EBT: 0
- EBR: 0
- WBL: 0
- WBT: 0
- WBR: 0
- NBL: 0
- NBT: 0
- NBR: 0
- SBL: 0
- SBT: 0
- SBR: 0

### Major/Major Flow

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2316</td>
<td>0</td>
<td>1576</td>
<td>0</td>
</tr>
</tbody>
</table>

### Conflicting Flow All
- Stage 1: 1672
- Stage 2: 2316
- Critical Hdwy: 4.1
- Critical Hdwy Stg 1: 6.5
- Critical Hdwy Stg 2: 6.5
- Follow-up Hdwy: 2.2

### Pot Cap-1 Maneuver
- Stage 1: 219
- Stage 2: 423

### Platoon blocked, %
- EBL: 0
- EBT: 0
- EBR: 0
- WBL: 0
- WBT: 0
- WBR: 0
- NBL: 0
- NBT: 0
- NBR: 0
- SBL: 0
- SBT: 0
- SBR: 0

### HCM Control Delay, s
- EB: 12.7
- WB: 0
- NB: 0
- SB: 0

### Notes
- ~: Volume exceeds capacity
- $: Delay exceeds 300s
- +: Computation Not Defined
- *: All major volume in platoon
# 120: Manitou Ave & Beacon St
## Weekday PM Peak Hour

### 2018 Existing Conditions
07/05/2018

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>1</th>
</tr>
</thead>
</table>

### Movement

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>12</td>
<td>416</td>
<td>12</td>
<td>4</td>
<td>550</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>23</td>
</tr>
</tbody>
</table>

### Conflicting Peds, #/hr

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

### Veh in Median Storage, #

| Storage Length | 0 - | - | - | - | - | - | - | - | - | - | - | - |

### Grade, %

| Grade, % | 0 - | - | - | - | - | - | - | - | - | - | - | - |

### Peak Hour Factor

| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |

### Heavy Vehicles, %

| Heavy Vehicles, % | 0 - | - | - | - | - | - | - | - | - | - | - | - |

### Mvmt Flow

| Mvmt Flow | 12 | 429 | 12 | 4 | 567 | 3 | 6 | 5 | 8 | 10 | 6 | 24 |

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.3</td>
<td>0.1</td>
<td>15.7</td>
<td>14.9</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>356</td>
<td>1013</td>
<td>-</td>
<td>-</td>
<td>1130</td>
<td>-</td>
<td>-</td>
<td>402</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.055</td>
<td>0.012</td>
<td>-</td>
<td>-</td>
<td>0.004</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15.7</td>
<td>8.6</td>
<td>0.1</td>
<td>-</td>
<td>8.2</td>
<td>0</td>
<td>-</td>
<td>14.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**
1

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>12</td>
<td>405</td>
<td>10</td>
<td>12</td>
<td>525</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>12</td>
<td>405</td>
<td>10</td>
<td>12</td>
<td>525</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Veh in Median Storage, #</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Grade, %</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Peak Hour Factor</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Heavy Vehicles, %</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mvmt Flow</th>
<th>13</th>
<th>435</th>
<th>11</th>
<th>13</th>
<th>565</th>
<th>5</th>
<th>11</th>
<th>2</th>
<th>9</th>
<th>4</th>
<th>3</th>
<th>23</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>570</td>
<td>0</td>
<td>446</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1013</td>
<td>-</td>
<td>1125</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1013</td>
<td>-</td>
<td>1125</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.3</td>
<td>0.3</td>
<td>15.8</td>
<td>13.1</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>355</td>
<td>1013</td>
<td>-</td>
<td>-</td>
<td>1125</td>
<td>-</td>
<td>-</td>
<td>473</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.061</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
<td>0.011</td>
<td>-</td>
<td>-</td>
<td>0.064</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15.8</td>
<td>8.6</td>
<td>0.1</td>
<td>-</td>
<td>8.2</td>
<td>0.1</td>
<td>-</td>
<td>13.1</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
</tr>
</tbody>
</table>
### Intersection

#### Int Delay, s/veh
0.4

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>8</td>
<td>431</td>
<td>0</td>
<td>0</td>
<td>518</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>8</td>
<td>431</td>
<td>0</td>
<td>0</td>
<td>518</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>9</td>
<td>474</td>
<td>0</td>
<td>0</td>
<td>569</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

#### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>581</td>
<td>0</td>
<td>474</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1003</td>
<td>-</td>
<td>1099</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1003</td>
<td>-</td>
<td>1099</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>0</td>
<td>9.7</td>
<td>14.6</td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>771</td>
<td>1003</td>
<td>-</td>
<td>-</td>
<td>1099</td>
<td>-</td>
<td>-</td>
<td>401</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCM Lane V/C Ratio</th>
<th>0.001</th>
<th>0.009</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>0.06</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay (s)</td>
<td>9.7</td>
<td>8.6</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>14.6</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0.2</td>
</tr>
</tbody>
</table>

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_exiting_pm.syn
Kittelson & Associates, Inc.
### Lane Group

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>258</td>
<td>246</td>
<td>70</td>
<td>698</td>
<td>87</td>
<td>1149</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>258</td>
<td>246</td>
<td>70</td>
<td>698</td>
<td>87</td>
<td>1149</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

### Switch Phase

| Minimum Initial (s) | 5.0 | 10.0 | 6.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s)   | 10.0| 41.0 | 11.0| 40.0 | 10.0| 37.0 | 10.0| 33.0 |
| Total Split (s)      | 23.0| 42.0 | 26.0| 45.0 | 19.0| 55.0 | 17.0| 53.0 |
| Total Split (%)      | 16.4%| 30.0%| 18.6%| 32.1%| 13.6%| 39.3%| 12.1%| 37.9%|
| Yellow Time (s)      | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  |
| All-Red Time (s)     | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  |
| Lost Time Adjust (s) | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Lost Time (s)  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  |
| Lead/Lag             | Lead| Lag  | Lead| Lag  | Lead| Lag  | Lead| Lag  |
| Lead-Lag Optimize?   | Yes | Yes  | Yes | Yes  | Yes | Yes  | Yes | Yes  |
| Recall Mode          | None| None | None| None | None| C-Min| None| C-Min|
| Act.Effct Green (s)  | 27.3| 13.9 | 41.7| 23.2 | 83.9| 76.4 | 83.6| 77.8 |
| Actuated g/C Ratio   | 0.20| 0.10 | 0.30| 0.17 | 0.60| 0.55 | 0.60| 0.56 |
| v/c Ratio            | 0.57| 0.75 | 0.78| 0.54 | 0.32| 0.44 | 0.13| 0.50 |
| Control Delay        | 45.8| 49.1 | 55.8| 53.0 | 15.0| 20.6 | 6.1 | 9.0  |
| Queue Delay          | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Delay          | 45.8| 49.1 | 55.8| 53.0 | 15.0| 20.6 | 6.1 | 9.0  |
| LOS                  | D   | D    | E   | D    | B   | C    | A   | A    |
| Approach Delay       | 48.0| 54.3 | 20.1| 8.8  |
| Approach LOS         | D   | D    | C   | A    |

### Intersection Summary

- Cycle Length: 140
- Actuated Cycle Length: 140
- Offset: 71 (51%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
- Natural Cycle: 100
- Control Type: Actuated-Coordinated
- Maximum v/c Ratio: 0.78
- Intersection Signal Delay: 25.0
- Intersection LOS: C
- Intersection Capacity Utilization 70.7%
- ICU Level of Service C
- Analysis Period (min) 15

### Splits and Phases:

124: Broadway Ave & Beacon St

```plaintext
23 s 45 s 19 s 53 s 26 s 42 s 17 s 55 s
```

### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>131</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>70</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1149</td>
<td>183</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>131</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>70</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1149</td>
<td>183</td>
</tr>
<tr>
<td>Ideal Flow (vphl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>0.97</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fr</td>
<td>1.00</td>
<td>0.94</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3444</td>
<td>1805</td>
<td>3485</td>
<td>1805</td>
<td>3529</td>
<td>3502</td>
<td>5071</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filt Permitted</td>
<td>0.56</td>
<td>1.00</td>
<td>0.21</td>
<td>1.00</td>
<td>0.13</td>
<td>1.00</td>
<td>0.26</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1056</td>
<td>3444</td>
<td>402</td>
<td>3485</td>
<td>253</td>
<td>3529</td>
<td>963</td>
<td>5071</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>158</td>
<td>196</td>
<td>138</td>
<td>272</td>
<td>306</td>
<td>74</td>
<td>96</td>
<td>735</td>
<td>115</td>
<td>92</td>
<td>1391</td>
<td>193</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>112</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>158</td>
<td>222</td>
<td>0</td>
<td>272</td>
<td>306</td>
<td>74</td>
<td>96</td>
<td>735</td>
<td>115</td>
<td>92</td>
<td>1391</td>
<td>193</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lane Group Flow (vph)

- Lane Group Cap (vph) range from 278 to 2781
- v/s Ratio Prot range from 0.05 to 0.27
- v/c Ratio range from 0.57 to 0.78

### Intersection Summary

- HCM 2000 Control Delay: 26.2
- HCM 2000 Volume to Capacity ratio: 0.60
- Actuated Cycle Length (s): 140.0
- Intersection Capacity Utilization: 70.7%
- Analysis Period (min): 15
- Critical Lane Group

---

H:\222452 - Boise State University SE Campus Study\synchro\22452_existing_pm.syn
Kittelson & Associates, Inc.

Synchro 10 Report
Page 29
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>150</td>
<td>186</td>
<td>131</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>70</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1149</td>
<td>183</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>150</td>
<td>186</td>
<td>131</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>70</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1149</td>
<td>183</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>158</td>
<td>196</td>
<td>138</td>
<td>272</td>
<td>259</td>
<td>65</td>
<td>74</td>
<td>735</td>
<td>115</td>
<td>92</td>
<td>1209</td>
<td>193</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>311</td>
<td>250</td>
<td>166</td>
<td>334</td>
<td>286</td>
<td>122</td>
<td>330</td>
<td>1742</td>
<td>272</td>
<td>764</td>
<td>2517</td>
<td>402</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.09</td>
<td>0.12</td>
<td>0.12</td>
<td>0.14</td>
<td>0.17</td>
<td>0.17</td>
<td>0.03</td>
<td>0.56</td>
<td>0.56</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>2055</td>
<td>1365</td>
<td>1810</td>
<td>2860</td>
<td>703</td>
<td>1810</td>
<td>3121</td>
<td>488</td>
<td>3510</td>
<td>4501</td>
<td>719</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>158</td>
<td>171</td>
<td>163</td>
<td>272</td>
<td>161</td>
<td>163</td>
<td>74</td>
<td>425</td>
<td>425</td>
<td>92</td>
<td>929</td>
<td>473</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1615</td>
<td>1810</td>
<td>1805</td>
<td>1757</td>
<td>1810</td>
<td>1805</td>
<td>1757</td>
<td>1729</td>
<td>1762</td>
<td></td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>10.6</td>
<td>12.8</td>
<td>13.8</td>
<td>17.9</td>
<td>11.4</td>
<td>11.8</td>
<td>2.4</td>
<td>19.0</td>
<td>19.1</td>
<td>1.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>10.6</td>
<td>12.8</td>
<td>13.8</td>
<td>17.9</td>
<td>11.4</td>
<td>11.8</td>
<td>2.4</td>
<td>19.0</td>
<td>19.1</td>
<td>1.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.85</td>
<td>1.00</td>
<td>1.00</td>
<td>0.40</td>
<td>1.00</td>
<td>0.27</td>
<td>1.00</td>
<td>0.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>311</td>
<td>220</td>
<td>197</td>
<td>314</td>
<td>306</td>
<td>330</td>
<td>1007</td>
<td>1007</td>
<td>764</td>
<td>1934</td>
<td>985</td>
<td></td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.51</td>
<td>0.78</td>
<td>0.83</td>
<td>0.81</td>
<td>0.51</td>
<td>0.53</td>
<td>0.22</td>
<td>0.42</td>
<td>0.42</td>
<td>0.12</td>
<td>0.48</td>
<td>0.48</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>381</td>
<td>477</td>
<td>427</td>
<td>347</td>
<td>516</td>
<td>502</td>
<td>450</td>
<td>1007</td>
<td>1007</td>
<td>943</td>
<td>1934</td>
<td>985</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>47.7</td>
<td>59.6</td>
<td>60.1</td>
<td>44.0</td>
<td>52.4</td>
<td>52.6</td>
<td>12.2</td>
<td>17.9</td>
<td>17.9</td>
<td>12.8</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.5</td>
<td>2.2</td>
<td>3.5</td>
<td>13.5</td>
<td>0.5</td>
<td>0.1</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
<td>0.1</td>
<td>0.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>5.3</td>
<td>6.5</td>
<td>6.4</td>
<td>10.1</td>
<td>5.7</td>
<td>5.8</td>
<td>1.2</td>
<td>9.8</td>
<td>9.8</td>
<td>0.7</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>48.2</td>
<td>61.9</td>
<td>63.5</td>
<td>57.5</td>
<td>52.9</td>
<td>53.1</td>
<td>12.3</td>
<td>19.2</td>
<td>19.2</td>
<td>12.9</td>
<td>0.9</td>
<td>1.7</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>492</td>
<td>596</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>58.0</td>
<td>55.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>17.6</td>
<td>29.4</td>
<td>9.7</td>
<td>83.3</td>
<td>25.0</td>
<td>22.0</td>
<td>9.9</td>
<td>83.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>18.0</td>
<td>40.0</td>
<td>14.0</td>
<td>48.0</td>
<td>21.0</td>
<td>37.0</td>
<td>12.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+11), s</td>
<td>12.6</td>
<td>13.8</td>
<td>4.4</td>
<td>2.0</td>
<td>19.9</td>
<td>15.8</td>
<td>3.5</td>
<td>21.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.1</td>
<td>1.2</td>
<td>0.0</td>
<td>7.8</td>
<td>0.1</td>
<td>1.2</td>
<td>0.1</td>
<td>3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

<table>
<thead>
<tr>
<th>HCM 2010 Ctrl Delay</th>
<th>23.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2010 LOS</td>
<td>C</td>
</tr>
</tbody>
</table>
Project #: 22452
Project Name: Boise State University South Campus Study
Analyst: Kittelson & Associates
Date: 8/22/2018
File: H:\22\22452 - Boise State University SE Campus Study\Analysis\Analysis\Signal Warrants\Signal Warrant Analysis_background reroute_Broadway_Belmont.xls\Data Input
Intersection: Broadway Ave/Belmont St
Scenario: 2023 Background Reroute Weekday P.M. Peak Hour

Warrant Summary

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

Input Parameters

Volume Adjustment Factor = 1.0
North-South Approach = Major
East-West Approach = Minor
Major Street Thru Lanes = 2
Minor Street Thru Lanes = 1
Speed > 40 mph? = No
Population < 10,000? = No
Warrant Factor = 100%
Peak Hour or Daily Count? = Peak Hour

Major Street: 4th-Highest Hour / Peak Hour
Major Street: 8th-Highest Hour / Peak Hour
Minor Street: 4th-Highest Hour / Peak Hour
Minor Street: 8th-Highest Hour / Peak Hour

Warrant #1 - Eight Hour

<table>
<thead>
<tr>
<th>Warrant Factor</th>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition Is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
<td>600</td>
<td>150</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>80%</td>
<td>B</td>
<td>900</td>
<td>75</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>70%</td>
<td>A</td>
<td>480</td>
<td>120</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>56%</td>
<td>B</td>
<td>900</td>
<td>75</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Warrant #2 - Four Hour

100% Warrant Factor

Warrant #3 - Peak Hour

100% Warrant Factor
Project #: 22452
Project Name: Boise State University South Campus Study
Analysis: Kittelson & Associates
Date: 8/22/2018
File: H:\22\22452 - Boise State University SE Campus Study\analysis\Signal Warrants\Signal Warrant Analysis_background reroute_Michigan_Belmont.xls\Data Input
Intersection: Michigan Ave/Beacon St
Scenario: 2023 Background Reroute Weekday P.M. Peak Hour

Warrant Summary

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

Input Parameters

- Volume Adjustment Factor = 1.0
- North-South Approach = Minor
- East-West Approach = Major
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? No
- Population < 10,000? No
- Warrant Factor 100%
- Peak Hour or Daily Count? Peak Hour

Major Street: 4th-Highest Hour / Peak Hour 89%
Major Street: 8th-Highest Hour / Peak Hour 83%
Minor Street: 4th-Highest Hour / Peak Hour 76%
Minor Street: 8th-Highest Hour / Peak Hour 59%
<table>
<thead>
<tr>
<th>Project #:</th>
<th>22452</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>Boise State University South Campus Study</td>
</tr>
<tr>
<td>Analyst:</td>
<td>Kittelson &amp; Associates</td>
</tr>
<tr>
<td>Date:</td>
<td>8/22/2018</td>
</tr>
<tr>
<td>File:</td>
<td>H:\22\22452 - Boise State University SE Campus Study\Analysis\Signal Warrants\Signal Warrant Analysis_exist reroute_Broadway_Belmont.xls\Data Input</td>
</tr>
<tr>
<td>Intersection:</td>
<td>Broadway Ave/Belmont St</td>
</tr>
<tr>
<td>Scenario:</td>
<td>2018 Existing Reroute Weekday P.M. Peak Hour</td>
</tr>
</tbody>
</table>

### Warrant Summary

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No -</td>
<td></td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No -</td>
<td></td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No -</td>
<td></td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No -</td>
<td></td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No -</td>
<td></td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No -</td>
<td></td>
</tr>
</tbody>
</table>

### Input Parameters

- **Volume Adjustment Factor**: 1.0
- **North-South Approach**: Major
- **East-West Approach**: Minor
- **Major Street Thru Lanes**: 2
- **Minor Street Thru Lanes**: 1
- **Speed > 40 mph?**: No
- **Population < 10,000?**: No
- **Warrant Factor**: 100%
- **Peak Hour or Daily Count?**: Peak Hour

#### Major Street: 4th-Highest Hour / Peak Hour
- **Volume**: 89%

#### Major Street: 8th-Highest Hour / Peak Hour
- **Volume**: 83%

#### Minor Street: 4th-Highest Hour / Peak Hour
- **Volume**: 76%

#### Minor Street: 8th-Highest Hour / Peak Hour
- **Volume**: 59%

### Warrant #1 - Eight Hour

<table>
<thead>
<tr>
<th>Warrant Factor</th>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition Is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
<td>600</td>
<td>150</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>80%</td>
<td>B</td>
<td>900</td>
<td>175</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>70%</td>
<td>A</td>
<td>420</td>
<td>205</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>56%</td>
<td>A</td>
<td>336</td>
<td>184</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Warrant #2 - Four-Hour

#### 100% Warrant Factor

![Traffic Volume Graph](attachment:image1.png)

### Warrant #3 - Peak Hour

#### 100% Warrant Factor

![Traffic Volume Graph](attachment:image2.png)
Project #: 22452
Project Name: Boise State University South Campus Study
Analyst: Kittelson & Associates
Date: 8/22/2018
File: H:\22\22452 - Boise State University SE Campus Study\analysis\Signal Warrants\Signal Warrant Analysis\existing.xls\Data Input
Intersection: Broadway Ave/Belmont St
Scenario: 2018 Existing Weekday P.M. Peak Hour

**Warrant Summary**

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

**Input Parameters**

- Volume Adjustment Factor = 1.0
- North-South Approach = Major
- East-West Approach = Minor
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? = No
- Population < 10,000? = No
- Warrant Factor = 100%
- Peak Hour or Daily Count? = Peak Hour

<table>
<thead>
<tr>
<th>Major Street: 4th-Highest Hour / Peak Hour</th>
<th>89%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Street: 8th-Highest Hour / Peak Hour</td>
<td>83%</td>
</tr>
<tr>
<td>Minor Street: 4th-Highest Hour / Peak Hour</td>
<td>76%</td>
</tr>
<tr>
<td>Minor Street: 8th-Highest Hour / Peak Hour</td>
<td>59%</td>
</tr>
</tbody>
</table>

**Warrant #1 - Eight Hour**

<table>
<thead>
<tr>
<th>Warrant Factor</th>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition Is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
<td>600</td>
<td>150</td>
<td>0</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>900</td>
<td>75</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td>A</td>
<td>480</td>
<td>120</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>720</td>
<td>60</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>70%</td>
<td>A</td>
<td>420</td>
<td>105</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>630</td>
<td>53</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>56%</td>
<td>A</td>
<td>336</td>
<td>84</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>504</td>
<td>42</td>
<td>2</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Project #: 22452  
Project Name: Boise State University South Campus Study  
Analyst: Kittelson & Associates  
Date: 8/22/2018  
File: H:\12\22452 - Boise State University SE Campus Study\analysis\Signal Warrants\Signal Warrant Analysis_Garage_Broadway_Belmont.xls\Data Input  
Intersection: Broadway Ave/Belmont St  
Scenario: 2023 Garage Total Weekday P.M. Peak Hour

### Warrant Summary

<table>
<thead>
<tr>
<th>Warrant #</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

### Input Parameters

- Volume Adjustment Factor = 1.0
- North-South Approach = Major
- East-West Approach = Minor
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? = No
- Population < 10,000? = No
- Warrant Factor = 100%
- Peak Hour or Daily Count? = Peak Hour

### Warrant #1 - Eight Hour

<table>
<thead>
<tr>
<th>Warrant Factor</th>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition Is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
<td>600</td>
<td>150</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>80%</td>
<td>B</td>
<td>900</td>
<td>75</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>60%</td>
<td>B</td>
<td>720</td>
<td>60</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>40%</td>
<td>A</td>
<td>420</td>
<td>105</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>30%</td>
<td>B</td>
<td>630</td>
<td>53</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>10%</td>
<td>A</td>
<td>336</td>
<td>84</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>5%</td>
<td>B</td>
<td>504</td>
<td>42</td>
<td>1</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Warrant #2 - Four-Hour

100% Warrant Factor

### Warrant #3 - Peak Hour

100% Warrant Factor
**Project #:** 22452  
**Project Name:** Boise State University South Campus Study  
**Analyst:** Kittelson & Associates  
**Date:** 8/22/2018  
**File:** H:\22\22452 - Boise State University SE Campus Study\analysis\Signal Warrants\Signal Warrant Analysis\Garage_Michigan_Belmont.xls\Data Input  
**Intersection:** Michigan Ave/Beacon St  
**Scenario:** 2023 Garage Total Weekday P.M. Peak Hour

---

**Warrant Summary**

<table>
<thead>
<tr>
<th>Warrant Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2 Four-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3 Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4 Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5 School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6 Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7 Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8 Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9 Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

---

**Input Parameters**

- Volume Adjustment Factor = 1.0
- North-South Approach = Minor
- East-West Approach = Major
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? No
- Population < 10,000? No
- Warrant Factor = 100%
- Peak Hour or Daily Count? Peak Hour

| Major Street | 4th-Highest Hour / Peak Hour | 89% |
| Minor Street | 8th-Highest Hour / Peak Hour | 83% |
| Minor Street | 4th-Highest Hour / Peak Hour | 76% |
| Minor Street | 8th-Highest Hour / Peak Hour | 59% |

---

**Warrant #1 - Eight Hour**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A 600 150 0 No</td>
<td>B 900 75 1 No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td>A 480 120 0 No</td>
<td>B 720 60 13 Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td>A 420 105 2 No</td>
<td>B 630 53 13 Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>56%</td>
<td>A 336 84 4 No</td>
<td>B 504 42 15 Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

---

**Warrant #2 - Four-Hour**

**100% Warrant Factor**

---

**Warrant #3 - Peak Hour**

**100% Warrant Factor**
Warrant Summary

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analyzed?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

Input Parameters

- Volume Adjustment Factor = 1.0
- North-South Approach = Major
- East-West Approach = Minor
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? No
- Population < 10,000? No
- Warrant Factor = 100%
- Peak Hour or Daily Count?

Warrant Factor Condition Major Street Requirement Minor Street Requirement Hours That Condition Is Met Condition for Warrant Factor Met? Signal Warrant Met?

100% A 600 150 0 No No
80% B 900 75 0 No No
70% A 480 120 0 No No
56% A 336 84 0 No No
**Warrant Summary**

<table>
<thead>
<tr>
<th>Warrant</th>
<th>Name</th>
<th>Analysis?</th>
<th>Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Eight-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#2</td>
<td>Four-Hour Vehicular Volume</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#3</td>
<td>Peak Hour</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#4</td>
<td>Pedestrian Volume</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#5</td>
<td>School Crossing</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#6</td>
<td>Coordinated Signal System</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#7</td>
<td>Crash Experience</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#8</td>
<td>Roadway Network</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>#9</td>
<td>Intersection Near a Grade Crossing</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

**Input Parameters**

- Volume Adjustment Factor = 1.0
- North-South Approach = Minor
- East-West Approach = Major
- Major Street Thru Lanes = 2
- Minor Street Thru Lanes = 1
- Speed > 40 mph? = No
- Population < 10,000? = No
- Warrant Factor = 100%
- Peak Hour or Daily Count? = Peak Hour

**Warrant #1 - Eight Hour**

<table>
<thead>
<tr>
<th>Warrant Factor</th>
<th>Condition</th>
<th>Major Street Requirement</th>
<th>Minor Street Requirement</th>
<th>Hours That Condition Is Met</th>
<th>Condition for Warrant Factor Met?</th>
<th>Signal Warrant Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A</td>
<td>600</td>
<td>150</td>
<td>0</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>80%</td>
<td>B</td>
<td>900</td>
<td>75</td>
<td>7</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>70%</td>
<td>A</td>
<td>480</td>
<td>120</td>
<td>0</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>720</td>
<td>60</td>
<td>13</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>56%</td>
<td>A</td>
<td>420</td>
<td>105</td>
<td>2</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>630</td>
<td>53</td>
<td>13</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Warrant Summary**

- Major Street: 4th-Highest Hour / Peak Hour = 89%
- Major Street: 8th-Highest Hour / Peak Hour = 83%
- Minor Street: 4th-Highest Hour / Peak Hour = 76%
- Minor Street: 8th-Highest Hour / Peak Hour = 59%
ATTACHEMENT E – 2018 REROUTE EXISTING TRAFFIC OPERATIONS
### Lane Group Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

### Switch Phase

| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 33.0 | 33.0 | 31.0 | 10.0 | 10.0 |
| Total Split (s) | 33.0 | 33.0 | 31.0 | 11.0 | 42.0 |
| Total Split (%) | 44.0% | 44.0% | 41.3% | 14.7% | 56.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |

### Lead/Lag

| Lead/Lag | Lag | Lead |
| Recall Mode | None | None |
| Act Effct Green (s) | 8.0 | 8.0 | 14.8 | 22.7 | 22.7 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.39 | 0.60 | 0.60 |
| v/c Ratio | 0.21 | 0.57 | 0.55 | 0.21 | 0.20 |
| Control Delay | 17.3 | 8.8 | 14.9 | 5.3 | 5.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.3 | 8.8 | 14.9 | 5.3 | 5.0 |
| LOS | B | A | B | A | A |
| Approach Delay | 10.8 | 14.9 | 5.1 |
| Approach LOS | B | B | A |

### Intersection Summary

- Cycle Length: 75
- Actuated Cycle Length: 38.1
- Natural Cycle: 75
- Control Type: Actuated-Uncoordinated
- Maximum v/c Ratio: 0.57
- Intersection Signal Delay: 10.4
- Intersection LOS: B
- Intersection Capacity Utilization 40.7%
- ICU Level of Service A
- Analysis Period (min) 15

### Splits and Phases: 101: Lincoln Ave & University Dr

<table>
<thead>
<tr>
<th>Split</th>
<th>33 s</th>
<th>12.5</th>
<th>11 s</th>
<th>31 s</th>
</tr>
</thead>
</table>
### Weekday PM Peak Hour

#### Traffic Volume (vph)

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>65</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>65</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.30</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>0.85</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Fbt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>490</td>
<td>1788</td>
<td>1805</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Fbt Permitted</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.35</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1805</td>
<td>490</td>
<td>1788</td>
<td>669</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>79</td>
<td>258</td>
<td>310</td>
<td>76</td>
<td>127</td>
<td>231</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>222</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>79</td>
<td>36</td>
<td>375</td>
<td>0</td>
<td>127</td>
<td>231</td>
</tr>
<tr>
<td>Confli. Bikes (#/hr)</td>
<td>253</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>Prot</th>
<th>Perm</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>5.5</td>
<td>5.5</td>
<td>14.9</td>
<td>24.2</td>
<td>24.2</td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>5.5</td>
<td>5.5</td>
<td>14.9</td>
<td>24.2</td>
<td>24.2</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.14</td>
<td>0.14</td>
<td>0.38</td>
<td>0.61</td>
<td>0.61</td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>250</td>
<td>67</td>
<td>671</td>
<td>530</td>
<td>1158</td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.04</td>
<td>0.21</td>
<td>0.03</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.07</td>
<td>c0.12</td>
<td>c0.07</td>
<td>c0.12</td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.32</td>
<td>0.53</td>
<td>0.56</td>
<td>0.24</td>
<td>0.20</td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>15.4</td>
<td>15.9</td>
<td>9.8</td>
<td>3.9</td>
<td>3.4</td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.3</td>
<td>4.0</td>
<td>0.6</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Delay (s)</td>
<td>15.7</td>
<td>19.9</td>
<td>10.4</td>
<td>4.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>18.9</td>
<td>10.4</td>
<td>3.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 10.8
- **HCM 2000 Level of Service**: B
- **HCM 2000 Volume to Capacity ratio**: 0.51
- **Actuated Cycle Length (s)**: 39.7
- **Sum of lost time (s)**: 15.0
- **Intersection Capacity Utilization**: 40.7%
- **ICI Level of Service**: A
- **Analysis Period (min)**: 15
- **c Critical Lane Group**
### Movement WBL WBR NBT NBR SBL SBT

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>65</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>68</td>
<td>222</td>
<td>267</td>
<td>65</td>
<td>109</td>
<td>199</td>
</tr>
<tr>
<td>Number</td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>0.79</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>79</td>
<td>258</td>
<td>310</td>
<td>76</td>
<td>127</td>
<td>231</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>381</td>
<td>340</td>
<td>408</td>
<td>100</td>
<td>460</td>
<td>995</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.21</td>
<td>0.21</td>
<td>0.29</td>
<td>0.29</td>
<td>0.10</td>
<td>0.52</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1615</td>
<td>1391</td>
<td>341</td>
<td>1810</td>
<td>1900</td>
</tr>
<tr>
<td>Grp Flow Rate(s), veh/h</td>
<td>79</td>
<td>258</td>
<td>0</td>
<td>386</td>
<td>127</td>
<td>231</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.20</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>381</td>
<td>340</td>
<td>0</td>
<td>508</td>
<td>460</td>
<td>995</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.21</td>
<td>0.76</td>
<td>0.00</td>
<td>0.76</td>
<td>0.28</td>
<td>0.23</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>1347</td>
<td>1202</td>
<td>0</td>
<td>1197</td>
<td>572</td>
<td>1869</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>12.3</td>
<td>13.9</td>
<td>0.0</td>
<td>12.1</td>
<td>7.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.1</td>
<td>1.3</td>
<td>0.0</td>
<td>0.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>0.7</td>
<td>2.6</td>
<td>0.0</td>
<td>3.7</td>
<td>0.8</td>
<td>1.3</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>12.4</td>
<td>15.3</td>
<td>0.0</td>
<td>13.0</td>
<td>7.8</td>
<td>4.9</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>337</td>
<td>386</td>
<td>358</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>14.6</td>
<td>13.0</td>
<td>5.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Assinged Phs</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>12.9</td>
<td>24.7</td>
<td>8.7</td>
<td>16.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>28.0</td>
<td>37.0</td>
<td>6.0</td>
<td>26.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+I1), s</td>
<td>7.6</td>
<td>4.5</td>
<td>3.6</td>
<td>9.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.5</td>
<td>0.8</td>
<td>0.0</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- HCM 2010 Ctrl Delay: 11.1
- HCM 2010 LOS: B
## Intersection

| Int Delay, s/veh | 0 |

## Traffic Volumes

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>178</td>
<td>0</td>
<td>0</td>
<td>315</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>178</td>
<td>0</td>
<td>0</td>
<td>315</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

## Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
</tbody>
</table>

## Storage Length

| Storage Length | - | 25 | - | 0 | - |

## Veh in Median Storage

| Veh in Median Storage, # | 0 | - | - | 0 | 0 |

## Grade, %

| Grade, % | 0 | - | - | 0 | 0 | - |

## Peak Hour Factor

| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |

## Heavy Vehicles, %

| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |

## Mvmt Flow

| Mvmt Flow | 207 | 0 | 0 | 366 | 0 | 0 |

## Major/Minor Movements

### Conflicting Flow All

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>207</td>
</tr>
</tbody>
</table>

### Critical Hdwy

| Critical Hdwy | 4.1 | 6.4 | 6.2 |

### Critical Hdwy Stg 1

| Critical Hdwy Stg 1 | - | - | - | 5.4 | - | |

### Critical Hdwy Stg 2

| Critical Hdwy Stg 2 | - | - | - | 5.4 | - | |

### Follow-up Hdwy

| Follow-up Hdwy | - | 2.2 | - | 3.5 | 3.3 |

### Pot Cap-1 Maneuver

| Pot Cap-1 Maneuver | - | 1376 | - | 484 | 839 |

### Mov Cap-1 Maneuver

| Mov Cap-1 Maneuver | - | 1376 | - | 484 | 839 |

### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | - | - | - | 566 | - | |

### Stage 1

| Stage 1 | - | - | - | 832 | - | |

### Stage 2

| Stage 2 | - | - | - | 706 | - | |

### Platoon blocked, %

| Platoon blocked, % | - | - | - | - | - | |

### Mov Cap-1 Maneuver

| Mov Cap-2 Maneuver | - | - | - | 566 | - | |

### Stage 1

| Stage 1 | - | - | - | 832 | - | |

### Stage 2

| Stage 2 | - | - | - | 706 | - | |

## Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Minor Lane/Major Movt

| Capacity (veh/h) | - | - | - | 1376 | - |

### HCM Lane V/C Ratio

| HCM Lane V/C Ratio | - | - | - | - | - |

### HCM Control Delay (s)

| HCM Control Delay (s) | 0 | - | - | 0 | - |

### HCM Lane LOS

| HCM Lane LOS | A | - | - | A | - |

### HCM 95th %tile Q(veh)

| HCM 95th %tile Q(veh) | - | - | - | 0 | - |
**Intersection**

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBW</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Traffic Vol, veh/h**

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
<th>Sign Control</th>
<th>RT Channelized</th>
<th>Storage Length</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>EBT</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>EBR</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>WBL</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>WBT</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>WBW</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Free</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>74</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td>NBL</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>NBT</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>NBR</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SBL</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SBT</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SBR</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>2 149 0 0 262 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td>Stop</td>
<td>-</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Major/Minor Movement**

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>354</td>
<td>0</td>
<td>0</td>
<td>201</td>
</tr>
<tr>
<td>Stage 2</td>
<td>354</td>
<td>0</td>
<td>0</td>
<td>201</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1216</td>
<td>-</td>
<td>1383</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>800</td>
<td>-</td>
<td>734</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>667</td>
<td>-</td>
<td>634</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1216</td>
<td>-</td>
<td>1383</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>440</td>
<td>-</td>
<td>438</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>798</td>
<td>-</td>
<td>733</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>667</td>
<td>-</td>
<td>634</td>
<td>-</td>
</tr>
</tbody>
</table>

**Approach**

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>13.2</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Minor Lane/Major Mvmt**

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBW</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBLn1</td>
<td>-</td>
<td>1216</td>
<td>-</td>
<td>1383</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>440</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>- 0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

**Intersection**

| Int Delay, s/veh | 3.3 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>16</td>
<td>119</td>
<td>34</td>
<td>32</td>
<td>246</td>
<td>37</td>
<td>12</td>
<td>2</td>
<td>33</td>
<td>43</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>16</td>
<td>119</td>
<td>34</td>
<td>32</td>
<td>246</td>
<td>37</td>
<td>12</td>
<td>2</td>
<td>33</td>
<td>43</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sign Control</strong></td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>25</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>19</td>
<td>138</td>
<td>40</td>
<td>37</td>
<td>286</td>
<td>43</td>
<td>14</td>
<td>2</td>
<td>38</td>
<td>50</td>
<td>9</td>
<td>28</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conflicting Flow All</strong></td>
<td>329</td>
<td>0</td>
<td>178</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>196</td>
<td>196</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>400</td>
<td>403</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>7.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1242</td>
<td>-</td>
<td>810</td>
<td>742</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>810</td>
<td>742</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>630</td>
<td>603</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1242</td>
<td>-</td>
<td>383</td>
<td>401</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>383</td>
<td>401</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>798</td>
<td>731</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>581</td>
<td>587</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.8</td>
<td>0.8</td>
<td>11.1</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>641</td>
<td>1242</td>
<td>-</td>
<td>-</td>
<td>1410</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>457</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.085</td>
<td>0.015</td>
<td>-</td>
<td>-</td>
<td>0.026</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.191</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11.1</td>
<td>7.9</td>
<td>-</td>
<td>-</td>
<td>7.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0.7</td>
<td></td>
</tr>
</tbody>
</table>

---

105: Euclid Ave & University Dr 2018 Existing Reroute Scenario 1

Weekday PM Peak Hour

07/05/2018

Kittelson & Associates, Inc. Page 6

Packet Pg. 590

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>EBT</td>
<td>EBR</td>
</tr>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1631</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1631</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td></td>
<td></td>
<td>A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1631</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 1.1 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
</table>

#### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>277</th>
<th>13</th>
<th>9</th>
<th>245</th>
<th>14</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>277</td>
<td>13</td>
<td>9</td>
<td>245</td>
<td>14</td>
<td>40</td>
</tr>
</tbody>
</table>

| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |

#### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

#### Storage Length

| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |

#### Grade

| % | 0 | - | - | 0 | 0 | - |

#### Peak Hour Factor

| % | 90 | 90 | 90 | 90 | 90 | 90 |

#### Heavy Vehicles, %

| % | 0 | 0 | 0 | 0 | 0 | 0 |

#### Mvmt Flow

| 308 | 14 | 10 | 272 | 16 | 44 |

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>322</td>
</tr>
</tbody>
</table>

#### Critical Hdwy

| Stg 1 | - | - | 4.1 | 6.4 | 6.2 |
| Stg 2 | - | - | - | 292 | - |

#### Follow-up Hdwy

| Stg 1 | - | - | 2.2 | 3.5 | 3.3 |

#### Pot Cap-1 Maneuver

| Stg 1 | - | - | 1249 | 463 | 730 |
| Stg 2 | - | - | - | 762 | - |

#### Mov Cap-1 Maneuver

| Stg 1 | - | - | - | 738 | - |
| Stg 2 | - | - | - | 762 | - |

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.3</td>
<td>10.9</td>
</tr>
</tbody>
</table>

| HCM LOS | B |

### Minor Lane/Major Mvmt

| Capacity (veh/h) | 673 | - | - | 1249 | - |
| HCM Lane V/C Ratio | 0.089 | - | - | 0.008 | - |
| HCM Control Delay (s) | 10.9 | - | - | 7.9 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0 | - |
### Lane Group

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>157</td>
<td>5</td>
<td>159</td>
<td>17</td>
<td>5</td>
<td>113</td>
<td>819</td>
<td>14</td>
<td>1306</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>157</td>
<td>5</td>
<td>159</td>
<td>17</td>
<td>5</td>
<td>113</td>
<td>819</td>
<td>14</td>
<td>1306</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Switch Phase</td>
<td>Minimum Initial (s)</td>
<td>5.0</td>
<td>8.0</td>
<td>8.0</td>
<td>10.0</td>
<td>10.0</td>
<td>5.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Minimum Split (s)</td>
<td>11.0</td>
<td>33.0</td>
<td>33.0</td>
<td>34.0</td>
<td>34.0</td>
<td>11.0</td>
<td>20.0</td>
<td>11.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Total Split (s)</td>
<td>15.0</td>
<td>50.0</td>
<td>50.0</td>
<td>35.0</td>
<td>35.0</td>
<td>25.0</td>
<td>75.0</td>
<td>15.0</td>
<td>65.0</td>
</tr>
<tr>
<td>Total Split (%)</td>
<td>10.7%</td>
<td>35.7%</td>
<td>35.7%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>17.9%</td>
<td>53.6%</td>
<td>10.7%</td>
<td>46.4%</td>
</tr>
<tr>
<td>Yellow Time (s)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>All-Red Time (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Lost Time Adjust (s)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Lost Time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lead/Lag Optimize?</td>
<td>Lead</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recall Mode</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Act Effct Green (s)</td>
<td>24.5</td>
<td>24.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.18</td>
<td>0.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.59</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Delay</td>
<td>59.0</td>
<td>40.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Delay</td>
<td>59.0</td>
<td>40.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>E</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay</td>
<td>33.8</td>
<td>52.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **Cycle Length:** 140
- **Actuated Cycle Length:** 140
- **Offset:** 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
- **Natural Cycle:** 85
- **Control Type:** Actuated-Coordinated
- **Maximum v/c Ratio:** 0.59
- **Intersection Signal Delay:** 16.1
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 63.7%
- **ICU Level of Service:** B

### Analysis Period (min) 15
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>157</td>
<td>5</td>
<td>159</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>113</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1306</td>
<td>141</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>157</td>
<td>5</td>
<td>159</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>113</td>
<td>819</td>
<td>19</td>
<td>14</td>
<td>1306</td>
<td>141</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>1900</td>
<td>1615</td>
<td>1770</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>5111</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.66</td>
<td>1.00</td>
<td>1.00</td>
<td>0.83</td>
<td>0.12</td>
<td>1.00</td>
<td>0.32</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1260</td>
<td>1900</td>
<td>1615</td>
<td>1511</td>
<td>222</td>
<td>3598</td>
<td>601</td>
<td>5111</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>164</td>
<td>5</td>
<td>32</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>118</td>
<td>872</td>
<td>0</td>
<td>15</td>
<td>1501</td>
<td>0</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>0</td>
<td>134</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>164</td>
<td>5</td>
<td>32</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>118</td>
<td>872</td>
<td>0</td>
<td>15</td>
<td>1501</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>26.9</td>
<td>26.9</td>
<td>26.9</td>
<td>6.0</td>
<td>102.1</td>
<td>94.0</td>
<td>87.6</td>
<td>85.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>26.9</td>
<td>26.9</td>
<td>26.9</td>
<td>6.0</td>
<td>102.1</td>
<td>94.0</td>
<td>87.6</td>
<td>85.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.19</td>
<td>0.19</td>
<td>0.19</td>
<td>0.04</td>
<td>0.73</td>
<td>0.67</td>
<td>0.63</td>
<td>0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>300</td>
<td>365</td>
<td>310</td>
<td>64</td>
<td>281</td>
<td>2415</td>
<td>394</td>
<td>3121</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.06</td>
<td>0.00</td>
<td>c0.06</td>
<td>0.00</td>
<td>c0.06</td>
<td>0.00</td>
<td>c0.06</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.05</td>
<td>0.02</td>
<td>0.02</td>
<td>0.27</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.55</td>
<td>0.01</td>
<td>0.10</td>
<td>0.37</td>
<td>0.42</td>
<td>0.36</td>
<td>0.04</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>50.4</td>
<td>45.8</td>
<td>46.6</td>
<td>65.2</td>
<td>9.2</td>
<td>10.0</td>
<td>9.9</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.37</td>
<td>0.72</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>1.1</td>
<td>0.0</td>
<td>0.1</td>
<td>1.3</td>
<td>0.3</td>
<td>0.4</td>
<td>0.0</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>51.5</td>
<td>45.8</td>
<td>46.7</td>
<td>66.4</td>
<td>22.0</td>
<td>7.5</td>
<td>9.9</td>
<td>15.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>49.0</td>
<td>66.4</td>
<td>9.3</td>
<td>15.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>E</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay:** 17.8
- **HCM 2000 Level of Service:** B
- **HCM 2000 Volume to Capacity ratio:** 0.51
- **Actuated Cycle Length (s):** 140.0
- **Sum of lost time (s):** 23.0
- **Intersection Capacity Utilization:** 63.7%
- **ICU Level of Service:** B
- **Analysis Period (min):** 15
### Movement Configuration

| Movement          | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Traffic Volume    | 157 | 5   | 159 | 17  | 5   | 11  | 113 | 819 | 19  | 14  | 1306 | 141 |
| Future Volume     | 157 | 5   | 159 | 17  | 5   | 11  | 113 | 819 | 19  | 14  | 1306 | 141 |
| Number            | 1   | 6   | 16  | 5   | 2   | 12  | 3   | 8   | 18  | 7   | 4    | 14  |
| Initial Q (Qb)    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |
| Ped-Bike Adj(A_pbT) | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Parking Bus, Adj  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Adj Sat Flow, veh/h/ln | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Adj Flow Rate, veh/h | 164   | 5   | 166  | 18  | 5   | 11  | 118  | 853  | 20  | 15  | 1360 | 147  |
| Adj No. of Lanes  | 1    | 1    | 1    | 1    | 0    | 1    | 2    | 1    | 1    | 1    | 2    | 1    |
| Peak Hour Factor  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  |
| Percent Heavy Veh, % | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Cap, veh/h        | 296  | 339  | 288  | 84  | 27  | 34  | 304  | 2467 | 58  | 508 | 3155 | 341  |
| Arrive On Green   | 0.06  | 0.18  | 0.18  | 0.07  | 0.07  | 0.07  | 0.07  | 1.00  | 0.02  | 0.66  | 0.66  | 0.06  |
| Sat Flow, veh/h   | 1810 | 1900 | 1615 | 619 | 383 | 1900 | 379  | 1810 | 3606 | 85  | 1810 | 4754 |
| Grp Volume(v), veh/h | 164   | 5   | 166  | 34  | 0   | 0   | 118  | 427  | 15  | 989  | 2295 | 1201 |
| Grp Sat Flow(s),veh/h/ln | 1810  | 1900  | 1615  | 1481 | 0   | 0   | 1810 | 1805 | 1885 | 1810 | 1729 | 1809 |
| Q Serve(g_s), s   | 9.0  | 0.3  | 13.2  | 1.0  | 0.0  | 0.0  | 3.0  | 0.0  | 0.0  | 0.4  | 18.9  | 18.9 |
| Cycle Q Clear(g_c), s | 9.0  | 0.3  | 13.2  | 2.7  | 0.0  | 0.0  | 3.0  | 0.0  | 0.0  | 0.4  | 18.9  | 18.9 |
| Prop In Lane      | 1.00 | 1.00 | 0.53  | 0.32  | 1.00  | 0.04 | 1.00  | 0.28  | 0.61  | 0.08  | 1.00  | 0.36  |
| Lane Grp Cap(c), veh/h | 296   | 339  | 288  | 145 | 0   | 0   | 304  | 1235 | 15  | 989  | 2295 | 1201 |
| V/C Ratio(X)      | 0.55  | 0.01  | 0.58  | 0.23  | 0.00  | 0.00  | 0.39  | 0.35  | 0.35  | 0.03  | 0.43  | 0.43  |
| Avail Cap(c_a), veh/h | 296   | 597  | 508  | 337 | 0   | 0   | 484  | 1235 | 1290 | 508  | 2295 | 1201 |
| HCM Platoon Ratio | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 2.00  | 2.00  | 2.00  | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I) | 1.00  | 1.00  | 1.00  | 1.00  | 0.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Uniform Delay (d), s/veh | 55.7  | 47.4  | 52.6  | 61.6  | 0.0  | 0.0  | 8.3  | 0.0  | 7.3  | 11.1  | 11.1  | 11.1  |
| Incr Delay (d2), s/veh | 1.4   | 0.0   | 0.7   | 0.3   | 0.0   | 0.0   | 0.3   | 0.8   | 0.7   | 0.0   | 0.6   | 1.1   |
| Initial Q Delay(d3),s/veh | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln | 1.6   | 0.2   | 6.0   | 1.3   | 0.0   | 0.0   | 1.4   | 0.3   | 0.3   | 0.2   | 9.1   | 9.7   |
| LnGrp Delay(d),s/veh | 57.0  | 47.4  | 53.3  | 61.9  | 0.0   | 0.0   | 8.6   | 0.8   | 7.3   | 11.7  | 12.2  | 12.2  |
| LnGrp LOS         | E    | E    | D    | D    | E    | A    | A    | A    | A    | B    |
| Approach Vol, veh/h | 335  | 34   | 991  | 1522 | 34   | 1522 | 11.8 |
| Approach Delay, s/veh | 55.0  | 61.9  | 1.7  | 11.8 |
| Approach LOS      | E    | E    | A    | B    |
| Timer             | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
| Assigned Phs      | 1    | 2    | 3    | 4    | 6    | 7    | 8    |
| Phs Duration (G+Y+Rc), s | 15.0  | 16.0  | 11.1  | 97.9  | 31.0  | 8.2  | 100.8 |
| Change Period (Y+Rc), s | 6.0   | 6.0   | 6.0   | 5.0   | 6.0   | 6.0  | 5.0   |
| Max Green Setting (Gmax), s | 9.0   | 29.0  | 19.0  | 60.0  | 44.0  | 9.0  | 70.0  |
| Max Q Clear Time (g_c+1), s | 11.0  | 4.7   | 5.0   | 20.9  | 15.2  | 2.4  | 2.0   |
| Green Ext Time (p_c), s | 0.0   | 0.1   | 0.1   | 0.3   | 0.0   | 0.0  | 3.7   |

### Intersection Summary

- HCM 2010 Ctrl Delay: 14.0
- HCM 2010 LOS: B
### Intersection

**Int Delay, s/veh**: 0

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
<th>Sign Control</th>
<th>Storage Length</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBL</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Stop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Traffic Volume

<table>
<thead>
<tr>
<th>Traffic Volume</th>
<th>Future Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Conflicting Flow

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Stage 1</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1022</td>
<td>896</td>
<td>1085</td>
<td>1022</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1024</td>
<td>897</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>1024</td>
<td>897</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>896</td>
<td>1085</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>896</td>
<td>1022</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1024</td>
<td>897</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>1024</td>
<td>897</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1631</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

| HCM Lane V/C Ratio | -   | -   | -   | -     | -     | -   | -   | -   |
| HCM Control Delay (s) | 0   | 0   | 0   | 0     | 0     | 0   | 0   | 0   |
| HCM Lane LOS      | A   | A   | A   | A     | A     | A   | A   | A   |
| HCM 95th %tile Q(veh) | 0   | -   | -   | -     | -     | -   | -   | -   |
### Intersection

<table>
<thead>
<tr>
<th>Intersection Delay, s/veh</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection LOS</td>
<td>-</td>
</tr>
</tbody>
</table>

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Approach</td>
<td>WB</td>
<td>EB</td>
<td>SB</td>
<td>NB</td>
</tr>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Intersection Delay, s/veh</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection LOS</td>
<td>-</td>
</tr>
</tbody>
</table>

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>NB</td>
<td>EB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>WB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

| Vol Left, % | 0% | 0% | 0% |
| Vol Thru, % | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 0 | 0 | 0 |
| LT Vol | 0 | 0 | 0 |
| Through Vol | 0 | 0 | 0 |
| RT Vol | 0 | 0 | 0 |
| Lane Flow Rate | 0 | 0 | 0 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0 | 0 | 0 |
| Departure Headway (Hd) | 3.9 | 3.9 | 3.9 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 0 | 0 | 0 |
| Service Time | 1.9 | 1.9 | 1.9 |
| HCM Lane V/C Ratio | 0 | 0 | 0 |
| HCM Control Delay | 6.9 | 6.9 | 6.9 |
| HCM Lane LOS | N | N | N |
| HCM 95th-tile Q | 0 | 0 | 0 |
### Intersection

| Int Delay, s/veh | 0 |

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>1016</td>
<td>891</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>1024</td>
<td>897</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>1016</td>
<td>891</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>1024</td>
<td>897</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection Delay, s/veh

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

| Vol Left, %     | 0% | 0% | 0% | 0% |
| Vol Thru, %     | 100% | 100% | 100% | 100% |
| Vol Right, %    | 0% | 0% | 0% | 0% |
| Sign Control    | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 0  | 0  | 0  | 0  |
| LT Vol          | 0  | 0  | 0  | 0  |
| Through Vol     | 0  | 0  | 0  | 0  |
| RT Vol          | 0  | 0  | 0  | 0  |
| Lane Flow Rate  | 0  | 0  | 0  | 0  |
| Geometry Grp    | 1  | 1  | 1  | 1  |
| Degree of Util (X) | 0  | 0  | 0  | 0  |
| Departure Headway (Hd) | 3.9 | 3.9 | 3.9 | 3.9 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap              | 0  | 0  | 0  | 0  |
| Service Time    | 1.9 | 1.9 | 1.9 | 1.9 |
| HCM Lane V/C Ratio | 0  | 0  | 0  | 0  |
| HCM Control Delay | 6.9 | 6.9 | 6.9 | 6.9 |
| HCM Lane LOS    | N  | N  | N  | N  |
| HCM 95th-tile Q | 0  | 0  | 0  | 0  |
### Intersection Details

#### Weekday PM Peak Hour

**Int Delay, s/veh**

0

#### Movement Details

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Future Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Conflicting Peds, #/hr</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Sign Control

- Free
- None

#### Veh in Median Storage, #

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

#### Grade, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

#### Peak Hour Factor

- 90
- 90
- 90
- 90
- 90
- 90
- 90
- 90
- 90
- 90
- 90
- 90

#### Heavy Vehicles, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

#### Mvmt Flow

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

#### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conflicting Flow All</strong></td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Stage 1</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Critical Hdwy</strong></td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Critical Hdwy Stg 1</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Critical Hdwy Stg 2</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Follow-up Hdwy</strong></td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td><strong>Pot Cap-1 Maneuver</strong></td>
<td>1635</td>
<td>-</td>
<td>1635</td>
<td>-</td>
</tr>
<tr>
<td><strong>Stage 1</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Platoon blocked, %</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Mov Cap-1 Maneuver</strong></td>
<td>1635</td>
<td>-</td>
<td>1635</td>
<td>-</td>
</tr>
<tr>
<td><strong>Stage 1</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Approach Details

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HCM Control Delay, s</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>HCM LOS</strong></td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

#### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity (veh/h)</strong></td>
<td>-1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-1635</td>
</tr>
<tr>
<td><strong>HCM Lane V/C Ratio</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>HCM Control Delay (s)</strong></td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td><strong>HCM LOS</strong></td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td><strong>HCM 95th %tile Q(veh)</strong></td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0 |

### Movement

<table>
<thead>
<tr>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Traffic Vol, veh/h

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>11</th>
<th>0</th>
<th>6</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Conflicting Peds, #/hr

| Conflicting Peds, #/hr | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Stop</th>
<th>None</th>
<th>-</th>
<th>Stop</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veh in Median Storage, #</td>
<td>-0-</td>
<td>-0-</td>
<td>0</td>
<td>-0-</td>
<td>-0-</td>
<td>0</td>
<td>-0-</td>
<td>0</td>
<td>-0-</td>
<td>0</td>
<td>-0-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Critical Hdwy

<table>
<thead>
<tr>
<th>Critical Hdwy</th>
<th>7.1</th>
<th>6.5</th>
<th>6.2</th>
<th>7.1</th>
<th>6.2</th>
<th>4.1</th>
<th>4.1</th>
<th>4.1</th>
<th>4.1</th>
<th>4.1</th>
<th>4.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Follow-up Hdwy

<table>
<thead>
<tr>
<th>Follow-up Hdwy</th>
<th>3.5</th>
<th>4</th>
<th>3.3</th>
<th>3.5</th>
<th>4</th>
<th>3.3</th>
<th>2.2</th>
<th>-</th>
<th>-</th>
<th>2.2</th>
<th>-</th>
</tr>
</thead>
</table>

### Pot Cap-1 Maneuver

<table>
<thead>
<tr>
<th>Pot Cap-1 Maneuver</th>
<th>1021</th>
<th>899</th>
<th>1090</th>
<th>1027</th>
<th>899</th>
<th>-</th>
<th>1635</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>1027</td>
<td>899</td>
<td>-</td>
<td>1027</td>
<td>899</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1024</td>
<td>-</td>
<td>1027</td>
<td>899</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Mov Cap-1 Maneuver

<table>
<thead>
<tr>
<th>Mov Cap-1 Maneuver</th>
<th>-</th>
<th>899</th>
<th>1090</th>
<th>1027</th>
<th>899</th>
<th>-</th>
<th>1635</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>899</td>
<td>-</td>
<td>1027</td>
<td>899</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approaches

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>1635</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## Intersection

| Int Delay, s/veh | 1.2 |

## Movement

### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1358</td>
</tr>
<tr>
<td>EBT</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1358</td>
</tr>
<tr>
<td>EBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBL</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1358</td>
</tr>
<tr>
<td>WBT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBT</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>32</td>
<td>15</td>
<td>888</td>
<td>25</td>
<td>37</td>
<td>1358</td>
</tr>
<tr>
<td>SBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Traffic Volume

### Traffic Vol, veh/h

| Traffic Vol, veh/h | 4   | 3   | 6   | 8   | 0   | 32  | 15  | 888 | 25  | 37  | 1358 |

## Future Vol, veh/h

| Future Vol, veh/h | 4   | 3   | 6   | 8   | 0   | 32  | 15  | 888 | 25  | 37  | 1358 |

## Conflicting Peds, #/hr

| Conflicting Peds, #/hr | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

## Signal Control

| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |

## Right Turn Channelized

| Right Turn Channelized | None | None | None | None | None | None | None | None | None | None | None |

## Storage Length

| Storage Length | -    | -    | -    | -    | -    | -    | 0    | -    | -    | 0    | -    |

## Veh in Median Storage

| Veh in Median Storage | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

## Grade, %

| Grade, % | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

## Peak Hour Factor

| Peak Hour Factor | 95    | 95    | 95    | 95    | 95    | 95    | 95    | 95    | 95    | 95    | 95    |

## Heavy Vehicles, %

| Heavy Vehicles, % | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

## Mvmt Flow

| Mvmt Flow | 4   | 3   | 6   | 8   | 0   | 34  | 16  | 935 | 26  | 39  | 1429 |

## Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict Flow All</td>
<td>2022</td>
<td>2515</td>
<td>729</td>
<td>1631</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1522</td>
<td>1522</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>500</td>
<td>993</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 1</td>
<td>6.95</td>
<td>6.5</td>
<td>7.1</td>
<td>6.9</td>
</tr>
<tr>
<td>Critical Hdw Stg 2</td>
<td>7.3</td>
<td>5.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdw</td>
<td>3.65</td>
<td>4.0</td>
<td>3.9</td>
<td>3.65</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>47</td>
<td>29</td>
<td>317</td>
<td>87</td>
</tr>
<tr>
<td>Stage 1</td>
<td>88</td>
<td>182</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>510</td>
<td>326</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>40</td>
<td>26</td>
<td>317</td>
<td>70</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>40</td>
<td>26</td>
<td>-</td>
<td>70</td>
</tr>
<tr>
<td>Stage 1</td>
<td>82</td>
<td>172</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>446</td>
<td>304</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

## Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>90.9</td>
<td>24.1</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>F</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>238</td>
<td>-</td>
<td>-</td>
<td>55</td>
<td>230</td>
<td>724</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.066</td>
<td>-</td>
<td>-</td>
<td>0.249</td>
<td>0.183</td>
<td>0.054</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>21.2</td>
<td>-</td>
<td>-</td>
<td>90.9</td>
<td>24.1</td>
<td>10.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>F</td>
<td>C</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q veh</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td>0.7</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Lane Group Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

#### Traffic Volume (vph)

| Future Volume (vph) | 77  | 314 | 11  | 487 | 1   | 30  | 118 | 36  |

#### Turn Type

| Turn Type | pm+pt | NA   | pm+pt | NA   | pm+pt | NA   | pm+pt | NA   |

#### Protected Phases

| Protected Phases | 1   | 6   | 5   | 2   | 3   | 8   | 7   | 4   |

#### Permitted Phases

| Permitted Phases | 6   | 2   | 8   | 4   |

#### Detector Phase

| Detector Phase | 1   | 6   | 5   | 2   | 3   | 8   | 7   | 4   |

#### Switch Phase

| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 |
| Minimum Split (s)   | 9.5 | 28.0 | 9.5 | 25.0 | 9.5 | 31.0 | 9.5 | 31.0 |
| Total Split (s)     | 11.0| 28.0 | 9.5 | 26.5 | 9.5 | 32.9 | 9.5 | 33.0 |
| Total Split (%)     | 13.8%| 35.0%| 11.9%| 33.1%| 11.9%| 41.1%| 12.0%| 41.3%|

#### Yellow Time (s)

| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

#### All-Red Time (s)

| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

#### Lost Time Adjust (s)

| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

#### Total Lost Time (s)

| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |

#### Lead/Lag

| Lead/Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

#### Recall Mode

| Recall Mode | None | None | None | None | None | None | None | Min | Min |

#### Actuated g/C Ratio

| Actuated g/C Ratio | 0.45 | 0.43 | 0.37 | 0.31 | 0.27 | 0.20 | 0.32 | 0.31 |

#### v/c Ratio

| v/c Ratio | 0.22 | 0.22 | 0.03 | 0.58 | 0.00 | 0.09 | 0.29 | 0.25 |

#### Control Delay

| Control Delay | 9.4 | 10.5 | 7.8 | 17.8 | 14.0 | 20.7 | 16.9 | 8.7 |

#### Queue Delay

| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

#### Total Delay

| Total Delay | 9.4 | 10.5 | 7.8 | 17.8 | 14.0 | 20.7 | 16.9 | 8.7 |

#### LOS

| LOS | A | B | A | B | C | B | A |

#### Approach Delay

| Approach Delay | 10.3 | 17.6 | 20.5 | 12.5 |

#### Approach LOS

| Approach LOS | B | B | C | B |

### Intersection Summary

- **Cycle Length:** 80
- **Actuated Cycle Length:** 52.4
- **Natural Cycle:** 80
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.58
- **Intersection Signal Delay:** 14.4
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 47.1%
- **ICU Level of Service:** A
- **Analysis Period (min):** 15

### Splits and Phases

117: Lincoln Ave & Beacon St

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_ex_reroute_1.syn
Kittelson & Associates, Inc.
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>77</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>118</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>77</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>118</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3605</td>
<td>1805</td>
<td>3506</td>
<td>1805</td>
<td>1876</td>
<td>1805</td>
<td>1688</td>
<td>1805</td>
<td>1688</td>
<td>1805</td>
<td>1688</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.26</td>
<td>1.00</td>
<td>0.55</td>
<td>1.00</td>
<td>0.66</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>502</td>
<td>3605</td>
<td>1043</td>
<td>3506</td>
<td>1258</td>
<td>1876</td>
<td>1179</td>
<td>1688</td>
<td>1179</td>
<td>1688</td>
<td>1179</td>
<td>1688</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>82</td>
<td>334</td>
<td>3</td>
<td>12</td>
<td>518</td>
<td>123</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>126</td>
<td>38</td>
<td>111</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>81</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>82</td>
<td>336</td>
<td>0</td>
<td>12</td>
<td>617</td>
<td>0</td>
<td>1</td>
<td>33</td>
<td>0</td>
<td>126</td>
<td>68</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>26.5</td>
<td>22.3</td>
<td>19.7</td>
<td>18.9</td>
<td>14.4</td>
<td>13.6</td>
<td>19.4</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>26.5</td>
<td>22.3</td>
<td>19.7</td>
<td>18.9</td>
<td>14.4</td>
<td>13.6</td>
<td>19.4</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.44</td>
<td>0.37</td>
<td>0.33</td>
<td>0.31</td>
<td>0.24</td>
<td>0.23</td>
<td>0.32</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>312</td>
<td>1339</td>
<td>352</td>
<td>1104</td>
<td>309</td>
<td>425</td>
<td>415</td>
<td>452</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.02</td>
<td>0.09</td>
<td>0.00</td>
<td>0.18</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.10</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.26</td>
<td>0.25</td>
<td>0.03</td>
<td>0.56</td>
<td>0.00</td>
<td>0.08</td>
<td>0.30</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>10.4</td>
<td>13.1</td>
<td>13.6</td>
<td>17.1</td>
<td>17.3</td>
<td>18.3</td>
<td>14.8</td>
<td>16.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progressor Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.6</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>10.5</td>
<td>13.2</td>
<td>13.6</td>
<td>17.7</td>
<td>17.3</td>
<td>18.3</td>
<td>15.0</td>
<td>16.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>12.6</td>
<td>17.6</td>
<td>18.3</td>
<td>16.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

- **HCM 2000 Control Delay**: 15.8
- **HCM 2000 Level of Service**: B
- **HCM 2000 Volume to Capacity ratio**: 0.44
- **Actuated Cycle Length (s)**: 60.0
- **Sum of lost time (s)**: 20.0
- **Intersection Capacity Utilization**: 47.1%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15
- **Critical Lane Group**: c
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>77</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>118</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>77</td>
<td>314</td>
<td>3</td>
<td>11</td>
<td>487</td>
<td>116</td>
<td>1</td>
<td>30</td>
<td>3</td>
<td>118</td>
<td>36</td>
<td>104</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>82</td>
<td>334</td>
<td>3</td>
<td>12</td>
<td>518</td>
<td>123</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>126</td>
<td>38</td>
<td>111</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>326</td>
<td>1122</td>
<td>10</td>
<td>418</td>
<td>765</td>
<td>181</td>
<td>403</td>
<td>345</td>
<td>32</td>
<td>544</td>
<td>119</td>
<td>347</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.05</td>
<td>0.31</td>
<td>0.31</td>
<td>0.01</td>
<td>0.26</td>
<td>0.26</td>
<td>0.00</td>
<td>0.20</td>
<td>0.20</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>3666</td>
<td>33</td>
<td>1810</td>
<td>2899</td>
<td>685</td>
<td>1810</td>
<td>1711</td>
<td>160</td>
<td>1810</td>
<td>428</td>
<td>1251</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>82</td>
<td>164</td>
<td>173</td>
<td>12</td>
<td>322</td>
<td>319</td>
<td>1</td>
<td>35</td>
<td>126</td>
<td>0</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1894</td>
<td>1810</td>
<td>1805</td>
<td>1779</td>
<td>1810</td>
<td>0</td>
<td>1872</td>
<td>1810</td>
<td>0</td>
<td>1679</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>1.6</td>
<td>3.4</td>
<td>3.5</td>
<td>0.2</td>
<td>7.9</td>
<td>8.0</td>
<td>0</td>
<td>0</td>
<td>0.8</td>
<td>2.6</td>
<td>0</td>
<td>3.5</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>1.6</td>
<td>3.4</td>
<td>3.5</td>
<td>0.2</td>
<td>7.9</td>
<td>8.0</td>
<td>0</td>
<td>0</td>
<td>0.8</td>
<td>2.6</td>
<td>0</td>
<td>3.5</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.02</td>
<td>1.00</td>
<td>0.39</td>
<td>1.00</td>
<td>0.09</td>
<td>1.00</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>326</td>
<td>552</td>
<td>580</td>
<td>418</td>
<td>476</td>
<td>469</td>
<td>403</td>
<td>0</td>
<td>377</td>
<td>544</td>
<td>0</td>
<td>466</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.25</td>
<td>0.30</td>
<td>0.30</td>
<td>0.03</td>
<td>0.68</td>
<td>0.68</td>
<td>0</td>
<td>0</td>
<td>0.09</td>
<td>0.23</td>
<td>0.00</td>
<td>0.32</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>446</td>
<td>837</td>
<td>878</td>
<td>560</td>
<td>782</td>
<td>771</td>
<td>563</td>
<td>0</td>
<td>1053</td>
<td>573</td>
<td>0</td>
<td>948</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>12.8</td>
<td>13.1</td>
<td>13.1</td>
<td>13.1</td>
<td>16.4</td>
<td>16.4</td>
<td>15.8</td>
<td>0</td>
<td>16.1</td>
<td>13.3</td>
<td>0</td>
<td>14.2</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.1</td>
<td>0.3</td>
<td>0.3</td>
<td>0</td>
<td>1.7</td>
<td>1.7</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>0.8</td>
<td>1.7</td>
<td>1.8</td>
<td>0.1</td>
<td>4.2</td>
<td>4.1</td>
<td>0</td>
<td>0</td>
<td>0.4</td>
<td>1.3</td>
<td>0.0</td>
<td>1.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>12.9</td>
<td>13.4</td>
<td>13.4</td>
<td>13.1</td>
<td>18.0</td>
<td>18.1</td>
<td>15.8</td>
<td>0</td>
<td>16.1</td>
<td>13.4</td>
<td>0</td>
<td>14.4</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>419</td>
<td>653</td>
<td></td>
<td>36</td>
<td></td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>13.3</td>
<td>18.0</td>
<td></td>
<td>16.1</td>
<td></td>
<td>13.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>7.7</td>
<td>18.1</td>
<td>5.1</td>
<td>18.8</td>
<td>5.6</td>
<td>20.2</td>
<td>8.8</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>6.0</td>
<td>21.5</td>
<td>4.5</td>
<td>28.0</td>
<td>4.5</td>
<td>23.0</td>
<td>4.6</td>
<td>27.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+11), s</td>
<td>3.6</td>
<td>10.0</td>
<td>2.0</td>
<td>5.5</td>
<td>2.2</td>
<td>5.5</td>
<td>4.6</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.0</td>
<td>3.1</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>1.7</td>
<td>0.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- HCM 2010 Ctrl Delay: 15.7
- HCM 2010 LOS: B
### Intersection

**Int Delay, s/veh:** 2.8

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>14</td>
<td>417</td>
<td>3</td>
<td>5</td>
<td>578</td>
<td>46</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>68</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>14</td>
<td>417</td>
<td>3</td>
<td>5</td>
<td>578</td>
<td>46</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>68</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>15</td>
<td>448</td>
<td>3</td>
<td>5</td>
<td>622</td>
<td>49</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>73</td>
<td>3</td>
<td>45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>671</td>
<td>0</td>
<td>451</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdyw</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>929</td>
<td>-</td>
<td>1120</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>929</td>
<td>-</td>
<td>1120</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0.1</td>
<td>15.7</td>
<td>25.6</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>345</td>
<td>929</td>
<td>-</td>
<td>-</td>
<td>1120</td>
<td>-</td>
<td>-</td>
<td>294</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.028</td>
<td>0.016</td>
<td>-</td>
<td>-</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>0.413</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15.7</td>
<td>8.9</td>
<td>0.1</td>
<td>-</td>
<td>8.2</td>
<td>0</td>
<td>-</td>
<td>25.6</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>1.9</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Traffic Vol, veh/h
- 0 0 0 0 0 0 0 0 0 0 0 0
- 0 0 0 0 0 0 0 0 0 0 0 0

#### Future Vol, veh/h
- 0 0 0 0 0 0 0 0 0 0 0 0

#### Conflicting Peds, #/hr
- 0 0 0 0 0 0 0 0 0 0 0 0

#### Sign Control
- Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop

#### Storage Length
- - - - - - - - - - - -

#### Veh in Median Storage, #
- 0 - - 0 - - 0 - - 0 -

#### Grade, %
- 0 - - 0 - - 0 - - 0 -

#### Peak Hour Factor

#### Heavy Vehicles, %
- 0 0 0 0 0 0 0 0 0 0 0 0

#### Mvmt Flow
- 0 0 0 0 0 0 0 0 0 0 0 0

### Conflicting Flow All

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Critical Hdy</td>
<td>4.1</td>
<td>- -</td>
<td>4.1</td>
<td>- -</td>
</tr>
<tr>
<td>Critical Hdy Stg 1</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Critical Hdy Stg 2</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Follow-up Hdy</td>
<td>2.2</td>
<td>- -</td>
<td>2.2</td>
<td>- -</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1631</td>
<td>- -</td>
<td>1631</td>
<td>- -</td>
</tr>
<tr>
<td>Stage 1</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
</tbody>
</table>

### Pot Cap-1 Maneuver

| Mov Cap-1 Maneuver | 1631 | - - | 1631 | - - |
| Stage 1 | - - | - - | - - | - - |
| Stage 2 | - - | - - | - - | - - |

### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | 1631 | - - | 1631 | - - |
| Stage 1 | - - | - - | - - | - - |
| Stage 2 | - - | - - | - - | - - |

### HCM Control Delay, s

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### HCM LOS

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>- 1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0 0</td>
<td>-</td>
<td>0 0</td>
<td>-</td>
<td>-</td>
<td>0 0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A A</td>
<td>-</td>
<td>A A</td>
<td>-</td>
<td>-</td>
<td>A A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>- 0</td>
<td>-</td>
<td>0 -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.3 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0 474 12</td>
<td>4 582 3</td>
<td>11</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0 474 12</td>
<td>4 582 3</td>
<td>11</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0 489 12</td>
<td>4 600 3</td>
<td>11</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>603</td>
<td>0</td>
<td>501</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>984</td>
<td>-</td>
<td>1074</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>984</td>
<td>-</td>
<td>1074</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.1</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>378</td>
<td>984</td>
<td>-</td>
<td>-</td>
<td>1074</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.052</td>
<td>-</td>
<td>-</td>
<td>0.004</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>8.4</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh:** 2

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

#### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>34</th>
<th>441</th>
<th>10</th>
<th>12</th>
<th>543</th>
<th>17</th>
<th>10</th>
<th>2</th>
<th>8</th>
<th>29</th>
<th>3</th>
<th>42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>34</td>
<td>441</td>
<td>10</td>
<td>12</td>
<td>543</td>
<td>17</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>29</td>
<td>3</td>
<td>42</td>
</tr>
</tbody>
</table>

#### Conflicting Peds, #/hr

| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

#### Sign Control

| Traffic Vol, veh/h | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop |

#### RT Channelized

| Traffic Vol, veh/h | None | None | None | None | None | None |

#### Veh in Median Storage, #

| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

#### Grade, %

| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

#### Peak Hour Factor

| Traffic Vol, veh/h | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 |

#### Heavy Vehicles, %

| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

#### Mvmt Flow

| Traffic Vol, veh/h | 37 | 474 | 11 | 13 | 584 | 18 | 11 | 2 | 9 | 31 | 3 | 45 |

#### Major/Minor

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>602</td>
<td>0</td>
<td>485</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>985</td>
<td>-</td>
<td>-</td>
<td>1088</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>985</td>
<td>-</td>
<td>-</td>
<td>1088</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.8</td>
<td>0.3</td>
<td>18.2</td>
<td>18.6</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

### Capacity (veh/h)

| Traffic Vol, veh/h | 294 | 985 | - | - | 1088 | - | - | 343 |

### HCM Lane V/C Ratio

| Traffic Vol, veh/h | 0.073 | 0.037 | - | - | 0.012 | - | - | 0.232 |

### HCM Control Delay (s)

| Traffic Vol, veh/h | 18.2 | 8.8 | 0.2 | - | 8.3 | 0.1 | - | 18.6 |

### HCM Lane LOS

| Traffic Vol, veh/h | C | A | A | - | A | A | - | C |

### HCM 95th %tile Q(veh)

| Traffic Vol, veh/h | 0.2 | 0.1 | - | - | 0 | - | - | 0.9 |
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Int Delay, s/veh</strong></td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>17</th>
<th>465</th>
<th>0</th>
<th>0</th>
<th>536</th>
<th>11</th>
<th>0</th>
<th>0</th>
<th>1</th>
<th>10</th>
<th>0</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>17</td>
<td>465</td>
<td>0</td>
<td>0</td>
<td>536</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>23</td>
</tr>
</tbody>
</table>

#### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

#### Storage Length

<table>
<thead>
<tr>
<th>Veh in Median Storage, #</th>
<th>-</th>
<th>0</th>
<th>-</th>
<th>0</th>
<th>-</th>
<th>0</th>
<th>-</th>
<th>0</th>
<th>-</th>
<th>0</th>
<th>-</th>
<th>0</th>
</tr>
</thead>
</table>

#### Grade, %

| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 |

#### Major/Minor

<table>
<thead>
<tr>
<th>Conflict Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>986</td>
<td>-</td>
<td>-</td>
<td>1065</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Mov Cap-1 Maneuver

| 986 | - | - | 1065 | - | - | 245 | 195 | 749 | 236 | 197 | 701 |

#### Mov Cap-2 Maneuver

| Stage 1 | - | - | - | - | - | - | - | 480 | 506 | 450 | 496 | - |
| Stage 2 | - | - | - | - | - | - | - | 670 | 493 | 675 | 506 | - |

#### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>0.98</td>
<td>13.9</td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Movmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>749</td>
<td>986</td>
<td>-</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.001</td>
<td>0.019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**HCM 95th %tile Q(veh):**

| 0 | 0.1 | - | - | 0 | - | - | 0.3 |
### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>258</td>
<td>246</td>
<td>78</td>
<td>698</td>
<td>87</td>
<td>1115</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>150</td>
<td>186</td>
<td>258</td>
<td>246</td>
<td>78</td>
<td>698</td>
<td>87</td>
<td>1115</td>
</tr>
</tbody>
</table>

### Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Detector Phase

<table>
<thead>
<tr>
<th>Phase</th>
<th>1</th>
<th>6</th>
<th>5</th>
<th>2</th>
<th>3</th>
<th>8</th>
<th>7</th>
<th>4</th>
</tr>
</thead>
</table>

### Switch Phase

<table>
<thead>
<tr>
<th>Minimum Initial (s)</th>
<th>5.0</th>
<th>10.0</th>
<th>6.0</th>
<th>10.0</th>
<th>5.0</th>
<th>10.0</th>
<th>5.0</th>
<th>10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Split (s)</td>
<td>10.0</td>
<td>41.0</td>
<td>11.0</td>
<td>40.0</td>
<td>10.0</td>
<td>37.0</td>
<td>10.0</td>
<td>33.0</td>
</tr>
</tbody>
</table>

### Permitted Phases

| Permitted Phases | 6 | 2 | 8 | 4 |

### Lead-Lag

<table>
<thead>
<tr>
<th>Lead-Lag</th>
<th>Lead</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Mode</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>C-Min</td>
<td>None</td>
<td>C-Min</td>
</tr>
<tr>
<td>Act Effct Green (s)</td>
<td>27.7</td>
<td>14.2</td>
<td>42.2</td>
<td>23.8</td>
<td>83.9</td>
<td>75.8</td>
<td>81.6</td>
<td>74.7</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.20</td>
<td>0.10</td>
<td>0.30</td>
<td>0.17</td>
<td>0.60</td>
<td>0.54</td>
<td>0.58</td>
<td>0.53</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.56</td>
<td>0.77</td>
<td>0.78</td>
<td>0.53</td>
<td>0.34</td>
<td>0.44</td>
<td>0.13</td>
<td>0.51</td>
</tr>
<tr>
<td>Control Delay</td>
<td>45.0</td>
<td>46.3</td>
<td>54.8</td>
<td>52.1</td>
<td>15.7</td>
<td>21.0</td>
<td>6.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Delay</td>
<td>45.0</td>
<td>46.3</td>
<td>54.8</td>
<td>52.1</td>
<td>15.7</td>
<td>21.0</td>
<td>6.4</td>
<td>10.0</td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>45.9</td>
<td>53.3</td>
<td>20.6</td>
<td>9.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>D</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>Cycle Length: 140</th>
<th>Actuated Cycle Length: 140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offset: 71 (51%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green</td>
<td>Natural Cycle: 100</td>
</tr>
<tr>
<td>Control Type: Actuated-Coordinated</td>
<td>Maximum v/c Ratio: 0.78</td>
</tr>
<tr>
<td>Intersection Signal Delay: 25.4</td>
<td>Intersection LOS: C</td>
</tr>
<tr>
<td>Intersection Capacity Utilization 71.6%</td>
<td>ICU Level of Service C</td>
</tr>
<tr>
<td>Analysis Period (min) 15</td>
<td></td>
</tr>
</tbody>
</table>

### Splits and Phases

124: Broadway Ave & Beacon St

- **Cycle Length:** 140
- **Actuated Cycle Length:** 140
- **Offset:** 71 (51%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
- **Natural Cycle:** 100
- **Control Type:** Actuated-Coordinated
- **Maximum v/c Ratio:** 0.78
- **Intersection Signal Delay:** 25.4
- **Intersection LOS:** C
- **Intersection Capacity Utilization:** 71.6%
- **ICU Level of Service:** C
- **Analysis Period (min):** 15
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>150</td>
<td>186</td>
<td>165</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>78</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1115</td>
<td>193</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>150</td>
<td>186</td>
<td>165</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>78</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1115</td>
<td>193</td>
</tr>
<tr>
<td><strong>Ideal Flow (vphpl)</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Total Lost time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lane Util. Factor</strong></td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Frpb, ped/bikes</strong></td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Flpb, ped/bikes</strong></td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Frt</strong></td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td><strong>Flt Protected</strong></td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Satd. Flow (prot)</strong></td>
<td>1805</td>
<td>3309</td>
<td>1805</td>
<td>3486</td>
<td>1805</td>
<td>3529</td>
<td>3502</td>
<td>5062</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flt Permitted</strong></td>
<td>0.56</td>
<td>1.00</td>
<td>0.56</td>
<td>1.00</td>
<td>0.56</td>
<td>1.00</td>
<td>0.56</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satd. Flow (perm)</strong></td>
<td>1056</td>
<td>3309</td>
<td>3486</td>
<td>3502</td>
<td>3529</td>
<td>757</td>
<td>977</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak-hour factor, PHF</strong></td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adj. Flow (vph)</strong></td>
<td>158</td>
<td>196</td>
<td>174</td>
<td>272</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>735</td>
<td>115</td>
<td>92</td>
<td>1174</td>
<td>203</td>
</tr>
<tr>
<td><strong>RTOR Reduction (vph)</strong></td>
<td>0</td>
<td>140</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Group Flow (vph)</strong></td>
<td>158</td>
<td>230</td>
<td>0</td>
<td>272</td>
<td>306</td>
<td>0</td>
<td>82</td>
<td>444</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Confl. Bikes (#/hr)</strong></td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heavy Vehicles (%)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Green, G (s)</strong></td>
<td>27.8</td>
<td>14.3</td>
<td>42.3</td>
<td>23.8</td>
<td>83.8</td>
<td>75.7</td>
<td>81.6</td>
<td>74.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective Green, g (s)</strong></td>
<td>27.8</td>
<td>14.3</td>
<td>42.3</td>
<td>23.8</td>
<td>83.8</td>
<td>75.7</td>
<td>81.6</td>
<td>74.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.20</td>
<td>0.10</td>
<td>0.30</td>
<td>0.17</td>
<td>0.60</td>
<td>0.54</td>
<td>0.58</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clearance Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vehicle Extension (s)</strong></td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap (vph)</strong></td>
<td>281</td>
<td>337</td>
<td>350</td>
<td>592</td>
<td>240</td>
<td>1908</td>
<td>695</td>
<td>2697</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Prot</strong></td>
<td>0.05</td>
<td>0.07</td>
<td>0.13</td>
<td>0.09</td>
<td>0.02</td>
<td>0.24</td>
<td>0.01</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Perm</strong></td>
<td>0.06</td>
<td>0.08</td>
<td>0.11</td>
<td>0.08</td>
<td>0.18</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.56</td>
<td>0.68</td>
<td>0.78</td>
<td>0.52</td>
<td>0.34</td>
<td>0.44</td>
<td>0.13</td>
<td>0.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uniform Delay, d1</strong></td>
<td>49.3</td>
<td>60.7</td>
<td>41.1</td>
<td>52.9</td>
<td>14.0</td>
<td>19.4</td>
<td>13.4</td>
<td>20.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Progression Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incremental Delay, d2</strong></td>
<td>1.5</td>
<td>4.5</td>
<td>10.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.7</td>
<td>0.1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Delay (s)</strong></td>
<td>50.8</td>
<td>65.2</td>
<td>51.5</td>
<td>53.2</td>
<td>14.3</td>
<td>20.2</td>
<td>7.1</td>
<td>9.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Service</strong></td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach Delay (s)</strong></td>
<td>60.9</td>
<td>52.4</td>
<td>19.6</td>
<td>9.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

| HCM 2000 Control Delay | 27.1 |
| HCM 2000 Volume to Capacity ratio | 0.60 |
| Actuated Cycle Length (s) | 140.0 |
| Intersection Capacity Utilization | 71.6% |
| Analysis Period (min) | 15 |

---

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Volume (veh/h)</th>
<th>150</th>
<th>186</th>
<th>165</th>
<th>258</th>
<th>246</th>
<th>62</th>
<th>78</th>
<th>698</th>
<th>109</th>
<th>87</th>
<th>1115</th>
<th>193</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Volume (veh/h)</td>
<td>150</td>
<td>186</td>
<td>165</td>
<td>258</td>
<td>246</td>
<td>62</td>
<td>78</td>
<td>698</td>
<td>109</td>
<td>87</td>
<td>1115</td>
<td>193</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/hln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>158</td>
<td>196</td>
<td>174</td>
<td>272</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>735</td>
<td>115</td>
<td>92</td>
<td>1174</td>
<td>203</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>323</td>
<td>248</td>
<td>207</td>
<td>331</td>
<td>532</td>
<td>131</td>
<td>332</td>
<td>1708</td>
<td>267</td>
<td>746</td>
<td>2433</td>
<td>421</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.09</td>
<td>0.13</td>
<td>0.13</td>
<td>0.14</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
<td>0.55</td>
<td>0.55</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1849</td>
<td>1538</td>
<td>1810</td>
<td>2860</td>
<td>703</td>
<td>1810</td>
<td>3121</td>
<td>488</td>
<td>746</td>
<td>4442</td>
<td>768</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>158</td>
<td>191</td>
<td>179</td>
<td>272</td>
<td>227</td>
<td>161</td>
<td>163</td>
<td>82</td>
<td>425</td>
<td>425</td>
<td>914</td>
<td>463</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/hln</td>
<td>1810</td>
<td>1805</td>
<td>1582</td>
<td>1810</td>
<td>1805</td>
<td>1758</td>
<td>1810</td>
<td>1805</td>
<td>1804</td>
<td>1755</td>
<td>1729</td>
<td>1752</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>10.4</td>
<td>14.3</td>
<td>15.5</td>
<td>17.6</td>
<td>11.2</td>
<td>11.6</td>
<td>2.8</td>
<td>19.5</td>
<td>19.5</td>
<td>1.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>10.4</td>
<td>14.3</td>
<td>15.5</td>
<td>17.6</td>
<td>11.2</td>
<td>11.6</td>
<td>2.8</td>
<td>19.5</td>
<td>19.5</td>
<td>1.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.40</td>
<td>1.00</td>
<td>0.27</td>
<td>1.00</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>323</td>
<td>242</td>
<td>212</td>
<td>331</td>
<td>336</td>
<td>327</td>
<td>332</td>
<td>988</td>
<td>988</td>
<td>746</td>
<td>1894</td>
<td>960</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.49</td>
<td>0.79</td>
<td>0.84</td>
<td>0.82</td>
<td>0.48</td>
<td>0.50</td>
<td>0.25</td>
<td>0.43</td>
<td>0.12</td>
<td>0.48</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>395</td>
<td>477</td>
<td>418</td>
<td>347</td>
<td>516</td>
<td>502</td>
<td>451</td>
<td>988</td>
<td>988</td>
<td>925</td>
<td>1894</td>
<td>960</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>46.3</td>
<td>58.7</td>
<td>59.2</td>
<td>43.0</td>
<td>50.9</td>
<td>51.1</td>
<td>12.8</td>
<td>18.8</td>
<td>18.8</td>
<td>13.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.4</td>
<td>2.2</td>
<td>3.5</td>
<td>14.1</td>
<td>0.4</td>
<td>0.4</td>
<td>0.1</td>
<td>1.4</td>
<td>1.4</td>
<td>0.1</td>
<td>0.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Initial Q Delay (d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>5.2</td>
<td>7.3</td>
<td>7.0</td>
<td>10.1</td>
<td>5.6</td>
<td>5.7</td>
<td>1.4</td>
<td>10.1</td>
<td>10.1</td>
<td>0.7</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>46.8</td>
<td>60.8</td>
<td>62.6</td>
<td>57.1</td>
<td>51.3</td>
<td>51.5</td>
<td>13.0</td>
<td>20.1</td>
<td>20.1</td>
<td>13.6</td>
<td>0.9</td>
<td>1.7</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>528</td>
<td>596</td>
<td>932</td>
<td>1469</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>57.2</td>
<td>54.0</td>
<td>19.5</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>17.5</td>
<td>31.1</td>
<td>9.8</td>
<td>81.7</td>
<td>24.7</td>
<td>23.8</td>
<td>9.9</td>
<td>81.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>18.0</td>
<td>40.0</td>
<td>14.0</td>
<td>48.0</td>
<td>21.0</td>
<td>37.0</td>
<td>12.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+11), s</td>
<td>12.4</td>
<td>13.6</td>
<td>4.8</td>
<td>2.0</td>
<td>19.6</td>
<td>17.5</td>
<td>3.6</td>
<td>21.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.1</td>
<td>1.2</td>
<td>0.1</td>
<td>7.6</td>
<td>0.1</td>
<td>1.3</td>
<td>0.1</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 23.7
- **HCM 2010 LOS**: C
ATTACHMENT G – 2023 REROUTED BACKGROUND TRAFFIC OPERATIONS
Lane Group | WBL | WBR | NBT | SBL | SBT
--- | --- | --- | --- | --- | ---
Lane Configurations |  |  |  |  |  
Traffic Volume (vph) | 71 | 233 | 281 | 115 | 209
Future Volume (vph) | 71 | 233 | 281 | 115 | 209
Turn Type | Prot | Perm | NA | pm+pt | NA
Protected Phases | 2 | 8 | 7 | 4 |  
Permitted Phases | 2 | 4 |  
Detector Phase | 2 | 2 | 8 | 7 | 4
Switch Phase
Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 5.0 | 5.0
Minimum Split (s) | 33.0 | 33.0 | 31.0 | 10.0 | 10.0
Total Split (s) | 33.0 | 33.0 | 31.0 | 11.0 | 42.0
Total Split (%) | 44.0% | 44.0% | 41.3% | 14.7% | 56.0%
Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0
All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0
Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0
Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0
Lead/Lag
Lead-Lag Optimize? | Yes | Yes
Recall Mode
Act Effct Green (s) | 7.6 | 7.6 | 14.3 | 22.5 | 22.5
Actuated g/C Ratio | 0.19 | 0.19 | 0.35 | 0.55 | 0.55
v/c Ratio | 0.25 | 0.62 | 0.64 | 0.26 | 0.23
Control Delay | 18.3 | 9.9 | 17.1 | 5.8 | 5.3
Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0
Total Delay | 18.3 | 9.9 | 17.1 | 5.8 | 5.3
LOS | B | A | B | A | A
Approach Delay | 11.9 | 17.1 | 5.5 |  
Approach LOS | B | B | A |  

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 40.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.6
Intersection LOS: B
Intersection Capacity Utilization 42.0%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 101: Lincoln Ave & University Dr
## Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td>WBL</td>
<td>WBR</td>
<td>NBT</td>
<td>NBR</td>
<td>SBL</td>
<td>SBT</td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>0.47</td>
<td>0.96</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>0.85</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>758</td>
<td>1785</td>
<td>1805</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Fitt Permitted</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.31</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1805</td>
<td>758</td>
<td>1785</td>
<td>588</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>83</td>
<td>271</td>
<td>327</td>
<td>79</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>221</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>83</td>
<td>50</td>
<td>394</td>
<td>0</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>253</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

## Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>Prot</th>
<th>Perm</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>7.6</td>
<td>7.6</td>
<td>14.3</td>
<td>23.8</td>
<td>23.8</td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>7.6</td>
<td>7.6</td>
<td>14.3</td>
<td>23.8</td>
<td>23.8</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.18</td>
<td>0.18</td>
<td>0.35</td>
<td>0.57</td>
<td>0.57</td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>331</td>
<td>139</td>
<td>616</td>
<td>470</td>
<td>1092</td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.05</td>
<td>0.22</td>
<td>0.03</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.07</td>
<td>0.13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.25</td>
<td>0.36</td>
<td>0.64</td>
<td>0.29</td>
<td>0.22</td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>14.5</td>
<td>14.8</td>
<td>11.4</td>
<td>4.9</td>
<td>4.3</td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.1</td>
<td>0.6</td>
<td>1.6</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Delay (s)</td>
<td>14.6</td>
<td>15.3</td>
<td>13.0</td>
<td>5.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>15.2</td>
<td>13.0</td>
<td>4.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Intersection Summary

<table>
<thead>
<tr>
<th>Intersection Summary</th>
<th>HCM 2000 Control Delay</th>
<th>HCM 2000 Level of Service</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>41.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of lost time (s)</td>
<td>15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>42.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICU Level of Service</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Critical Lane Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement</td>
<td>WBL</td>
<td>WBR</td>
<td>NBT</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Traffic Volume (veh/h)</strong></td>
<td>71</td>
<td>233</td>
<td>281</td>
</tr>
<tr>
<td><strong>Future Volume (veh/h)</strong></td>
<td>71</td>
<td>233</td>
<td>281</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>5</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td><strong>Initial Q (Qb), veh</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ped-Bike Adj(A_pbT)</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Parking Bus, Adj</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Adj Sat Flow, veh/h/ln</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Adj Flow Rate, veh/h</strong></td>
<td>83</td>
<td>271</td>
<td>327</td>
</tr>
<tr>
<td><strong>Adj No. of Lanes</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Percent Heavy Veh, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cap, veh/h</strong></td>
<td>394</td>
<td>352</td>
<td>422</td>
</tr>
<tr>
<td><strong>Cap Flow, veh/h</strong></td>
<td>1810</td>
<td>1615</td>
<td>1399</td>
</tr>
<tr>
<td><strong>Vol Flow Rate, veh/h/ln</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Vol Flow Rate, veh/h</strong></td>
<td>83</td>
<td>271</td>
<td>327</td>
</tr>
<tr>
<td><strong>Vol No. of Lanes</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Percent Heavy Veh, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cap, veh/h</strong></td>
<td>394</td>
<td>352</td>
<td>422</td>
</tr>
<tr>
<td><strong>Cap Flow, veh/h</strong></td>
<td>1810</td>
<td>1615</td>
<td>1399</td>
</tr>
<tr>
<td><strong>Vol Flow Rate, veh/h/ln</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Vol Flow Rate, veh/h</strong></td>
<td>83</td>
<td>271</td>
<td>327</td>
</tr>
</tbody>
</table>

**Interchange Summary**

- **HCM 2010 Ctrl Delay**: 11.5
- **HCM 2010 LOS**: B
### Intersection

| Int Delay, s/veh | 0 |

### Movement EBT EBR WBL WBT NBL NBR

#### Lane Configurations
- Traffic Vol, veh/h | 187 | 0 | 0 | 331 | 0 | 0 |
- Future Vol, veh/h | 187 | 0 | 0 | 331 | 0 | 0 |
- Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |

#### Sign Control
- RT Channelized: Free, Free, Free, Free, Stop, Stop

#### Storage Length
- - 25 - 0 -

#### Veh in Median Storage, #
- 0 - - 0 0 -

#### Grade, %
- 0 - - 0 0 -

#### Peak Hour Factor
- 86 86 86 86 86 86

#### Heavy Vehicles, %
- 0 0 0 0 0 0

#### Mvmt Flow
- 217 0 0 385 0 0

### Major/Minor

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### HCM LOS
- A

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1365</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh** 0.1

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>2</td>
<td>157</td>
<td>0</td>
<td>0</td>
<td>275</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>2</td>
<td>157</td>
<td>0</td>
<td>0</td>
<td>275</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

- RT Channelized Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop
- Storage Length 25 - - 25 - - - - - - - -
- Veh in Median Storage, # - 0 - - 0 - - 0 - - 0 -
- Grade, % - 0 - - 0 - - 0 - - 0 -
- Peak Hour Factor 74 74 74 74 74 74 74 74 74 74 74 74
- Heavy Vehicles, % 0 0 0 0 0 0 0 0 0 0 0 0

### Major/Minor

<table>
<thead>
<tr>
<th>Mov Cap-1 Maneuver</th>
<th>1198</th>
<th>-</th>
<th>-</th>
<th>1370</th>
<th>-</th>
<th>-</th>
<th>422</th>
<th>423</th>
<th>833</th>
<th>422</th>
<th>423</th>
<th>678</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>218</td>
<td>218</td>
<td>218</td>
<td>372</td>
<td>372</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>372</td>
<td>372</td>
<td>218</td>
<td>218</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdw</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.5</td>
<td>4.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1198</td>
<td>-</td>
<td>-</td>
<td>1370</td>
<td>-</td>
<td>-</td>
<td>422</td>
<td>423</td>
<td>833</td>
<td>421</td>
<td>422</td>
<td>678</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>789</td>
<td>726</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>653</td>
<td>622</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13.6</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>- 1198</td>
<td>-</td>
<td>-</td>
<td>1370</td>
<td>-</td>
<td>-</td>
<td>421</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>- 0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0 8</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>- 0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 3.4 |

#### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>17</td>
<td>125</td>
<td>36</td>
<td>34</td>
<td>259</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>35</td>
<td>45</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>17</td>
<td>125</td>
<td>36</td>
<td>34</td>
<td>259</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>35</td>
<td>45</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Sign Control

| RT Channelized | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | Stop |

#### Storage Length

| Storage Length | 25   | -    | 25   | -    | -    | -    | -    | -    | -    | -    | -    | -    |

#### Veh in Median Storage, #

| Veh in Median Storage, # | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

#### Grade, %

| Grade, % | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

#### Peak Hour Factor

| Peak Hour Factor | 86   | 86   | 86   | 86   | 86   | 86   | 86   | 86   | 86   | 86   | 86   | 86   |

#### Heavy Vehicles, %

| Heavy Vehicles, % | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

#### Mvmt Flow

| Mvmt Flow | 20  | 145 | 42  | 40  | 301 | 45  | 15  | 2   | 41  | 52  | 9   | 29  |

#### Major/Minor

<table>
<thead>
<tr>
<th>Conflict Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>346</td>
<td>0</td>
<td>187</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdyw</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1224</td>
<td>-</td>
<td>1399</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1224</td>
<td>-</td>
<td>1399</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>0.8</th>
<th>0.8</th>
<th>11.4</th>
<th>15.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>619</th>
<th>1224</th>
<th>-</th>
<th>1399</th>
<th>-</th>
<th>-</th>
<th>435</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.094</td>
<td>0.016</td>
<td>-</td>
<td>0.028</td>
<td>-</td>
<td>- 0.209</td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11.4</td>
<td>8</td>
<td>-</td>
<td>7.6</td>
<td>-</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>0.8</td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

| Intersection | Int Delay, s/veh | 1.1 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>281</td>
<td>14</td>
<td>9</td>
<td>257</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>281</td>
<td>14</td>
<td>9</td>
<td>257</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>312</td>
<td>16</td>
<td>10</td>
<td>286</td>
<td>17</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>328</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1243</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1243</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.3</td>
<td>11</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>665</td>
<td>-</td>
<td>-</td>
<td>1243</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.095</td>
<td>-</td>
<td>-</td>
<td>0.008</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>7.9</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>
### Lane Group Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>119</td>
<td>904</td>
<td>15</td>
<td>1442</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>119</td>
<td>904</td>
<td>15</td>
<td>1442</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

### Switch Phase

- Minimum Initial (s): 5.0 8.0 8.0 10.0 10.0 5.0 10.0 5.0 10.0
- Minimum Split (s): 11.0 33.0 33.0 34.0 34.0 11.0 20.0 11.0 27.0
- Total Split (s): 15.0 50.0 50.0 35.0 35.0 25.0 75.0 15.0 65.0
- Total Split (%): 10.7% 35.7% 35.7% 25.0% 25.0% 17.9% 53.6% 10.7% 46.4%
- Yellow Time (s): 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
- All-Red Time (s): 2.0 2.0 2.0 2.0 2.0 2.0 1.0 2.0 1.0
- Lost Time Adjust (s): 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- Total Lost Time (s): 6.0 6.0 6.0 6.0 6.0 5.0 6.0 6.0 5.0
- Lead/Lag Optimize? Yes Yes Yes Yes Yes Yes Yes

### Intersection Summary

- Cycle Length: 140
- Actuated Cycle Length: 140
- Offset: 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
- Natural Cycle: 85
- Control Type: Actuated-Coordinated
- Maximum v/c Ratio: 0.56
- Intersection Signal Delay: 17.8
- Intersection LOS: B
- Intersection Capacity Utilization: 67.7%
- ICU Level of Service: C
- Analysis Period (min): 15

### Splits and Phases: 108: Broadway Ave & University Dr
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>119</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>442</td>
<td>148</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>119</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>442</td>
<td>148</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Util. Factor 1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.85</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Protected Flow (prot)</td>
<td>1805</td>
<td>1900</td>
<td>1615</td>
<td>1765</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>3598</td>
<td>5115</td>
<td></td>
</tr>
<tr>
<td>Lane Permitted Flow (perm)</td>
<td>0.66</td>
<td>1.00</td>
<td>1.00</td>
<td>0.84</td>
<td>0.09</td>
<td>1.00</td>
<td>0.28</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Sat. Flow (perm)</td>
<td>1263</td>
<td>1900</td>
<td>1615</td>
<td>1513</td>
<td>1263</td>
<td>3598</td>
<td>1263</td>
<td>3598</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>172</td>
<td>5</td>
<td>164</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>124</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>154</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>0</td>
<td>130</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>962</td>
<td>0</td>
<td>16</td>
<td>1650</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>172</td>
<td>5</td>
<td>34</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>124</td>
<td>962</td>
<td>0</td>
<td>16</td>
<td>1650</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>29.0</td>
<td>29.0</td>
<td>29.0</td>
<td>8.0</td>
<td>100.0</td>
<td>91.9</td>
<td>84.9</td>
<td>82.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>29.0</td>
<td>29.0</td>
<td>29.0</td>
<td>8.0</td>
<td>100.0</td>
<td>91.9</td>
<td>84.9</td>
<td>82.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.21</td>
<td>0.21</td>
<td>0.21</td>
<td>0.06</td>
<td>0.71</td>
<td>0.66</td>
<td>0.61</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>319</td>
<td>393</td>
<td>334</td>
<td>86</td>
<td>253</td>
<td>2361</td>
<td>342</td>
<td>3025</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.06</td>
<td>0.00</td>
<td>c0.04</td>
<td>0.27</td>
<td>0.00</td>
<td>c0.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.05</td>
<td>0.02</td>
<td>c0.02</td>
<td>0.31</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.54</td>
<td>0.01</td>
<td>0.10</td>
<td>0.29</td>
<td>0.49</td>
<td>0.41</td>
<td>0.05</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>48.8</td>
<td>44.1</td>
<td>45.0</td>
<td>63.3</td>
<td>12.3</td>
<td>11.3</td>
<td>11.0</td>
<td>17.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.50</td>
<td>0.71</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
<td>0.0</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>49.7</td>
<td>44.1</td>
<td>45.0</td>
<td>63.9</td>
<td>31.2</td>
<td>8.5</td>
<td>11.0</td>
<td>18.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>C</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>47.3</td>
<td>63.9</td>
<td>11.0</td>
<td>17.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>E</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>19.3</th>
<th>HCM 2000 Level of Service</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>140.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of lost time (s)</td>
<td>23.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>67.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICU Level of Service</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical Lane Group
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>119</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>148</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>165</td>
<td>5</td>
<td>157</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>119</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>148</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>172</td>
<td>5</td>
<td>164</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>124</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>154</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>294</td>
<td>339</td>
<td>288</td>
<td>83</td>
<td>371</td>
<td>494</td>
<td>1810</td>
<td>1810</td>
<td>80</td>
<td>1810</td>
<td>4782</td>
<td>490</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.08</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.08</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.66</td>
<td>0.66</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1900</td>
<td>1900</td>
<td>1615</td>
<td>616</td>
<td>371</td>
<td>494</td>
<td>1810</td>
<td>3610</td>
<td>80</td>
<td>1810</td>
<td>4782</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>172</td>
<td>5</td>
<td>164</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>124</td>
<td>471</td>
<td>492</td>
<td>16</td>
<td>1086</td>
<td>570</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>1481</td>
<td>0</td>
<td>0</td>
<td>1810</td>
<td>1805</td>
<td>1886</td>
<td>1810</td>
<td>1729</td>
<td>1814</td>
</tr>
<tr>
<td>Q Serve(q_s), s</td>
<td>9.0</td>
<td>0.0</td>
<td>13.0</td>
<td>1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>3.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>21.6</td>
<td>21.7</td>
</tr>
<tr>
<td>Cycle Q Clear(q_c), s</td>
<td>9.0</td>
<td>0.3</td>
<td>13.0</td>
<td>2.9</td>
<td>0.0</td>
<td>0.0</td>
<td>3.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>21.6</td>
<td>21.7</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.53</td>
<td>0.33</td>
<td>1.00</td>
<td>0.0</td>
<td>0.04</td>
<td>1.00</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>294</td>
<td>339</td>
<td>288</td>
<td>145</td>
<td>0</td>
<td>0</td>
<td>275</td>
<td>1234</td>
<td>1289</td>
<td>474</td>
<td>2290</td>
<td>1201</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.58</td>
<td>0.01</td>
<td>0.57</td>
<td>0.25</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.45</td>
<td>0.38</td>
<td>0.38</td>
<td>0.03</td>
<td>0.47</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>294</td>
<td>597</td>
<td>508</td>
<td>337</td>
<td>0</td>
<td>0</td>
<td>452</td>
<td>1234</td>
<td>1289</td>
<td>560</td>
<td>2290</td>
<td>1201</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>56.0</td>
<td>47.4</td>
<td>52.6</td>
<td>61.6</td>
<td>0.0</td>
<td>0.0</td>
<td>9.2</td>
<td>0.0</td>
<td>0.0</td>
<td>7.3</td>
<td>11.6</td>
<td>11.6</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>2.0</td>
<td>0.0</td>
<td>0.7</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>0.9</td>
<td>0.9</td>
<td>0.0</td>
<td>0.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>1.9</td>
<td>0.2</td>
<td>5.8</td>
<td>1.3</td>
<td>0.0</td>
<td>0.0</td>
<td>1.6</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>10.5</td>
<td>11.2</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>58.0</td>
<td>47.4</td>
<td>53.2</td>
<td>62.0</td>
<td>0.0</td>
<td>0.0</td>
<td>9.6</td>
<td>0.9</td>
<td>0.9</td>
<td>7.3</td>
<td>12.3</td>
<td>13.0</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Traffic Volume Summary

- **Approach Vol, veh/h**: 341, 36 | 1087, 1672
- **Approach Delay, s/veh**: 55.5, 62.0 | 1.9, 12.5
- **Approach LOS**: E, E | A, B

### Timer

- **Timer**: 1, 2, 3, 4, 5, 6, 7, 8

### Assigned Phs

- **Phs Duration (G+Y+Rc), s**: 15.0, 16.0, 11.3, 97.7 | 31.0, 8.3, 100.7
- **Change Period (Y+Rc), s**: 6.0, 6.0, 6.0, 5.0 | 6.0, 6.0, 5.0
- **Max Green Setting (Gmax), s**: 9.0, 29.0, 19.0, 60.0 | 44.0, 9.0, 70.0
- **Max Q Clear Time (g_c+I1), s**: 11.0, 4.9, 5.2, 23.7 | 15.0, 2.4, 2.0
- **Green Ext Time (p_c), s**: 0.0, 0.1, 0.1, 9.7 | 0.3, 0.0, 4.2

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 14.1
- **HCM 2010 LOS**: B
### Intersection Results

<table>
<thead>
<tr>
<th>Intersection Delay, s/veh</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection LOS</td>
<td>-</td>
</tr>
</tbody>
</table>

### Movement Details

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0  0  0  0  0  0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0  0  0  0  0  0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.75 0.75 0.75 0.75 0.75 0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0  0  0  0  0  0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0  0  0  0  0  0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>1  0  0  1  1  0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Approach Details

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Approach</td>
<td>WB</td>
<td>EB</td>
<td></td>
</tr>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>NB</td>
<td>EB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>WB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane Details

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1 EBLn1 WBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0% 0% 0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100% 100% 100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0% 0% 0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop Stop Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>0 0 0</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0 0 0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9 3.9 3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes Yes Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9 1.9 1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0 0 0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9 6.9 6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N N N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh** 0

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

- Free
- Stop

### Storage Length

- -

### Veh in Median Storage, #

- -

### Grade, %

- -

### Peak Hour Factor

90 90 90 90 90 90 90 90 90 90 90 90

### Heavy Vehicles, %

0 0 0 0 0 0 0 0 0 0 0 0

### Mvmt Flow

0 0 0 0 0 0 0 0 0 0 0 0

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1635</td>
<td>-</td>
<td>1635</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1635</td>
<td>-</td>
<td>1635</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBLn1</td>
<td>EBL</td>
<td>EBT</td>
<td>EBR</td>
</tr>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1635</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

- **Int Delay, s/veh**: 1.5

#### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>980</td>
<td>26</td>
<td>39</td>
<td>1488</td>
<td>29</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>980</td>
<td>26</td>
<td>39</td>
<td>1488</td>
<td>29</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Sign Control

- **RT Channelized**: Stop, Stop, Stop, Stop, Stop, Stop, Stop, Free, Free, Free, Free, Free, Free
- **Storage Length**: None, None, None, None
- **Veh in Median Storage, #**: None, None
- **Grade, %**: None, None
- **Peak Hour Factor**: 95, 95, 95, 95, 95, 95, 95, 95, 95, 95
- **Heavy Vehicles, %**: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
- **Mvmt Flow**: 4, 3, 6, 8, 0, 36, 17, 1032, 27, 41, 1566, 31

#### Major/Minor

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR EBLn1WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>204</td>
<td>-</td>
<td>-</td>
<td>184</td>
<td>665</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Approach

- **HCM Control Delay, s**: 145.7, 30.6, 0.4, 0.3
- **HCM LOS**: F, D
### Lane Group Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>81</td>
<td>330</td>
<td>12</td>
<td>512</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>81</td>
<td>330</td>
<td>12</td>
<td>512</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Switch Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Initial (s)</td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Minimum Split (s)</td>
<td>9.5</td>
<td>28.0</td>
<td>9.5</td>
<td>25.0</td>
<td>9.5</td>
<td>31.0</td>
<td>9.5</td>
<td>31.0</td>
</tr>
<tr>
<td>Total Split (s)</td>
<td>11.0</td>
<td>28.0</td>
<td>9.5</td>
<td>26.5</td>
<td>9.5</td>
<td>32.9</td>
<td>9.6</td>
<td>33.0</td>
</tr>
<tr>
<td>Total Split (%)</td>
<td>13.8%</td>
<td>35.0%</td>
<td>11.9%</td>
<td>33.1%</td>
<td>11.9%</td>
<td>41.1%</td>
<td>12.0%</td>
<td>41.3%</td>
</tr>
<tr>
<td>Yellow Time (s)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>All-Red Time (s)</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Lost Time Adjust (s)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Lost Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lead/Lag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead-Lag Optimize?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Recall Mode</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Min</td>
<td>Min</td>
</tr>
<tr>
<td>Act Effct Green (s)</td>
<td>23.7</td>
<td>22.7</td>
<td>19.7</td>
<td>16.5</td>
<td>14.0</td>
<td>10.7</td>
<td>16.9</td>
<td>16.1</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.45</td>
<td>0.43</td>
<td>0.37</td>
<td>0.31</td>
<td>0.27</td>
<td>0.20</td>
<td>0.32</td>
<td>0.31</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.24</td>
<td>0.23</td>
<td>0.03</td>
<td>0.60</td>
<td>0.00</td>
<td>0.10</td>
<td>0.30</td>
<td>0.26</td>
</tr>
<tr>
<td>Control Delay</td>
<td>9.6</td>
<td>10.5</td>
<td>7.8</td>
<td>18.0</td>
<td>14.0</td>
<td>21.0</td>
<td>17.4</td>
<td>8.7</td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Delay</td>
<td>9.6</td>
<td>10.5</td>
<td>7.8</td>
<td>18.0</td>
<td>14.0</td>
<td>21.0</td>
<td>17.4</td>
<td>8.7</td>
</tr>
<tr>
<td>LOS</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>10.4</td>
<td>17.8</td>
<td>20.8</td>
<td>12.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **Cycle Length**: 80
- **Actuated Cycle Length**: 52.7
- **Natural Cycle**: 80
- **Control Type**: Actuated-Uncoordinated
- **Maximum v/c Ratio**: 0.60
- **Intersection Signal Delay**: 14.6
- **Intersection LOS**: B
- **Intersection Capacity Utilization**: 48.6%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15

### Analysis

- **Splits and Phases**: 117: Lincoln Ave & Beacon St

[Diagram of traffic flow and signal phases]
### Weekday PM Peak Hour

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>81</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>109</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>81</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>109</td>
</tr>
<tr>
<td><strong>Ideal Flow (vph/ppl)</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Total Lost time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lane Util. Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Frt Protected</strong></td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>0.89</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Satd. Flow (prot)</strong></td>
<td>1805</td>
<td>3605</td>
<td>1805</td>
<td>3506</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1805</td>
<td>1805</td>
<td>1805</td>
</tr>
<tr>
<td><strong>Flt Permitted</strong></td>
<td>0.25</td>
<td>1.00</td>
<td>0.54</td>
<td>1.00</td>
<td>0.66</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Satd. Flow (perm)</strong></td>
<td>469</td>
<td>3605</td>
<td>1026</td>
<td>3506</td>
<td>1250</td>
<td>1877</td>
<td>1176</td>
<td>1877</td>
<td>1176</td>
<td>1877</td>
<td>1176</td>
<td>1877</td>
</tr>
<tr>
<td><strong>Peak-hour factor, PHF</strong></td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td><strong>Adj. Flow (vph)</strong></td>
<td>86</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>116</td>
</tr>
<tr>
<td><strong>RTOR Reduction (vph)</strong></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>85</td>
<td>0</td>
</tr>
<tr>
<td><strong>Lane Group Flow (vph)</strong></td>
<td>86</td>
<td>353</td>
<td>0</td>
<td>13</td>
<td>651</td>
<td>0</td>
<td>1</td>
<td>35</td>
<td>0</td>
<td>132</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td><strong>Heavy Vehicles (%)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Green, G (s)</strong></td>
<td>26.9</td>
<td>22.7</td>
<td>20.1</td>
<td>19.3</td>
<td>14.4</td>
<td>13.6</td>
<td>19.4</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective Green, g (s)</strong></td>
<td>26.9</td>
<td>22.7</td>
<td>20.1</td>
<td>19.3</td>
<td>14.4</td>
<td>13.6</td>
<td>19.4</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.45</td>
<td>0.38</td>
<td>0.33</td>
<td>0.32</td>
<td>0.24</td>
<td>0.23</td>
<td>0.32</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clearance Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vehicle Extension (s)</strong></td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap (vph)</strong></td>
<td>301</td>
<td>351</td>
<td>311</td>
<td>120</td>
<td>305</td>
<td>422</td>
<td>412</td>
<td>449</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Prot</strong></td>
<td>c0.02</td>
<td>0.10</td>
<td>0.00</td>
<td>c0.19</td>
<td>0.00</td>
<td>0.02</td>
<td>c0.02</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Perm</strong></td>
<td>0.11</td>
<td>0.01</td>
<td>0.00</td>
<td>c0.09</td>
<td>0.00</td>
<td>0.00</td>
<td>c0.09</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.29</td>
<td>0.26</td>
<td>0.04</td>
<td>0.58</td>
<td>0.00</td>
<td>0.08</td>
<td>0.32</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uniform Delay, d1</strong></td>
<td>10.4</td>
<td>13.0</td>
<td>13.5</td>
<td>17.2</td>
<td>17.5</td>
<td>18.5</td>
<td>15.1</td>
<td>17.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Progression Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incremental Delay, d2</strong></td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Delay (s)</strong></td>
<td>10.6</td>
<td>13.1</td>
<td>13.6</td>
<td>17.9</td>
<td>17.5</td>
<td>18.5</td>
<td>15.2</td>
<td>17.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Service</strong></td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach Delay (s)</strong></td>
<td>12.7</td>
<td>17.9</td>
<td>18.5</td>
<td>16.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 16.0
- **HCM 2000 Level of Service**: B
- **HCM 2000 Volume to Capacity ratio**: 0.46
- **Actuated Cycle Length (s)**: 60.4
- **Sum of lost time (s)**: 20.0
- **Intersection Capacity Utilization**: 48.6%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15

---

H:\222452 - Boise State University SE Campus Study\synchro\22452_backgr reroute_1.syn

Kittelton & Associates, Inc.
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>81</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>109</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>81</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>109</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>86</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>132</td>
<td>40</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>322</td>
<td>1152</td>
<td>10</td>
<td>418</td>
<td>787</td>
<td>187</td>
<td>393</td>
<td>340</td>
<td>540</td>
<td>119</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.31</td>
<td>0.31</td>
<td>0.01</td>
<td>0.27</td>
<td>0.27</td>
<td>0.00</td>
<td>0.20</td>
<td>0.20</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>3668</td>
<td>31</td>
<td>1810</td>
<td>2895</td>
<td>688</td>
<td>1810</td>
<td>1721</td>
<td>152</td>
<td>1810</td>
<td>431</td>
<td>1249</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>86</td>
<td>173</td>
<td>181</td>
<td>13</td>
<td>339</td>
<td>336</td>
<td>1</td>
<td>0</td>
<td>37</td>
<td>132</td>
<td>0</td>
<td>156</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1894</td>
<td>1810</td>
<td>1805</td>
<td>1779</td>
<td>1810</td>
<td>0</td>
<td>1873</td>
<td>1810</td>
<td>0</td>
<td>1680</td>
</tr>
<tr>
<td>Q Serve(q_s), s</td>
<td>1.7</td>
<td>3.7</td>
<td>3.7</td>
<td>0.3</td>
<td>8.5</td>
<td>8.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.2</td>
<td>2.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Cycle Q Clear(q_c), s</td>
<td>1.7</td>
<td>3.7</td>
<td>3.7</td>
<td>0.3</td>
<td>8.5</td>
<td>8.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.2</td>
<td>2.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Prop In Lanes</td>
<td>1.00</td>
<td>0.02</td>
<td>1.00</td>
<td>0.39</td>
<td>1.00</td>
<td>1.00</td>
<td>0.08</td>
<td>1.00</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>322</td>
<td>567</td>
<td>595</td>
<td>418</td>
<td>491</td>
<td>484</td>
<td>393</td>
<td>0</td>
<td>370</td>
<td>540</td>
<td>0</td>
<td>464</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.27</td>
<td>0.30</td>
<td>0.30</td>
<td>0.03</td>
<td>0.69</td>
<td>0.69</td>
<td>0.00</td>
<td>0.10</td>
<td>0.24</td>
<td>0.00</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>436</td>
<td>820</td>
<td>861</td>
<td>555</td>
<td>767</td>
<td>755</td>
<td>550</td>
<td>0</td>
<td>1032</td>
<td>559</td>
<td>0</td>
<td>929</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>12.8</td>
<td>13.2</td>
<td>13.2</td>
<td>13.1</td>
<td>16.5</td>
<td>16.5</td>
<td>16.2</td>
<td>0</td>
<td>16.6</td>
<td>13.5</td>
<td>0</td>
<td>14.6</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.0</td>
<td>1.7</td>
<td>1.8</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>0.9</td>
<td>1.9</td>
<td>2.0</td>
<td>0.1</td>
<td>4.5</td>
<td>4.4</td>
<td>0.0</td>
<td>0.4</td>
<td>1.4</td>
<td>0.0</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>13.0</td>
<td>13.5</td>
<td>13.5</td>
<td>13.1</td>
<td>18.3</td>
<td>18.3</td>
<td>16.2</td>
<td>0</td>
<td>16.7</td>
<td>13.6</td>
<td>0</td>
<td>14.8</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>440</td>
<td>688</td>
<td>38</td>
<td>288</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>13.4</td>
<td>18.2</td>
<td>16.7</td>
<td>14.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>7.8</td>
<td>18.8</td>
<td>5.1</td>
<td>19.0</td>
<td>5.7</td>
<td>20.9</td>
<td>9.0</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>6.0</td>
<td>21.5</td>
<td>4.5</td>
<td>28.0</td>
<td>4.5</td>
<td>23.0</td>
<td>4.6</td>
<td>27.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+11), s</td>
<td>3.7</td>
<td>10.6</td>
<td>2.0</td>
<td>5.8</td>
<td>2.3</td>
<td>5.7</td>
<td>4.8</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.0</td>
<td>3.2</td>
<td>0.0</td>
<td>0.6</td>
<td>0.0</td>
<td>1.8</td>
<td>0.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

| HCM 2010 Ctrl Delay | 15.9 |
| HCM 2010 LOS        | B    |
### Intersection

| Int Delay, s/veh | 3.1 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>15</td>
<td>438</td>
<td>3</td>
<td>5</td>
<td>607</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>15</td>
<td>438</td>
<td>3</td>
<td>5</td>
<td>607</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>16</td>
<td>471</td>
<td>3</td>
<td>5</td>
<td>653</td>
<td>52</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>76</td>
<td>3</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>705</td>
<td>0</td>
<td>474</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdw</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>902</td>
<td>-</td>
<td>1099</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>902</td>
<td>-</td>
<td>1099</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0.1</td>
<td>16.5</td>
<td>29</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>323</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>1099</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.03</td>
<td>0.018</td>
<td>-</td>
<td>-</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.483</td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>16.5</td>
<td>9.1</td>
<td>0.1</td>
<td>-</td>
<td>8.3</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2.3</td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh** 0.3

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EBL</td>
<td>EBT</td>
<td>EBR</td>
</tr>
<tr>
<td></td>
<td>0 498 13 4 612 3 12 0 8 0 0 0</td>
<td>0 498 13 4 612 3 12 0 8 0 0 0</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

### Traffic Vol, veh/h

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Weekday PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>07/05/2018</td>
</tr>
</tbody>
</table>

### Peak Hour Factor

<table>
<thead>
<tr>
<th>Movement</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>350</td>
<td>959</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.059</td>
<td>-</td>
<td>-</td>
<td>0.004</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>15.9</td>
<td>0</td>
<td>-</td>
<td>8.4</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>

**Attachment:** PZ_Project_Report_January_6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
## Intersection

**Int Delay, s/veh** 2.1

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Vol, veh/h</strong></td>
<td>36</td>
<td>463</td>
<td>11</td>
<td>13</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td><strong>Future Vol, veh/h</strong></td>
<td>36</td>
<td>463</td>
<td>11</td>
<td>13</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td><strong>Conflicting Peds, #/hr</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

- Free
- Stop
- None

### Veh in Median Storage, #

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Grade, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Peak Hour Factor

93 93 93 93 93 93 93 93 93 93 93 93

### Heavy Vehicles, %

0 0 0 0 0 0 0 0 0 0 0 0

### Mvmt Flow

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major/Minor</strong></td>
<td>Major1</td>
<td>Major2</td>
<td>Minor1</td>
<td>Minor2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conflicting Flow All</strong></td>
<td>633</td>
<td>0</td>
<td>510</td>
<td>0</td>
<td>0</td>
<td>919</td>
<td>1243</td>
<td>255</td>
<td>980</td>
<td>1240</td>
<td>317</td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>582</td>
<td>582</td>
<td>-</td>
<td>652</td>
<td>652</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>337</td>
<td>661</td>
<td>-</td>
<td>328</td>
<td>588</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7.5</td>
<td>6.5</td>
<td>6.9</td>
<td>7.5</td>
<td>6.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
<td>229</td>
<td>176</td>
<td>750</td>
<td>207</td>
<td>177</td>
<td>685</td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>471</td>
<td>502</td>
<td>-</td>
<td>428</td>
<td>467</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>656</td>
<td>463</td>
<td>-</td>
<td>664</td>
<td>499</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
<td>198</td>
<td>163</td>
<td>750</td>
<td>191</td>
<td>164</td>
<td>685</td>
<td></td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>198</td>
<td>163</td>
<td>-</td>
<td>191</td>
<td>164</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>444</td>
<td>473</td>
<td>-</td>
<td>404</td>
<td>458</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>594</td>
<td>454</td>
<td>-</td>
<td>616</td>
<td>471</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>0.3</td>
<td>19.7</td>
<td>20.1</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>266</td>
<td>960</td>
<td>-</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.084</td>
<td>0.04</td>
<td>-</td>
<td>-</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>19.7</td>
<td>8.9</td>
<td>0.2</td>
<td>-</td>
<td>8.4</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.7 |

#### Traffic Volume (veh/h)

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol</td>
<td>18 489 0 0 563 12 0 0 1 11 0 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Vol</td>
<td>18 489 0 0 563 12 0 0 1 11 0 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Conflicting Pedestrians (#/hr)

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Peds</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sign Control

| RT Channelized | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | Stop |

#### Storage Length

| Storage Length | - - 0 - - 0 - - 0 - - 0 |

#### Veh in Median Storage (#)

| Veh in Median Storage | 0 - - 0 - - 0 - - 0 - - 0 |

#### Grade, %

| Grade | 0 - - 0 - - 0 - - 0 - - 0 |

#### Peak Hour Factor

| Peak Hour Factor | 91 91 91 91 91 91 91 91 91 91 91 91 |

#### Heavy Vehicles, %

| Heavy Vehicles | 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Mvmt Flow (veh/h)

| Mvmt Flow | 20 537 0 0 619 13 0 0 1 12 0 26 |

#### Conflicting Flow (veh/h)

| Conflicting Flow | All 632 0 0 537 0 0 887 1209 269 935 1203 316 |

#### Critical Highway Stages

| Critical Highway Stg 1 | 4.1 - - 4.1 - - 7.5 6.5 6.9 7.5 6.5 6.9 |
| Critical Highway Stg 2 | 6.5 5.5 - 6.5 5.5 - |

#### Pot Cap Maneuver (veh/h)

| Pot Cap-1 Maneuver | 960 - - 1041 - - 474 505 - 443 480 - |

#### Platoon blocked, %

| Platoon blocked, % | - - - - - - |

#### Mov Cap Maneuver (veh/h)

| Mov Cap-1 Maneuver | 960 - - 1041 - - 227 178 735 218 180 686 |

#### HCM Controls

| HCM Control Delay, s | 0.4 0 9.9 14.7 |
| HCM LOS | A B |

#### Minor Lane/Major Mvmt

| Capacity (veh/h) | 735 960 - - 1041 - - 410 |
| HCM Lane V/C Ratio | 0.001 0.021 - - - - 0.094 |
| HCM Control Delay (s) | 9.9 8.8 0.1 - 0 - 14.7 |
| HCM Lane LOS | A A A - A - B |
| HCM 95th %tile Q(veh) | 0 0.1 - - 0 - 0.3 |
124: Broadway Ave & Beacon St
Weekday PM Peak Hour
07/05/2018

Lane Group       EBL     EBT    WBL    WBT    NBL    NBT    SBL    SBT
Lane Configurations
Traffic Volume (vph)  158    195    271    259    82    771    91    1231
Future Volume (vph)  158    195    271    259    82    771    91    1231
Turn Type          pm+pt  NA    pm+pt  NA    pm+pt  NA    pm+pt  NA
Protected Phases   1       6      5      2      3      8      7      4
Permitted Phases   6       2      8      4
Detector Phase     1       6      5      2      3      8      7      4
Switch Phase
Minimum Initial (s)  5.0     10.0   6.0     10.0   5.0     10.0   5.0     10.0
Minimum Split (s)   10.0    41.0   11.0    40.0   10.0    37.0   10.0    33.0
Total Split (s)     23.0    42.0   26.0    45.0   19.0    55.0   17.0    53.0
Total Split (%)    16.4%   30.0%  18.6%   32.1%  13.6%   39.3%  12.1%   37.9%
Yellow Time (s)     4.0     4.0    4.0     4.0    4.0     4.0    4.0     4.0
All-Red Time (s)    1.0     1.0    1.0     1.0    1.0     1.0    1.0     1.0
Lost Time Adjust (s) 0.0     0.0    0.0     0.0    0.0     0.0    0.0     0.0
Total Lost Time (s) 5.0     5.0    5.0     5.0    5.0     5.0    5.0     5.0
Lead/Lag Optimizer? Yes    Yes   Yes    Yes    Yes    Yes   Yes    Yes
Recall Mode         None   None   None   None   None   C-Min None   C-Min
Act Effct Green (s) 28.6    14.9   42.2    23.9   83.4    75.4   81.4    74.3
Actuated g/C Ratio  0.20    0.11   0.30    0.17   0.60    0.54   0.58    0.53
v/c Ratio          0.58    0.79   0.82    0.56   0.40    0.49   0.15    0.56
Control Delay      45.5    47.8   59.7    53.0   17.4    22.0   6.4     9.2
Queue Delay        0.0     0.0    0.0     0.0    0.0     0.0    0.0     0.0
Total Delay        45.5    47.8   59.7    53.0   17.4    22.0   6.4     9.2
LOS                A      A      C      A      A      A      C      A
Approach Delay     47.1    56.1   21.6    9.0
Approach LOS       D      E      C      A
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 71 (51%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 25.7
Intersection LOS: C
Intersection Capacity Utilization 75.5%
ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 124: Broadway Ave & Beacon St

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_backgr_reroute_1.syn
Kittelson & Associates, Inc.
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>771</td>
<td>115</td>
<td>91</td>
<td>1231</td>
<td>203</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>771</td>
<td>115</td>
<td>91</td>
<td>1231</td>
<td>203</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>0.97</td>
<td>0.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fr</td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3310</td>
<td>1805</td>
<td>3486</td>
<td>1805</td>
<td>3532</td>
<td>3502</td>
<td>5067</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.55</td>
<td>1.00</td>
<td>0.20</td>
<td>1.00</td>
<td>0.11</td>
<td>1.00</td>
<td>0.23</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1039</td>
<td>3310</td>
<td>382</td>
<td>3486</td>
<td>203</td>
<td>3532</td>
<td>852</td>
<td>5067</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>68</td>
<td>86</td>
<td>812</td>
<td>121</td>
<td>96</td>
<td>1296</td>
<td>214</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>139</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>166</td>
<td>248</td>
<td>0</td>
<td>285</td>
<td>323</td>
<td>0</td>
<td>86</td>
<td>927</td>
<td>0</td>
<td>96</td>
<td>1498</td>
<td>0</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>28.6</td>
<td>14.9</td>
<td>42.6</td>
<td>23.9</td>
<td>83.4</td>
<td>75.4</td>
<td>81.4</td>
<td>74.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>28.6</td>
<td>14.9</td>
<td>42.6</td>
<td>23.9</td>
<td>83.4</td>
<td>75.4</td>
<td>81.4</td>
<td>74.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.20</td>
<td>0.11</td>
<td>0.30</td>
<td>0.17</td>
<td>0.60</td>
<td>0.54</td>
<td>0.58</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>287</td>
<td>352</td>
<td>346</td>
<td>595</td>
<td>212</td>
<td>1902</td>
<td>627</td>
<td>2692</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.06</td>
<td>0.08</td>
<td>0.13</td>
<td>0.09</td>
<td>0.02</td>
<td>0.26</td>
<td>0.01</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.06</td>
<td>c0.12</td>
<td>0.22</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.58</td>
<td>0.71</td>
<td>0.82</td>
<td>0.54</td>
<td>0.41</td>
<td>0.49</td>
<td>0.15</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>48.8</td>
<td>60.4</td>
<td>41.3</td>
<td>53.1</td>
<td>15.1</td>
<td>20.2</td>
<td>13.9</td>
<td>21.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.51</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>1.8</td>
<td>5.2</td>
<td>14.6</td>
<td>0.5</td>
<td>0.5</td>
<td>0.9</td>
<td>0.1</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>50.6</td>
<td>65.6</td>
<td>55.9</td>
<td>53.6</td>
<td>15.6</td>
<td>21.1</td>
<td>7.3</td>
<td>8.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>61.1</td>
<td>54.6</td>
<td>20.6</td>
<td>8.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>D</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interception Summary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 2000 Control Delay</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td>27.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td>75.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>771</td>
<td>115</td>
<td>91</td>
<td>1231</td>
<td>203</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>65</td>
<td>82</td>
<td>771</td>
<td>115</td>
<td>91</td>
<td>1231</td>
<td>203</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>0.98</td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>68</td>
<td>86</td>
<td>812</td>
<td>121</td>
<td>96</td>
<td>1296</td>
<td>203</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>330</td>
<td>257</td>
<td>215</td>
<td>340</td>
<td>286</td>
<td>135</td>
<td>303</td>
<td>1900</td>
<td>252</td>
<td>670</td>
<td>2405</td>
<td>397</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.09</td>
<td>0.14</td>
<td>0.14</td>
<td>0.15</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
<td>0.54</td>
<td>0.54</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1846</td>
<td>1541</td>
<td>1810</td>
<td>1805</td>
<td>1759</td>
<td>1810</td>
<td>1805</td>
<td>1808</td>
<td>1755</td>
<td>1729</td>
<td>1758</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>166</td>
<td>200</td>
<td>187</td>
<td>285</td>
<td>170</td>
<td>171</td>
<td>86</td>
<td>466</td>
<td>467</td>
<td>96</td>
<td>1001</td>
<td>509</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>11.8</td>
<td>12.2</td>
<td>3.0</td>
<td>22.6</td>
<td>22.6</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>11.8</td>
<td>12.2</td>
<td>3.0</td>
<td>22.6</td>
<td>22.6</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>0.03</td>
<td>0.54</td>
<td>0.54</td>
<td>1.00</td>
<td>1.00</td>
<td>0.47</td>
<td>0.47</td>
<td>0.47</td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>330</td>
<td>252</td>
<td>221</td>
<td>340</td>
<td>348</td>
<td>339</td>
<td>303</td>
<td>969</td>
<td>971</td>
<td>670</td>
<td>1858</td>
<td>944</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.50</td>
<td>0.80</td>
<td>0.85</td>
<td>0.84</td>
<td>0.49</td>
<td>0.50</td>
<td>0.28</td>
<td>0.48</td>
<td>0.48</td>
<td>0.14</td>
<td>0.54</td>
<td>0.54</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>396</td>
<td>477</td>
<td>418</td>
<td>347</td>
<td>516</td>
<td>502</td>
<td>421</td>
<td>969</td>
<td>971</td>
<td>848</td>
<td>1858</td>
<td>944</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>45.6</td>
<td>58.3</td>
<td>58.8</td>
<td>42.3</td>
<td>50.4</td>
<td>50.5</td>
<td>13.5</td>
<td>20.2</td>
<td>20.2</td>
<td>14.6</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Increment Delay (d2), s/veh</td>
<td>0.4</td>
<td>2.2</td>
<td>3.4</td>
<td>16.2</td>
<td>0.4</td>
<td>0.4</td>
<td>0.2</td>
<td>1.7</td>
<td>1.7</td>
<td>0.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>5.4</td>
<td>7.7</td>
<td>7.3</td>
<td>10.6</td>
<td>5.9</td>
<td>6.0</td>
<td>1.5</td>
<td>11.7</td>
<td>11.7</td>
<td>0.8</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>LnGrp Delay(d), s/veh</td>
<td>46.0</td>
<td>60.5</td>
<td>62.2</td>
<td>58.5</td>
<td>50.7</td>
<td>51.0</td>
<td>13.7</td>
<td>21.9</td>
<td>21.9</td>
<td>14.7</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>553</td>
<td>626</td>
<td>1019</td>
<td>1606</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>56.7</td>
<td>54.3</td>
<td>21.2</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>D</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>17.9</td>
<td>32.0</td>
<td>9.9</td>
<td>80.2</td>
<td>25.4</td>
<td>24.5</td>
<td>9.9</td>
<td>80.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>18.0</td>
<td>40.0</td>
<td>14.0</td>
<td>48.0</td>
<td>21.0</td>
<td>37.0</td>
<td>12.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g+c+11), s</td>
<td>12.9</td>
<td>14.2</td>
<td>5.0</td>
<td>2.0</td>
<td>20.3</td>
<td>18.1</td>
<td>3.7</td>
<td>24.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.1</td>
<td>1.2</td>
<td>0.1</td>
<td>8.8</td>
<td>0.1</td>
<td>1.4</td>
<td>0.1</td>
<td>3.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Timings

#### 101: Lincoln Ave & University Dr

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Switch Phase

| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 33.0 | 33.0 | 31.0 | 10.0 | 10.0 |
| Total Split (s) | 33.0 | 33.0 | 31.0 | 11.0 | 42.0 |
| Total Split (%) | 44.0% | 44.0% | 41.3% | 14.7% | 56.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |

#### Lead/Lag

<table>
<thead>
<tr>
<th>Lead/Lag</th>
<th>Lag</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Mode</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Act Effct Green (s)</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.36</td>
<td>0.60</td>
</tr>
<tr>
<td>Control Delay</td>
<td>19.8</td>
<td>9.4</td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Delay</td>
<td>19.8</td>
<td>9.4</td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>12.7</td>
<td>17.6</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

#### Intersection Summary

- Cycle Length: 75
- Actuated Cycle Length: 42
- Natural Cycle: 75
- Control Type: Actuated-Uncoordinated
- Maximum v/c Ratio: 0.65
- Intersection Signal Delay: 12.2
- Intersection LOS: B
- Intersection Capacity Utilization: 44.2%
- ICU Level of Service: A
- Analysis Period (min): 15

#### Splits and Phases

- 101: Lincoln Ave & University Dr

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.
## Movement Analysis

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Ideal Flow (vphpl)</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Total Lost time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lane Util. Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Frpb, ped/bikes</strong></td>
<td>1.00</td>
<td>0.50</td>
<td>0.96</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Flpb, ped/bikes</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Frt</strong></td>
<td>1.00</td>
<td>0.85</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Frt Protected</strong></td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Satd. Flow (prot)</strong></td>
<td>1805</td>
<td>808</td>
<td>1778</td>
<td>1805</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Satd. Flow (perm)</strong></td>
<td>1805</td>
<td>808</td>
<td>1778</td>
<td>1805</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Peak-hour factor, PHF</strong></td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Adj. Flow (vph)</strong></td>
<td>129</td>
<td>271</td>
<td>327</td>
<td>85</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>RTOR Reduction (vph)</strong></td>
<td>0</td>
<td>218</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Lane Group Flow (vph)</strong></td>
<td>129</td>
<td>53</td>
<td>400</td>
<td>0</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>Confl. Bikes (#/hr)</strong></td>
<td>253</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heavy Vehicles (%)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Turn Type Analysis

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>Prot</th>
<th>Perm</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protected Phases</strong></td>
<td>2</td>
<td>8</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Green, G (s)</strong></td>
<td>8.3</td>
<td>8.3</td>
<td>14.7</td>
<td>24.2</td>
<td>24.2</td>
</tr>
<tr>
<td><strong>Effective Green, g (s)</strong></td>
<td>8.3</td>
<td>8.3</td>
<td>14.7</td>
<td>24.2</td>
<td>24.2</td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.20</td>
<td>0.20</td>
<td>0.35</td>
<td>0.57</td>
<td>0.57</td>
</tr>
<tr>
<td><strong>Clearance Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Vehicle Extension (s)</strong></td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Lane Grp Cap (vph)</strong></td>
<td>352</td>
<td>157</td>
<td>614</td>
<td>457</td>
<td>1081</td>
</tr>
</tbody>
</table>

### Analysis Summary

- **HCM 2000 Control Delay**: 11.3
- **HCM 2000 Level of Service**: B
- **Actuated Cycle Length (s)**: 42.5
- **Sum of lost time (s)**: 15.0
- **Intersection Capacity Utilization**: 44.2%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15
<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Volume (veh/h)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Future Volume (veh/h)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Initial Q (Qb), veh</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ped-Bike Adj(A_pbT)</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.80</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parking Bus, Adj</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Adj Sat Flow, veh/h/ln</strong></td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Adj Flow Rate, veh/h</strong></td>
<td>129</td>
<td>271</td>
<td>327</td>
<td>85</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>Adj No. of Lanes</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Percent Heavy Veh, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cap, veh/h</strong></td>
<td>399</td>
<td>356</td>
<td>419</td>
<td>109</td>
<td>444</td>
<td>1003</td>
</tr>
<tr>
<td><strong>Arrive On Green</strong></td>
<td>0.22</td>
<td>0.22</td>
<td>0.31</td>
<td>0.31</td>
<td>0.10</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Sat Flow, veh/h</strong></td>
<td>1810</td>
<td>1615</td>
<td>1373</td>
<td>357</td>
<td>1810</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Grp Volume(v), veh/h</strong></td>
<td>129</td>
<td>271</td>
<td>0</td>
<td>412</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>Grp Sat Flow(s),veh/h/ln</strong></td>
<td>1810</td>
<td>1615</td>
<td>0</td>
<td>1730</td>
<td>1810</td>
<td>1900</td>
</tr>
<tr>
<td><strong>Q Serve(g_s), s</strong></td>
<td>2.4</td>
<td>6.2</td>
<td>0.0</td>
<td>8.6</td>
<td>1.7</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Cycle Q Clear(g_c), s</strong></td>
<td>2.4</td>
<td>6.2</td>
<td>0.0</td>
<td>8.6</td>
<td>1.7</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Prop In Lane</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.21</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap(c), veh/h</strong></td>
<td>399</td>
<td>356</td>
<td>0</td>
<td>528</td>
<td>444</td>
<td>1003</td>
</tr>
<tr>
<td><strong>V/C Ratio(X)</strong></td>
<td>0.32</td>
<td>0.76</td>
<td>0.00</td>
<td>0.78</td>
<td>0.30</td>
<td>0.24</td>
</tr>
<tr>
<td><strong>Avail Cap(c_a), veh/h</strong></td>
<td>1275</td>
<td>1138</td>
<td>0</td>
<td>1132</td>
<td>541</td>
<td>1769</td>
</tr>
<tr>
<td><strong>HCM Platoon Ratio</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Uniform Delay (d), s/veh</strong></td>
<td>13.0</td>
<td>14.5</td>
<td>0.0</td>
<td>12.6</td>
<td>8.1</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Incr Delay (d2), s/veh</strong></td>
<td>0.2</td>
<td>1.3</td>
<td>0.0</td>
<td>1.0</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Initial Q Delay(d3), s/veh</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>%ile BackOfQ(50%),veh/ln</strong></td>
<td>1.2</td>
<td>2.9</td>
<td>0.0</td>
<td>4.3</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>LnGrp Delay(d),s/veh</strong></td>
<td>13.2</td>
<td>15.8</td>
<td>0.0</td>
<td>13.6</td>
<td>8.2</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>LnGrp LOS</strong></td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td><strong>Approach Vol, veh/h</strong></td>
<td>400</td>
<td>412</td>
<td></td>
<td></td>
<td></td>
<td>377</td>
</tr>
<tr>
<td><strong>Approach Delay, s/veh</strong></td>
<td>15.0</td>
<td>13.6</td>
<td>6.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>B</td>
<td>B</td>
<td></td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Timer</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td><strong>Assigned Phs</strong></td>
<td>2</td>
<td>4</td>
<td></td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Phs Duration (G+Y+Rc), s</strong></td>
<td>13.8</td>
<td>26.0</td>
<td>8.9</td>
<td>17.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Change Period (Y+Rc), s</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Max Green Setting (Gmax), s</strong></td>
<td>28.0</td>
<td>37.0</td>
<td>6.0</td>
<td>26.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Max Q Clear Time (g_c+I1), s</strong></td>
<td>8.2</td>
<td>4.8</td>
<td>3.7</td>
<td>10.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Green Ext Time (p_c), s</strong></td>
<td>0.6</td>
<td>0.9</td>
<td>0.0</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

| HCM 2010 Ctrl Delay | 11.7 |
| HCM 2010 LOS | B |
### Intersection

| Int Delay, s/veh | 0 |

### Movement

#### EBT - EB - WB - WBT - NBL - NBR

| Traffic Vol, veh/h | 191 | 0 | 0 | 371 | 0 | 0 |
| Future Vol, veh/h | 191 | 0 | 0 | 371 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |

| Sign Control | Free | Free | Free | Stop | Stop |
| Storage Length | - | -25 | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | 0 | - |
| Grade, % | 0 | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 222 | 0 | 0 | 431 | 0 | 0 |

#### Major/Minor

| Conflicting Flow All | 0 | 0 | 222 | 0 | 653 | 222 |
| Stage 1 | - | - | - | - | 222 | - |
| Stage 2 | - | - | - | - | 431 | - |
| Critical Hdwy | - | - | 4.1 | - | 6.4 | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 | - |
| Follow-up Hdwy | - | - | 2.2 | - | 3.5 | 3.3 |
| Pot Cap-1 Maneuver | - | - | 1359 | - | 435 | 823 |
| Stage 1 | - | - | - | - | 820 | - |
| Stage 2 | - | - | - | - | 660 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1359 | - | 435 | 823 |
| Mov Cap-2 Maneuver | - | - | - | - | 527 | - |
| Stage 1 | - | - | - | - | 820 | - |
| Stage 2 | - | - | - | - | 660 | - |

#### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1359</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**: 0.1

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SB</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>2</td>
<td>161</td>
<td>0</td>
<td>0</td>
<td>315</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>2</td>
<td>161</td>
<td>0</td>
<td>0</td>
<td>315</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>3</td>
<td>218</td>
<td>0</td>
<td>0</td>
<td>426</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>426</td>
<td>0</td>
<td>218</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1144</td>
<td>-</td>
<td>1364</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1144</td>
<td>-</td>
<td>1364</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>14.4</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1144</td>
<td>-</td>
<td>-</td>
<td>1364</td>
<td>-</td>
<td>-</td>
<td>384</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.007</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>8.2</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>14.4</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>
## Intersection

**Int Delay, s/veh** 3.5

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>17</td>
<td>129</td>
<td>36</td>
<td>47</td>
<td>298</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>38</td>
<td>8</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>17</td>
<td>129</td>
<td>36</td>
<td>47</td>
<td>298</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>38</td>
<td>8</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>20</td>
<td>150</td>
<td>42</td>
<td>55</td>
<td>347</td>
<td>45</td>
<td>15</td>
<td>2</td>
<td>44</td>
<td>52</td>
<td>9</td>
<td>29</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1178</td>
<td>-</td>
<td>-</td>
<td>1394</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1178</td>
<td>-</td>
<td>-</td>
<td>1394</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>0.9</td>
<td>11.9</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>586</td>
<td>1178</td>
<td>-</td>
<td>-</td>
<td>1394</td>
<td>-</td>
<td>-</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.105</td>
<td>0.017</td>
<td>-</td>
<td>-</td>
<td>0.039</td>
<td>-</td>
<td>-</td>
<td>0.236</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11.9</td>
<td>8.1</td>
<td>-</td>
<td>-</td>
<td>7.7</td>
<td>-</td>
<td>-</td>
<td>17.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.4</td>
<td>0.1</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

2018 Existing Conditions  05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.

Synchro 10 Report
Page 6
## Intersection

| Int Delay, s/veh | 13.8 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>0</th>
<th>4</th>
<th>17</th>
<th>0</th>
<th>32</th>
<th>127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>4</td>
<td>17</td>
<td>0</td>
<td>32</td>
<td>127</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

### Storage Length

| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |

### Grade, %

| Peak Hour Factor | 25 | 25 | 25 | 25 | 25 | 25 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |

### Mvmt Flow

| 0 | 16 | 68 | 0 | 128 | 508 |

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1615</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1615</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>7.3</td>
<td>14.8</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>994</td>
<td>-</td>
<td>-</td>
<td>1615</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.64</td>
<td>-</td>
<td>-</td>
<td>0.042</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>14.8</td>
<td>-</td>
<td>-</td>
<td>7.3</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>4.8</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**

1

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>492</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>492</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>547</td>
<td>16</td>
<td>10</td>
<td>318</td>
<td>17</td>
<td>47</td>
</tr>
</tbody>
</table>

### Major/Minor

**Conflicting Flow All**

0 | 0 | 563 | 0 | 893 | 555 |

**Stage 1**

0 | - | - | - | 555 | - |

**Stage 2**

- | - | - | - | 338 | - |

**Critical Hdwy**

- | - | 4.1 | - | 6.4 | 6.2 |

**Critical Hdwy Stg 1**

- | - | - | - | 5.4 | - |

**Critical Hdwy Stg 2**

- | - | - | - | 5.4 | - |

**Follow-up Hdwy**

- | - | 2.2 | - | 3.5 | 3.3 |

**Pot Cap-1 Maneuver**

- | - | 1019 | - | 315 | 535 |

**Stage 1**

- | - | - | - | 579 | - |

**Stage 2**

- | - | - | - | 727 | - |

**Platoon blocked, %**

- | - | - | - | - | - |

**Mov Cap-1 Maneuver**

- | - | 1019 | - | 312 | 535 |

**Mov Cap-2 Maneuver**

- | - | - | - | 430 | - |

**Stage 1**

- | - | - | - | 573 | - |

**Stage 2**

- | - | - | - | 727 | - |

### Approach

**HCM Control Delay, s**

0 | 0.3 | 13.2 |

**HCM LOS**

B

### Minor Lane/Major Mvmt

**Capacity (veh/h)**

503 | - | - | 1019 | - |

**HCM Lane V/C Ratio**

0.126 | - | - | 0.01 | - |

**HCM Control Delay (s)**

13.2 | - | - | 8.6 | - |

**HCM Lane LOS**

B | - | - | A | - |

**HCM 95th %tile Q(veh)**

0.4 | - | - | 0 | - |
### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

### Traffic Volume (vph)

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>Future Volume (vph)</th>
<th>Traffic Volume (vph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pm+pt</td>
<td>271 5 262 18 5 134 904 15 1442</td>
<td>271 5 262 18 5 134 904 15 1442</td>
</tr>
</tbody>
</table>

### Turn Type pm+pt NA Perm Perm NA pm+pt NA pm+pt NA

### Protected Phases

<table>
<thead>
<tr>
<th>Protected Phases</th>
<th>1 6 2 3 8 7 4</th>
</tr>
</thead>
</table>

### Permitted Phases

<table>
<thead>
<tr>
<th>Permitted Phases</th>
<th>6 6 2 3 8 7 4</th>
</tr>
</thead>
</table>

### Detector Phase

<table>
<thead>
<tr>
<th>Detector Phase</th>
<th>1 6 6 2 2 3 8 7 4</th>
</tr>
</thead>
</table>

### Switch Phase

<table>
<thead>
<tr>
<th>Minimum Initial (s)</th>
<th>5.0 8.0 8.0 10.0 10.0 5.0 10.0 5.0 10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Split (s)</td>
<td>11.0 33.0 33.0 34.0 34.0 11.0 20.0 11.0 27.0</td>
</tr>
<tr>
<td>Total Split (s)</td>
<td>15.0 50.0 50.0 35.0 35.0 25.0 75.0 15.0 65.0</td>
</tr>
<tr>
<td>Total Split (%)</td>
<td>10.7% 35.7% 35.7% 25.0% 25.0% 17.9% 53.6% 10.7% 46.4%</td>
</tr>
</tbody>
</table>

### Yellow Time

<table>
<thead>
<tr>
<th>Yellow Time (s)</th>
<th>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</th>
</tr>
</thead>
</table>

### All-Red Time

<table>
<thead>
<tr>
<th>All-Red Time (s)</th>
<th>2.0 2.0 2.0 2.0 2.0 2.0 1.0 2.0 1.0</th>
</tr>
</thead>
</table>

### Lost Time

<table>
<thead>
<tr>
<th>Lost Time Adjust (s)</th>
<th>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</th>
</tr>
</thead>
</table>

### Total Lost Time

<table>
<thead>
<tr>
<th>Total Lost Time (s)</th>
<th>6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0</th>
</tr>
</thead>
</table>

### Lead/Lag

<table>
<thead>
<tr>
<th>Lead/Lag Optimize?</th>
<th>Yes Yes Yes Yes Yes Yes Yes</th>
</tr>
</thead>
</table>

### Recall Mode

<table>
<thead>
<tr>
<th>Recall Mode</th>
<th>None None None None None None C-Min None C-Min</th>
</tr>
</thead>
</table>

### Act Effct Green (s)

<table>
<thead>
<tr>
<th>Act Effct Green (s)</th>
<th>33.0 33.0 33.0 10.0 95.0 91.4 81.9 77.7</th>
</tr>
</thead>
</table>

### Actuated g/C Ratio

<table>
<thead>
<tr>
<th>Actuated g/C Ratio</th>
<th>0.24 0.24 0.24 0.07 0.68 0.65 0.58 0.56</th>
</tr>
</thead>
</table>

### v/c Ratio

<table>
<thead>
<tr>
<th>v/c Ratio</th>
<th>0.75 0.01 0.51 0.31 0.57 0.41 0.05 0.59</th>
</tr>
</thead>
</table>

### Control Delay

<table>
<thead>
<tr>
<th>Control Delay</th>
<th>61.0 38.8 15.7 51.6 38.8 9.8 9.8 22.8</th>
</tr>
</thead>
</table>

### Queue Delay

<table>
<thead>
<tr>
<th>Queue Delay</th>
<th>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</th>
</tr>
</thead>
</table>

### Total Delay

<table>
<thead>
<tr>
<th>Total Delay</th>
<th>61.0 38.8 15.7 51.6 38.8 9.8 9.8 22.8</th>
</tr>
</thead>
</table>

### LOS

<table>
<thead>
<tr>
<th>LOS</th>
<th>E D B A C</th>
</tr>
</thead>
</table>

### Approach Delay

<table>
<thead>
<tr>
<th>Approach Delay</th>
<th>38.7 51.6 13.5 22.7</th>
</tr>
</thead>
</table>

### Approach LOS

<table>
<thead>
<tr>
<th>Approach LOS</th>
<th>D D B C</th>
</tr>
</thead>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>Cycle Length: 140</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Actuated Cycle Length: 140</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Offset: 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Natural Cycle: 85</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Control Type: Actuated-Coordinated</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum v/c Ratio: 0.75</th>
</tr>
</thead>
</table>

### Intersection Signal Delay: 22.7 |

<table>
<thead>
<tr>
<th>Intersection LOS: C</th>
</tr>
</thead>
</table>

### Intersection Capacity Utilization 74.7% |

<table>
<thead>
<tr>
<th>ICU Level of Service D</th>
</tr>
</thead>
</table>

### Analysis Period (min) 15 |

<table>
<thead>
<tr>
<th>Splits and Phases: 108: Broadway Ave &amp; University Dr</th>
</tr>
</thead>
</table>
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>1.00</td>
<td>0.85</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>1900</td>
<td>1615</td>
<td>1765</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>5108</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.66</td>
<td>1.00</td>
<td>1.00</td>
<td>0.84</td>
<td>0.08</td>
<td>1.00</td>
<td>0.28</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1263</td>
<td>1900</td>
<td>1615</td>
<td>1513</td>
<td>152</td>
<td>3598</td>
<td>523</td>
<td>5108</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>0</td>
<td>152</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>282</td>
<td>5</td>
<td>121</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>140</td>
<td>962</td>
<td>0</td>
<td>16</td>
<td>1663</td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>pm+pt</th>
<th>NA</th>
<th>Perm</th>
<th>Perm</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
<td>8.0</td>
<td>94.8</td>
<td>86.7</td>
<td>78.6</td>
<td>76.5</td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
<td>8.0</td>
<td>94.8</td>
<td>86.7</td>
<td>78.6</td>
<td>76.5</td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.24</td>
<td>0.24</td>
<td>0.24</td>
<td>0.06</td>
<td>0.68</td>
<td>0.62</td>
<td>0.56</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>386</td>
<td>464</td>
<td>394</td>
<td>86</td>
<td>248</td>
<td>2228</td>
<td>312</td>
<td>2791</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.11</td>
<td>0.00</td>
<td>c0.05</td>
<td>0.27</td>
<td>0.00</td>
<td>c0.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.07</td>
<td>0.07</td>
<td>0.02</td>
<td>0.33</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.73</td>
<td>0.01</td>
<td>0.31</td>
<td>0.29</td>
<td>0.56</td>
<td>0.43</td>
<td>0.05</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>47.5</td>
<td>40.1</td>
<td>43.2</td>
<td>63.3</td>
<td>16.8</td>
<td>13.9</td>
<td>13.7</td>
<td>21.4</td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.04</td>
<td>0.71</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>6.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.7</td>
<td>1.6</td>
<td>0.6</td>
<td>0.0</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>53.6</td>
<td>40.1</td>
<td>43.4</td>
<td>63.9</td>
<td>36.0</td>
<td>10.4</td>
<td>13.7</td>
<td>22.3</td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>48.5</td>
<td>63.9</td>
<td>13.6</td>
<td>22.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>E</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>24.2</th>
<th>HCM 2000 Level of Service</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>140.0</td>
<td>Sum of lost time (s)</td>
<td>23.0</td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>74.7%</td>
<td>ICU Level of Service</td>
<td>D</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Critical Lane Group</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## HCM 2010 Signalized Intersection Summary

### 108: Broadway Ave & University Dr

#### 08/06/2018

### 2018 Existing Conditions  05/14/2018 Weekday PM Peak Hour Synchro 10 Report

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>302</td>
<td>349</td>
<td>297</td>
<td>84</td>
<td>27</td>
<td>36</td>
<td>275</td>
<td>2449</td>
<td>55</td>
<td>468</td>
<td>3090</td>
<td>347</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.18</td>
<td>0.18</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>587</td>
<td>351</td>
<td>469</td>
<td>1810</td>
<td>3610</td>
<td>80</td>
<td>1810</td>
<td>4732</td>
<td>532</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>140</td>
<td>471</td>
<td>492</td>
<td>16</td>
<td>1097</td>
<td>574</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>1407</td>
<td>0</td>
<td>0</td>
<td>1810</td>
<td>1805</td>
<td>1886</td>
<td>1810</td>
<td>1729</td>
<td>1806</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>9.0</td>
<td>0.3</td>
<td>23.2</td>
<td>1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>3.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>9.0</td>
<td>0.3</td>
<td>23.2</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.53</td>
<td>0.33</td>
<td>1.00</td>
<td>0.04</td>
<td>1.00</td>
<td>0.29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>302</td>
<td>349</td>
<td>297</td>
<td>147</td>
<td>0</td>
<td>0</td>
<td>275</td>
<td>1224</td>
<td>1279</td>
<td>468</td>
<td>2258</td>
<td>1179</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.94</td>
<td>0.01</td>
<td>0.92</td>
<td>0.24</td>
<td>0.00</td>
<td>0.00</td>
<td>0.51</td>
<td>0.38</td>
<td>0.38</td>
<td>0.03</td>
<td>0.49</td>
<td>0.49</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>302</td>
<td>597</td>
<td>508</td>
<td>321</td>
<td>0</td>
<td>0</td>
<td>445</td>
<td>1224</td>
<td>1279</td>
<td>555</td>
<td>2258</td>
<td>1179</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>59.8</td>
<td>46.8</td>
<td>56.1</td>
<td>61.0</td>
<td>0.0</td>
<td>0.0</td>
<td>9.9</td>
<td>0.0</td>
<td>0.0</td>
<td>7.7</td>
<td>12.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>34.7</td>
<td>0.0</td>
<td>8.5</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
<td>0.9</td>
<td>0.9</td>
<td>0.0</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>9.3</td>
<td>0.2</td>
<td>11.1</td>
<td>1.3</td>
<td>0.0</td>
<td>0.0</td>
<td>1.8</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>10.9</td>
<td>11.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>94.5</td>
<td>46.8</td>
<td>64.6</td>
<td>61.3</td>
<td>0.0</td>
<td>0.0</td>
<td>10.5</td>
<td>0.9</td>
<td>0.9</td>
<td>7.7</td>
<td>13.1</td>
<td>13.8</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>F</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>560</td>
<td>36</td>
<td>1103</td>
<td>1687</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>79.5</td>
<td>61.3</td>
<td>2.1</td>
<td>13.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>E</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 21.1
- **HCM 2010 LOS**: C

---

2018 Existing Conditions  05/14/2018 Weekday PM Peak Hour

Kittelson & Associates, Inc.

**Synchro 10 Report**

Page 11
## Intersection

**Int Delay, s/veh**: 0

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Future Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Conflicting Peds, #/hr</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Veh in Median Storage, #</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Grade, %</strong></td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td><strong>Heavy Vehicles, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Mvmt Flow</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conflict Flow All</strong></td>
<td>176</td>
<td>176</td>
<td>176</td>
<td>176</td>
</tr>
<tr>
<td>Stage 1</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Stage 2</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Critical Hwds</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Critical Hwds Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Critical Hwds Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Follow-Up Hwds</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>791</td>
<td>721</td>
<td>890</td>
<td>791</td>
</tr>
<tr>
<td>Stage 1</td>
<td>847</td>
<td>769</td>
<td>-</td>
<td>1009</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1009</td>
<td>886</td>
<td>-</td>
<td>847</td>
</tr>
<tr>
<td>Platoon blocked %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>791</td>
<td>721</td>
<td>890</td>
<td>791</td>
</tr>
<tr>
<td>Stage 1</td>
<td>847</td>
<td>769</td>
<td>-</td>
<td>1009</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1009</td>
<td>886</td>
<td>-</td>
<td>847</td>
</tr>
</tbody>
</table>

## Approach

### HCM Control Delay, s

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Capacity & LOS

### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>1432</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1615</td>
</tr>
</tbody>
</table>

### HCM Lane V/C Ratio

| HCM Lane V/C Ratio | - | - | - | - | - | - |

### HCM Control Delay (s)

| HCM Control Delay (s) | - | - | 0 | 0 | 0 | - |

### HCM Lane LOS

| HCM Lane LOS | A | A | A | A |

### HCM 95th %tile Q(veh)

| HCM 95th %tile Q(veh) | 0 | 0 | 0 | - |
### Intersection

**Intersection Delay, s/veh**
- 0

**Intersection LOS**
- -

### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Lane</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

**Intersection Delay, s/veh**: 0  
**Intersection LOS**: -

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>NB</td>
<td>EB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>WB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Intersection

### Int Delay, s/veh

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1631</td>
<td>-</td>
<td>1631</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

Intersection Delay, s/veh | 7.1
Intersection LOS | A

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
<td>🔄</td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>52</td>
<td>0</td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>52</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Approach</td>
<td>WB</td>
<td>EB</td>
<td>SB</td>
<td>NB</td>
</tr>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>7.1</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

### Lane

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>LT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Through Vol</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>RT Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>52</td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0.013</td>
<td>0</td>
<td>0</td>
<td>0.056</td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.938</td>
<td>4.011</td>
<td>4.011</td>
<td>3.909</td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cap</td>
<td>912</td>
<td>0</td>
<td>0</td>
<td>921</td>
</tr>
<tr>
<td>Service Time</td>
<td>1.947</td>
<td>2.034</td>
<td>2.034</td>
<td>1.911</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.013</td>
<td>0</td>
<td>0</td>
<td>0.056</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7.1</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>N</td>
<td>N</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh** 0

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Minor

**Conflicting Flow All**

<table>
<thead>
<tr>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Critical Hdwy**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Critical Hdwy</th>
<th>Critical Hdwy Stg 1</th>
<th>Critical Hdwy Stg 2</th>
<th>Follow-up Hdwy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>7.1</td>
</tr>
<tr>
<td>Stage 2</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
</tr>
</tbody>
</table>

**Follow-up Hdwy**

<table>
<thead>
<tr>
<th>Pot Cap-1 Maneuver</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Platoon blocked, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Mov Cap-1 Maneuver**

<table>
<thead>
<tr>
<th>Mov Cap-1 Maneuver</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Platoon blocked, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Mov Cap-2 Maneuver**

<table>
<thead>
<tr>
<th>Mov Cap-2 Maneuver</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Platoon blocked, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

**Approach**

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

**Capacity (veh/h)**

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635</td>
<td>1635</td>
<td>1635</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HCM Lane V/C Ratio**

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**HCM Control Delay (s)**

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**HCM Lane LOS**

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**HCM 95th %tile Q(veh)**

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## Intersection

**Int Delay, s/veh** 0

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Traffic Volume

| Storage Length | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grade, % | - | 0 | - | 0 | - | 0 | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |

| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

### Mvmt Flow

| RT Channelized | - | None | - | None | - | None | - | None |

### Conflicting Flow

| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - |

### Pot Cap-1 Maneuver

| Stage 1 | 1027 | 899 | 1090 | 1027 | 899 | - | 1635 | - | - | - | - |
| Stage 2 | 1024 | - | 1027 | 899 | - | - | - | - | - | - | - |

### Mov Cap-1 Maneuver

| Stage 1 | 1027 | 899 | - | 1027 | 899 | - | - | - | - | - | - |
| Stage 2 | 1024 | - | 1027 | 899 | - | - | - | - | - | - | - |

### Platoon blocked, %

| - | - | - | - |

### Mov Cap-2 Maneuver

| Stage 1 | 1027 | 899 | - | 1027 | 899 | - | - | - | - | - | - |
| Stage 2 | 1024 | - | 1027 | 899 | - | - | - | - | - | - | - |

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### HCM Control Delay

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Capacity (veh/h)

<table>
<thead>
<tr>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Lane V/C Ratio

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Control Delay (s)

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### HCM Lane LOS

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM 95th %tile Q(veh)

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**

1.7

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1593</td>
<td>29</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1593</td>
<td>29</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>36</td>
<td>17</td>
<td>1047</td>
<td>27</td>
<td>41</td>
<td>1677</td>
<td>31</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflict Flow</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>1775</td>
<td>1775</td>
<td>-</td>
<td>1095</td>
</tr>
<tr>
<td>Stage 2</td>
<td>558</td>
<td>1108</td>
<td>-</td>
<td>754</td>
</tr>
<tr>
<td>Critical Hwvy</td>
<td>6.95</td>
<td>6.5</td>
<td>7.1</td>
<td>6.95</td>
</tr>
<tr>
<td>Critical Hwvy Stg 1</td>
<td>7.3</td>
<td>5.5</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hwvy Stg 2</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hwvy</td>
<td>3.65</td>
<td>4</td>
<td>3.65</td>
<td>3.65</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>28</td>
<td>16</td>
<td>263</td>
<td>62</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>23</td>
<td>14</td>
<td>263</td>
<td>44</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>23</td>
<td>14</td>
<td>-</td>
<td>44</td>
</tr>
<tr>
<td>Stage 1</td>
<td>52</td>
<td>129</td>
<td>-</td>
<td>205</td>
</tr>
<tr>
<td>Stage 2</td>
<td>396</td>
<td>261</td>
<td>-</td>
<td>310</td>
</tr>
</tbody>
</table>

### HCM Control Delay, s

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay</td>
<td>184.3</td>
<td>33.9</td>
<td>0.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.094</td>
<td>-</td>
<td>-</td>
<td>0.428</td>
<td>0.263</td>
<td>0.062</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>27.2</td>
<td>-</td>
<td>-</td>
<td>184.3</td>
<td>33.9</td>
<td>10.8</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>D</td>
<td>-</td>
<td>F</td>
<td>D</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>-</td>
<td>1.4</td>
<td>1</td>
<td>0.2</td>
<td>-</td>
</tr>
</tbody>
</table>
### Timings

**117: Lincoln Ave & Beacon St**

**08/06/2018**

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>12</td>
<td>525</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>12</td>
<td>525</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

### Switch Phase

| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 |
| Minimum Split (s)    | 9.5 | 28.0 | 9.5 | 25.0 | 9.5 | 31.0 | 9.5 | 31.0 |
| Total Split (s)       | 11.0| 28.0 | 9.5 | 26.5 | 9.5 | 32.9 | 9.6 | 33.0 |
| Total Split (%)       | 13.8%| 35.0%| 11.9%| 33.1%| 11.9%| 41.1%| 12.0%| 41.3%|
| Yellow Time (s)       | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  |
| All-Red Time (s)      | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  |
| Lost Time Adjust (s)  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Lost Time (s)   | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  |
| Lead/Lag              | Lead| Lag  | Lead| Lag  | Lead| Lag  | Lead| Lag  |
| Lead-Lag Optimize?    | Yes | Yes  | Yes | Yes  | Yes | Yes  | Yes | Yes  |
| Recall Mode           | None| None | None| None | None| None | Min | None |
| Act Effct Green (s)   | 24.1| 23.1 | 20.1| 16.8 | 14.2| 10.9 | 17.0| 16.2 |
| Actuated g/C Ratio    | 0.45| 0.43 | 0.38| 0.32 | 0.27| 0.20 | 0.32| 0.30 |
| v/c Ratio             | 0.25| 0.23 | 0.03| 0.61 | 0.00| 0.10 | 0.30| 0.32 |
| Control Delay         | 9.8 | 10.6 | 7.9 | 18.2 | 14.0| 21.1 | 17.5| 7.9  |
| Queue Delay           | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Delay           | 9.8 | 10.6 | 7.9 | 18.2 | 14.0| 21.1 | 17.5| 7.9  |
| LOS                   | A   | B    | A   | B    | B   | C    | B   |     |
| Approach Delay        | 10.4| 18.0 | 20.9| 11.7 |     |     |     |     |
| Approach LOS          | B   | B    | C   |     |     |     |     |     |

### Intersection Summary

- **Cycle Length:** 80
- **Actuated Cycle Length:** 53.3
- **Natural Cycle:** 80
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.61
- **Intersection Signal Delay:** 14.5
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 49.2%
- **ICU Level of Service:** A
- **Analysis Period (min):** 15

**Splits and Phases:** 117: Lincoln Ave & Beacon St
### Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR

#### Lane Configurations
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>0.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3605</td>
<td>1805</td>
<td>3508</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1672</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.24</td>
<td>1.00</td>
<td>0.54</td>
<td>1.00</td>
<td>0.63</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>458</td>
<td>3605</td>
<td>1023</td>
<td>3508</td>
<td>1202</td>
<td>1877</td>
<td>1179</td>
<td>1672</td>
<td>1179</td>
<td>1672</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>90</td>
<td>354</td>
<td>3</td>
<td>13</td>
<td>559</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>159</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>117</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>90</td>
<td>356</td>
<td>0</td>
<td>13</td>
<td>666</td>
<td>0</td>
<td>1</td>
<td>35</td>
<td>0</td>
<td>132</td>
<td>82</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type pm+pt NA  pm+pt NA pm+pt NA pm+pt NA pm+pt NA pm+pt NA pm+pt NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>27.3</td>
<td>23.1</td>
<td>20.5</td>
<td>19.7</td>
<td>14.6</td>
<td>13.8</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>27.3</td>
<td>23.1</td>
<td>20.5</td>
<td>19.7</td>
<td>14.6</td>
<td>13.8</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.45</td>
<td>0.38</td>
<td>0.34</td>
<td>0.32</td>
<td>0.24</td>
<td>0.23</td>
<td>0.32</td>
<td>0.27</td>
<td>0.32</td>
<td>0.27</td>
<td>0.32</td>
<td>0.27</td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>297</td>
<td>1365</td>
<td>354</td>
<td>1132</td>
<td>295</td>
<td>424</td>
<td>412</td>
<td>446</td>
<td>412</td>
<td>446</td>
<td>412</td>
<td>446</td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.02</td>
<td>0.10</td>
<td>0.00</td>
<td>0.19</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.05</td>
<td>0.02</td>
<td>0.05</td>
<td>0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.11</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.30</td>
<td>0.26</td>
<td>0.04</td>
<td>0.59</td>
<td>0.00</td>
<td>0.08</td>
<td>0.32</td>
<td>0.18</td>
<td>0.32</td>
<td>0.18</td>
<td>0.32</td>
<td>0.18</td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>10.5</td>
<td>13.1</td>
<td>13.5</td>
<td>17.3</td>
<td>17.7</td>
<td>18.6</td>
<td>15.2</td>
<td>17.2</td>
<td>15.2</td>
<td>17.2</td>
<td>15.2</td>
<td>17.2</td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Delay (s)</td>
<td>10.7</td>
<td>13.2</td>
<td>13.6</td>
<td>18.0</td>
<td>17.7</td>
<td>18.6</td>
<td>15.4</td>
<td>17.3</td>
<td>15.4</td>
<td>17.3</td>
<td>15.4</td>
<td>17.3</td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>12.7</td>
<td>18.0</td>
<td>18.6</td>
<td>16.5</td>
<td>16.7</td>
<td>16.5</td>
<td>16.7</td>
<td>16.5</td>
<td>16.7</td>
<td>16.5</td>
<td>16.7</td>
<td>16.5</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

**Intersection Summary**

- **HCM 2000 Control Delay**: 16.1
- **HCM 2000 Level of Service**: B
- **HCM 2000 Volume to Capacity ratio**: 0.47
- **Actuated Cycle Length (s)**: 61.0
- **Sum of lost time (s)**: 20.0
- **Intersection Capacity Utilization**: 49.2%
- **ICU Level of Service**: A
- **Analysis Period (min)**: 15

**c Critical Lane Group**
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>90</td>
<td>354</td>
<td>3</td>
<td>13</td>
<td>559</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>159</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>%ile BackOfQ(50%), veh/ln</td>
<td>0.9</td>
<td>1.9</td>
<td>2.0</td>
<td>0.1</td>
<td>4.6</td>
<td>4.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>1.4</td>
<td>0.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>322</td>
<td>575</td>
<td>603</td>
<td>421</td>
<td>497</td>
<td>490</td>
<td>357</td>
<td>0</td>
<td>367</td>
<td>537</td>
<td>0</td>
<td>458</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>0.02</td>
<td>1.00</td>
<td>0.38</td>
<td>1.00</td>
<td>0.08</td>
<td>1.00</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.28</td>
<td>0.30</td>
<td>0.30</td>
<td>0.03</td>
<td>0.70</td>
<td>0.70</td>
<td>0.00</td>
<td>0.10</td>
<td>0.25</td>
<td>0.00</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>432</td>
<td>814</td>
<td>854</td>
<td>557</td>
<td>761</td>
<td>751</td>
<td>513</td>
<td>0</td>
<td>1025</td>
<td>555</td>
<td>0</td>
<td>914</td>
</tr>
<tr>
<td>Lane Grp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>447</td>
<td>702</td>
<td></td>
<td>38</td>
<td>331</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>13.3</td>
<td>18.3</td>
<td>16.8</td>
<td>14.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>7.9</td>
<td>19.0</td>
<td>5.1</td>
<td>19.0</td>
<td>5.7</td>
<td>21.2</td>
<td>9.1</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>6.0</td>
<td>21.5</td>
<td>4.5</td>
<td>28.0</td>
<td>4.5</td>
<td>23.0</td>
<td>4.6</td>
<td>27.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g+c+I1), s</td>
<td>3.8</td>
<td>10.8</td>
<td>2.0</td>
<td>7.0</td>
<td>2.3</td>
<td>5.7</td>
<td>4.8</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.0</td>
<td>3.2</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>1.9</td>
<td>0.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

- **HCM 2010 Ctrl Delay**: 16.0
- **HCM 2010 LOS**: B

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour

Kittelson & Associates, Inc.

Synchro 10 Report Page 22
### Intersection

| Int Delay, s/veh | 3.1 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>15</td>
<td>441</td>
<td>3</td>
<td>5</td>
<td>621</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>15</td>
<td>441</td>
<td>3</td>
<td>5</td>
<td>621</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>16</td>
<td>474</td>
<td>3</td>
<td>5</td>
<td>668</td>
<td>52</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>76</td>
<td>3</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>720</td>
<td>0</td>
<td>477</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>891</td>
<td>-</td>
<td>1096</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>891</td>
<td>-</td>
<td>1096</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0.1</td>
<td>16.8</td>
<td>30</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>316</td>
<td>891</td>
<td>-</td>
<td>-</td>
<td>1096</td>
<td>-</td>
<td>-</td>
<td>268</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.031</td>
<td>0.018</td>
<td>-</td>
<td>-</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>0.473</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>16.8</td>
<td>9.1</td>
<td>0.1</td>
<td>-</td>
<td>8.3</td>
<td>0</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>2.4</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
<th>Sign Control</th>
<th>RT Channelized</th>
<th>Storage Length</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 3 0 0 13 0 0 0 0 0 0 0 0</td>
<td>0 3 0 0 13 0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>Free Free Free Free Free Stop Stop Stop Stop Stop Stop Stop</td>
<td>Free None None None None None None None None None None None</td>
<td>-</td>
<td>0</td>
<td>0 0</td>
<td>0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0</td>
<td>0 12 0 0 52 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>52 12 0 0</td>
<td>0 0 12 0 0</td>
<td>38 64 0 0</td>
<td>25 25 25 25</td>
</tr>
<tr>
<td>Stage 1</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>12 12 0 0</td>
<td>52 52 - -</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>26 52 0 0</td>
<td>6 6 - -</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1 - - 4.1</td>
<td>- - - -</td>
<td>7.5 6.5 6.9 7.5</td>
<td>6.5 6.9</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>6.5 5.5 6.5 5.5</td>
<td>- -</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>6.5 5.5 6.5 5.5</td>
<td>- -</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2 - - 2.2</td>
<td>- - - -</td>
<td>3.5 4 3.3 3.5</td>
<td>4 3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1567 - - 1620</td>
<td>- - - -</td>
<td>968 831 1081 937</td>
<td>831 1050</td>
</tr>
<tr>
<td>Stage 1</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>1012 890 0 0</td>
<td>960 856 - -</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>994 856 0 0</td>
<td>1020 890 - -</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>- -</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1567 - - 1620</td>
<td>- - - -</td>
<td>968 831 1081 937</td>
<td>831 1050</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>968 831 0 0</td>
<td>937 831 - -</td>
</tr>
<tr>
<td>Stage 1</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>1012 890 0 0</td>
<td>960 856 - -</td>
</tr>
<tr>
<td>Stage 2</td>
<td>- - - - -</td>
<td>- - - - -</td>
<td>994 856 0 0</td>
<td>1020 890 - -</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1567 -</td>
<td>-</td>
<td>1620 -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.3 |

### Traffic Flow

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>501</td>
<td>13</td>
<td>4</td>
<td>625</td>
<td>3</td>
<td>12</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>501</td>
<td>13</td>
<td>4</td>
<td>625</td>
<td>3</td>
<td>12</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control
- Free
- Free
- Stop
- Free
- Stop
- Stop
- Stop
- Stop
- Stop
- Stop
- Stop

### Major Lane Flow
<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>647</td>
<td>0</td>
<td>529</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>948</td>
<td>-</td>
<td>1048</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>948</td>
<td>-</td>
<td>1048</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Control Delay
<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.1</td>
<td>16.1</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Capacity
<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>346</td>
<td>948</td>
<td>-</td>
<td>-</td>
<td>1048</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.06</td>
<td>-</td>
<td>-</td>
<td>0.004</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>16.1</td>
<td>0</td>
<td>-</td>
<td>8.4</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.2</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
## Intersection

| Int Delay, s/veh | 2.3 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>39</td>
<td>11</td>
<td>11</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>39</td>
<td>11</td>
<td>11</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>42</td>
<td>498</td>
<td>12</td>
<td>14</td>
<td>614</td>
<td>19</td>
<td>12</td>
<td>2</td>
<td>9</td>
<td>32</td>
<td>3</td>
<td>61</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>633</td>
<td>510</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>4.1</td>
<td>7.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>2.2</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>1065</td>
<td>227</td>
<td>175</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>467</td>
<td>499</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>656</td>
<td>463</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>1065</td>
<td>191</td>
<td>161</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>191</td>
<td>161</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>439</td>
<td>469</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>581</td>
<td>454</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.9</td>
<td>0.3</td>
<td>20.2</td>
<td>19.5</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>260</td>
<td>960</td>
<td>-</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
<td>344</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.087</td>
<td>0.044</td>
<td>-</td>
<td>-</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
<td>0.281</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>20.2</td>
<td>8.9</td>
<td>0.2</td>
<td>-</td>
<td>8.4</td>
<td>0.1</td>
<td>-</td>
<td>19.5</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>1.1</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.7 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Lane Configurations

| Traffic Vol, veh/h | 18 | 489 | 0 | 0 | 563 | 12 | 0 | 0 | 1 | 11 | 0 | 24 |
| Future Vol, veh/h | 18 | 489 | 0 | 0 | 563 | 12 | 0 | 0 | 1 | 11 | 0 | 24 |

### Traffic Flow

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
</tbody>
</table>

### Traffic Control

<table>
<thead>
<tr>
<th>Traffic Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

### Intersection Operations

<table>
<thead>
<tr>
<th>Intersection Operations</th>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>632</td>
<td>0</td>
<td>537</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0</td>
<td>9.9</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

| Capacity (veh/h) | 735 | 960 | - | - | 1041 | - | - | - | 410 |
| HCM Lane V/C Ratio | 0.001 | 0.021 | - | - | - | - | - | - | 0.094 |
| HCM Control Delay (s) | 9.9 | 8.8 | 0.1 | - | 0 | - | - | - | 14.7 |
| HCM Lane LOS | A | A | A | - | A | - | B | | |
| HCM 95th %tile Q(veh) | 0 | 0.1 | - | - | 0 | - | - | - | 0.3 |

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.

Synchro 10 Report Page 27
Timings
124: Broadway Ave & Beacon St

Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

Traffic Volume (vph)

|          | 158 | 195 | 271 | 259 | 82  | 781 | 118 | 1310|

Future Volume (vph)

|          | 158 | 195 | 271 | 259 | 82  | 781 | 118 | 1310|

Turn Type

|          | pm+pt | NA  | pm+pt | NA  | pm+pt | NA  | NA  |

Protected Phases

|          | 1     | 6    | 5     | 2    | 3    | 8    | 7    | 4    |

Permitted Phases

|          | 6     | 2    | 8     | 4    |

Detector Phase

|          | 1     | 6    | 5     | 2    | 3    | 8    | 7    | 4    |

Switch Phase

|          | Minimum Initial (s) | 5.0 | 10.0 | 6.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
|          | Minimum Split (s)   | 10.0| 41.0 | 11.0| 40.0 | 10.0| 37.0 | 10.0| 33.0 |
|          | Total Split (s)     | 23.0| 42.0 | 26.0| 45.0 | 19.0| 55.0 | 17.0| 53.0 |
|          | Total Split (%)     | 16.4%| 30.0%| 18.6%| 32.1%| 13.6%| 39.3%| 12.1%| 37.9% |
|          | Yellow Time (s)     | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  |
|          | All-Red Time (s)    | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  |
|          | Lost Time Adjust (s)| 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
|          | Total Lost Time (s) | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  |

Lead/Lag

|          | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |

Lead-Lag Optimize?

|          | Yes  | Yes | Yes  | Yes | Yes  | Yes | Yes  | Yes |

Recall Mode

|          | None | None| None | None| None | C-Min| None | C-Min|

Act Effct Green (s)

|          | 28.7 | 14.9| 41.3 | 22.9| 83.7 | 75.8 | 82.9 | 75.4 |

Actuated g/C Ratio

|          | 0.20 | 0.11| 0.30 | 0.16| 0.60 | 0.54 | 0.59 | 0.54 |

v/c Ratio

|          | 0.58 | 0.79| 0.85 | 0.59| 0.43 | 0.49 | 0.19 | 0.58 |

Control Delay

|          | 46.2 | 47.8| 64.1 | 54.5| 17.9 | 21.6 | 6.9  | 9.8  |

Queue Delay

|          | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |

Total Delay

|          | 46.2 | 47.8| 64.1 | 54.5| 17.9 | 21.6 | 6.9  | 9.8  |

LOS

|          | D    | D   | E    | D   | B    | C    | A    | A    |

Approach Delay

|          | 47.3 | 58.9| 21.3 | 9.6 |

Approach LOS

|          | D    | E   | C    | A   |

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 71 (51%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 25.9

Intersection LOS: C

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 124: Broadway Ave & Beacon St

### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td>Ideal Flow (vphl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Ftt</td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Ftt Protected</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3310</td>
<td>1805</td>
<td>3479</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1021</td>
<td>3310</td>
<td>382</td>
<td>3479</td>
<td>1805</td>
<td>3479</td>
<td>1805</td>
<td>3479</td>
<td>1805</td>
<td>3479</td>
<td>1805</td>
<td>3479</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>822</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>139</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>166</td>
<td>248</td>
<td>0</td>
<td>285</td>
<td>326</td>
<td>0</td>
<td>86</td>
<td>937</td>
<td>0</td>
<td>124</td>
<td>1582</td>
<td>0</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 27.3 s
- **HCM 2000 Volume to Capacity ratio**: 0.67
- **Actuated Cycle Length (s)**: 140.0
- **Intersection Capacity Utilization**: 77.0%
- **Analysis Period (min)**: 15
- **Critical Lane Group**

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.

Synchro 10 Report
Page 29

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
</tr>
<tr>
<td>Future Traffic Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj (A_pbT)</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.99</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>822</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0.09</td>
<td>0.14</td>
<td>0.14</td>
<td>0.15</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
<td>0.54</td>
<td>0.54</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>328</td>
<td>257</td>
<td>215</td>
<td>340</td>
<td>543</td>
<td>142</td>
<td>289</td>
<td>1810</td>
<td>249</td>
<td>664</td>
<td>2429</td>
<td>377</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.09</td>
<td>0.14</td>
<td>0.14</td>
<td>0.15</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
<td>0.54</td>
<td>0.54</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1846</td>
<td>1541</td>
<td>1810</td>
<td>2818</td>
<td>738</td>
<td>1810</td>
<td>3150</td>
<td>464</td>
<td>3510</td>
<td>4522</td>
<td>701</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>166</td>
<td>200</td>
<td>187</td>
<td>285</td>
<td>173</td>
<td>173</td>
<td>86</td>
<td>471</td>
<td>472</td>
<td>124</td>
<td>1054</td>
<td>539</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1582</td>
<td>1810</td>
<td>1805</td>
<td>1751</td>
<td>1810</td>
<td>1805</td>
<td>1809</td>
<td>1755</td>
<td>1729</td>
<td>1765</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>12.0</td>
<td>12.4</td>
<td>3.0</td>
<td>22.9</td>
<td>22.9</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>12.0</td>
<td>12.4</td>
<td>3.0</td>
<td>22.9</td>
<td>22.9</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.42</td>
<td>1.00</td>
<td>0.26</td>
<td>1.00</td>
<td>0.40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>328</td>
<td>252</td>
<td>221</td>
<td>340</td>
<td>348</td>
<td>338</td>
<td>289</td>
<td>968</td>
<td>971</td>
<td>664</td>
<td>1858</td>
<td>948</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>1.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.84</td>
<td>0.90</td>
<td>0.98</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>0.98</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>394</td>
<td>477</td>
<td>418</td>
<td>347</td>
<td>516</td>
<td>500</td>
<td>407</td>
<td>968</td>
<td>971</td>
<td>841</td>
<td>1858</td>
<td>948</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>45.6</td>
<td>58.3</td>
<td>58.8</td>
<td>42.3</td>
<td>50.4</td>
<td>50.6</td>
<td>13.5</td>
<td>20.3</td>
<td>20.3</td>
<td>14.8</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.4</td>
<td>2.2</td>
<td>3.4</td>
<td>16.2</td>
<td>0.4</td>
<td>0.5</td>
<td>0.2</td>
<td>1.7</td>
<td>1.7</td>
<td>0.1</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>5.4</td>
<td>7.7</td>
<td>7.3</td>
<td>10.6</td>
<td>6.0</td>
<td>6.1</td>
<td>1.5</td>
<td>11.9</td>
<td>11.9</td>
<td>1.1</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>46.0</td>
<td>60.5</td>
<td>62.2</td>
<td>58.5</td>
<td>50.8</td>
<td>51.1</td>
<td>13.7</td>
<td>22.1</td>
<td>22.1</td>
<td>15.0</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>553</td>
<td>631</td>
<td>1029</td>
<td>1717</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>56.7</td>
<td>54.4</td>
<td>21.4</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>D</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>17.9</td>
<td>32.0</td>
<td>9.9</td>
<td>80.2</td>
<td>25.4</td>
<td>24.5</td>
<td>10.0</td>
<td>80.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>18.0</td>
<td>40.0</td>
<td>14.0</td>
<td>48.0</td>
<td>21.0</td>
<td>37.0</td>
<td>12.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+1), s</td>
<td>12.9</td>
<td>14.4</td>
<td>5.0</td>
<td>2.0</td>
<td>20.3</td>
<td>18.1</td>
<td>4.2</td>
<td>24.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.1</td>
<td>1.2</td>
<td>0.1</td>
<td>9.6</td>
<td>0.1</td>
<td>1.4</td>
<td>0.2</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

- HCM 2010 Ctrl Delay: 23.5
- HCM 2010 LOS: C
ATTACHMENT I – 2023 TOTAL GARAGE TRAFFIC OPERATIONS
### Timings

#### 101: Lincoln Ave & University Dr

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Detector Phase</strong></td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Switch Phase</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Initial (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>10.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Minimum Split (s)</strong></td>
<td>33.0</td>
<td>33.0</td>
<td>31.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Total Split (s)</strong></td>
<td>33.0</td>
<td>33.0</td>
<td>31.0</td>
<td>11.0</td>
<td>42.0</td>
</tr>
<tr>
<td><strong>Total Split (%)</strong></td>
<td>44.0%</td>
<td>44.0%</td>
<td>41.3%</td>
<td>14.7%</td>
<td>56.0%</td>
</tr>
<tr>
<td><strong>Yellow Time (s)</strong></td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>All-Red Time (s)</strong></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Lost Time Adjust (s)</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Lost Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lead/Lag</strong></td>
<td>Lag</td>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lead-Lag Optimize?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recall Mode</strong></td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Act Effct Green (s)</strong></td>
<td>8.3</td>
<td>8.3</td>
<td>14.7</td>
<td>22.9</td>
<td>22.9</td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.20</td>
<td>0.20</td>
<td>0.35</td>
<td>0.55</td>
<td>0.55</td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.36</td>
<td>0.60</td>
<td>0.65</td>
<td>0.27</td>
<td>0.23</td>
</tr>
<tr>
<td><strong>Control Delay</strong></td>
<td>19.8</td>
<td>9.4</td>
<td>17.6</td>
<td>6.1</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Queue Delay</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Delay</strong></td>
<td>19.8</td>
<td>9.4</td>
<td>17.6</td>
<td>6.1</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>LOS</strong></td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td><strong>Approach Delay</strong></td>
<td>12.7</td>
<td>17.6</td>
<td>5.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **Cycle Length:** 75
- **Actuated Cycle Length:** 42
- **Natural Cycle:** 75
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.65
- **Intersection Signal Delay:** 12.2
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 44.2%
- **ICU Level of Service:** A
- **Analysis Period (min):** 15

### Splits and Phases

```
<table>
<thead>
<tr>
<th>Split</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 s</td>
<td>🟢2</td>
</tr>
<tr>
<td>12.5</td>
<td>🟢4</td>
</tr>
<tr>
<td>11 s</td>
<td>🟢7</td>
</tr>
<tr>
<td>31 s</td>
<td>🟢8</td>
</tr>
</tbody>
</table>
```

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.

Synchro 10 Report
Page 1

### HCM Signalized Intersection Capacity Analysis

#### 101: Lincoln Ave & University Dr

#### 08/08/2018

**2018 Existing Conditions  05/14/2018 Weekday PM Peak Hour**

Kittelson & Associates, Inc.

---

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Ideal Flow (vph)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frpb, ped/bikes</td>
<td>1.00</td>
<td>0.50</td>
<td>0.96</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>0.85</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>808</td>
<td>1778</td>
<td>1805</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.30</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1805</td>
<td>808</td>
<td>1778</td>
<td>575</td>
<td>1900</td>
<td></td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>129</td>
<td>271</td>
<td>327</td>
<td>85</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>218</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>129</td>
<td>53</td>
<td>400</td>
<td>0</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>253</td>
<td></td>
<td>151</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>NA</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>8.3</td>
<td>8.3</td>
<td>14.7</td>
<td>24.2</td>
<td>24.2</td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>8.3</td>
<td>8.3</td>
<td>14.7</td>
<td>24.2</td>
<td>24.2</td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.20</td>
<td>0.20</td>
<td>0.35</td>
<td>0.57</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>352</td>
<td>157</td>
<td>614</td>
<td>457</td>
<td>1081</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.07</td>
<td></td>
<td></td>
<td>c0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td></td>
<td>0.07</td>
<td></td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.37</td>
<td>0.34</td>
<td>0.65</td>
<td>0.29</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>14.8</td>
<td>14.7</td>
<td>11.7</td>
<td>5.2</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.5</td>
<td>1.9</td>
<td>0.1</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>15.1</td>
<td>15.2</td>
<td>13.6</td>
<td>5.3</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>15.2</td>
<td>13.6</td>
<td></td>
<td></td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

| HCM 2000 Control Delay   | 11.3 |
| HCM 2000 Volume to Capacity ratio | 0.51 |
| Actuated Cycle Length (s) | 42.5 |
| Intersection Capacity Utilization | 44.2% |
| Analysis Period (min)     | 15   |
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>111</td>
<td>233</td>
<td>281</td>
<td>73</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Number</td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>0.80</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/Ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>129</td>
<td>271</td>
<td>327</td>
<td>85</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>399</td>
<td>356</td>
<td>419</td>
<td>109</td>
<td>444</td>
<td>1003</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.22</td>
<td>0.22</td>
<td>0.31</td>
<td>0.31</td>
<td>0.10</td>
<td>0.53</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1615</td>
<td>1373</td>
<td>357</td>
<td>1810</td>
<td>1900</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>129</td>
<td>271</td>
<td>0</td>
<td>412</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/Ln</td>
<td>1810</td>
<td>1615</td>
<td>0</td>
<td>1730</td>
<td>1810</td>
<td>1900</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>2.4</td>
<td>6.2</td>
<td>0.0</td>
<td>8.6</td>
<td>1.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.21</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>399</td>
<td>356</td>
<td>0</td>
<td>528</td>
<td>444</td>
<td>1003</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.32</td>
<td>0.76</td>
<td>0.00</td>
<td>0.78</td>
<td>0.30</td>
<td>0.24</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>1275</td>
<td>1138</td>
<td>0</td>
<td>1132</td>
<td>541</td>
<td>1769</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>13.0</td>
<td>14.5</td>
<td>0.0</td>
<td>12.6</td>
<td>8.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.2</td>
<td>1.3</td>
<td>0.0</td>
<td>1.0</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOf(50%),veh/Ln</td>
<td>1.2</td>
<td>2.9</td>
<td>0.0</td>
<td>4.3</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>13.2</td>
<td>15.8</td>
<td>0.0</td>
<td>13.6</td>
<td>8.2</td>
<td>5.1</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>400</td>
<td>412</td>
<td></td>
<td>377</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>15.0</td>
<td>13.6</td>
<td></td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>2</td>
<td>4</td>
<td></td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>13.8</td>
<td>26.0</td>
<td>8.9</td>
<td>17.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>28.0</td>
<td>37.0</td>
<td>6.0</td>
<td>26.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+I1), s</td>
<td>8.2</td>
<td>4.8</td>
<td>3.7</td>
<td>10.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.6</td>
<td>0.9</td>
<td>0.0</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 11.7
- **HCM 2010 LOS**: B
<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>0</th>
</tr>
</thead>
</table>

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>191</td>
<td>0</td>
<td>0</td>
<td>371</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>191</td>
<td>0</td>
<td>0</td>
<td>371</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage Length</th>
<th>25</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

| Grade, % | 0 | 0 | 0 | 0 | 0 | 0 |

| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |

| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 |

| Mvmt Flow | 222 | 0 | 0 | 431 | 0 | 0 |

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>0</th>
<th>0</th>
<th>222</th>
<th>0</th>
<th>653</th>
<th>222</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>222</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>431</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1359</td>
<td>-</td>
<td>435</td>
<td>823</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>820</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>660</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

| Mov Cap-1 Maneuver | - | - | 1359 | - | 435 | 823 |
| Mov Cap-2 Maneuver | - | - | - | 527 | - |

| Stage 1 | - | - | - | 820 | - |
| Stage 2 | - | - | - | 660 | - |
| Platoon blocked, % | - | - | - | - | - |

### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

| HCM LOS | A |

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL/n1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1359</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**: 0.1

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
<th>Sign Control</th>
<th>Storage Length</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 161 0 0 315 0 0 0 0 2 0 0</td>
<td>2 161 0 0 315 0 0 0 0 2 0 0</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>Free Free Free Free Stop Stop Stop Stop Stop Stop</td>
<td>25 - - 25 - - - - - - -</td>
<td>- 0 - - - - 0 - - 0 - - 0</td>
<td>- 0 - - - - - -</td>
<td>- 0 - - - - - -</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>3 218 0 0 426 0 0 0 0 3 0 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>426</td>
<td>0</td>
<td>218</td>
<td>218</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1144</td>
<td>-</td>
<td>-</td>
<td>1364</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1144</td>
<td>-</td>
<td>-</td>
<td>1364</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>14.4</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1144</td>
<td>-</td>
<td>-</td>
<td>1364</td>
<td>-</td>
<td>-</td>
<td>384</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>- 0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.007</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>8.2</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>14.4</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 3.6 |

### Movement

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>36</td>
<td>47</td>
<td>272</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>38</td>
<td>45</td>
<td>8</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>36</td>
<td>47</td>
<td>272</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>38</td>
<td>45</td>
<td>8</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conflicting Peds, #/hr

0 0 0 0 0 0 0 0 0 0 0 0

### Sign Control

Free Free Free Free Free Stop Stop Stop Stop Stop Stop

### RT Channelized

- - None - - None - - None - - None

### Storage Length

25 - - 25 - - - - - - -

### Veh in Median Storage, #

0 0 0 0 0 0 0 0 0 0 0 0

### Grade, %

0 0 0 0 0 0 0 0 0 0 0 0

### Peak Hour Factor

86 86 86 86 86 86 86 86 86 86 86 86

### Heavy Vehicles, %

0 0 0 0 0 0 0 0 0 0 0 0

### Mvmt Flow

20 150 42 55 316 45 15 2 44 52 9 29

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>361</td>
<td>0</td>
<td>192</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>0</td>
<td>697</td>
<td>682</td>
<td>171</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1209</td>
<td>-</td>
<td>1394</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1209</td>
<td>-</td>
<td>1394</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>0.7</th>
<th>1</th>
<th>11.7</th>
<th>16.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>1209</td>
<td>-</td>
<td>-</td>
<td>1394</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>402</td>
</tr>
</tbody>
</table>

### HCM LOS

<table>
<thead>
<tr>
<th>0.130</th>
<th>0.016</th>
<th>0.039</th>
<th>0.226</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>11.7</th>
<th>8</th>
<th>7.7</th>
<th>16.5</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>B</th>
<th>A</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>0.3</th>
<th>0.1</th>
<th>0.1</th>
<th>0.9</th>
</tr>
</thead>
</table>
### Intersection

| Int Delay, s/veh | 25.2 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>6</td>
<td>23</td>
<td>0</td>
<td>42</td>
<td>169</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>6</td>
<td>23</td>
<td>0</td>
<td>42</td>
<td>169</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0</td>
<td>24</td>
<td>92</td>
<td>0</td>
<td>168</td>
<td>676</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1604</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1604</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>7.4</td>
<td>27.8</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>968</td>
<td>-</td>
<td>-</td>
<td>1604</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.872</td>
<td>-</td>
<td>-</td>
<td>0.057</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>27.8</td>
<td>-</td>
<td>-</td>
<td>7.4</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>D</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>11.7</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>492</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>492</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>547</td>
<td>16</td>
<td>10</td>
<td>318</td>
<td>17</td>
<td>47</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>0</td>
<td>0</td>
<td>563</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>1019</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>1019</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.3</td>
<td>13.2</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.126</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>13.2</td>
<td>-</td>
<td>-</td>
<td>8.6</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.4</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>
## Timings

### 108: Broadway Ave & University Dr

### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

### Traffic Volume (vph)

<table>
<thead>
<tr>
<th></th>
<th>271</th>
<th>5</th>
<th>262</th>
<th>18</th>
<th>5</th>
<th>134</th>
<th>904</th>
<th>15</th>
<th>1442</th>
</tr>
</thead>
</table>

### Turn Type

|          | pm+pt | NA  | Perm | Perm | NA  | pm+pt | NA  | pm+pt | NA  |

### Protected Phases

|          | 1    | 6   | 2    | 3    | 8    | 7    | 4    |

### Permitted Phases

|          | 6    | 6   | 2    | 3    | 8    | 7    | 4    |

### Detector Phase

|          | 1    | 6   | 6   | 2    | 3    | 8    | 7    | 4    |

### Switch Phase

| Minimum Initial (s) | 5.0 | 8.0 | 8.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s)   | 11.0| 33.0| 33.0| 34.0 | 34.0 | 11.0| 20.0 | 11.0| 27.0 |
| Total Split (s)      | 15.0| 50.0| 50.0| 35.0 | 35.0 | 25.0| 75.0 | 15.0| 65.0 |
| Total Split (%)      | 10.7%| 35.7%| 35.7%| 25.0%| 25.0%| 17.9%| 53.6%| 10.7%| 46.4% |
| Yellow Time (s)      | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s)     | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s)  | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |

### Per-Lag Optimize

<table>
<thead>
<tr>
<th></th>
<th>Lead</th>
<th>Lag</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Mode</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Act эффк Green (s)</td>
<td>33.0</td>
<td>33.0</td>
<td>33.0</td>
<td>10.0</td>
<td>95.0</td>
<td>91.4</td>
<td>81.9</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.24</td>
<td>0.24</td>
<td>0.24</td>
<td>0.07</td>
<td>0.68</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.75</td>
<td>0.01</td>
<td>0.51</td>
<td>0.31</td>
<td>0.57</td>
<td>0.41</td>
<td>0.05</td>
</tr>
<tr>
<td>Control Delay</td>
<td>61.0</td>
<td>38.8</td>
<td>15.7</td>
<td>51.6</td>
<td>39.0</td>
<td>9.7</td>
<td>9.8</td>
</tr>
<tr>
<td>Queue Delay</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Delay</td>
<td>61.0</td>
<td>38.8</td>
<td>15.7</td>
<td>51.6</td>
<td>39.0</td>
<td>9.7</td>
<td>9.8</td>
</tr>
<tr>
<td>LOS</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>38.7</td>
<td>51.6</td>
<td>13.5</td>
<td>22.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- Cycle Length: 140
- Actuated Cycle Length: 140
- Offset: 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green
- Natural Cycle: 85
- Control Type: Actuated-Coordinated
- Maximum v/c Ratio: 0.75
- Intersection Signal Delay: 22.7
- Intersection LOS: C
- Intersection Capacity Utilization 74.7%
- ICU Level of Service D
- Analysis Period (min) 15

### Splits and Phases

108: Broadway Ave & University Dr

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour

Kittelson & Associates, Inc.
### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.91</td>
<td>0.95</td>
</tr>
<tr>
<td>Frt</td>
<td>1.00</td>
<td>1.00</td>
<td>0.85</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.98</td>
<td>0.99</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.97</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>1900</td>
<td>1615</td>
<td>1765</td>
<td>1805</td>
<td>3598</td>
<td>1805</td>
<td>5108</td>
<td>1805</td>
<td>5108</td>
<td>1805</td>
<td>5108</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.66</td>
<td>1.00</td>
<td>1.00</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1263</td>
<td>1900</td>
<td>1615</td>
<td>1513</td>
<td>1513</td>
<td>523</td>
<td>1513</td>
<td>523</td>
<td>1513</td>
<td>523</td>
<td>1513</td>
<td>523</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1602</td>
<td>169</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>0</td>
<td>152</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>282</td>
<td>5</td>
<td>121</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>140</td>
<td>962</td>
<td>0</td>
<td>16</td>
<td>1663</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>pm+pt</th>
<th>NA</th>
<th>Perm</th>
<th>Perm</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
<td>8.0</td>
<td>94.8</td>
<td>86.7</td>
<td>78.6</td>
<td>76.5</td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
<td>8.0</td>
<td>94.8</td>
<td>86.7</td>
<td>78.6</td>
<td>76.5</td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.24</td>
<td>0.24</td>
<td>0.24</td>
<td>0.06</td>
<td>0.68</td>
<td>0.62</td>
<td>0.56</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>386</td>
<td>464</td>
<td>394</td>
<td>86</td>
<td>248</td>
<td>2228</td>
<td>312</td>
<td>2791</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>c0.11</td>
<td>0.00</td>
<td></td>
<td>c0.05</td>
<td>0.27</td>
<td>0.00</td>
<td>c0.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.07</td>
<td>0.07</td>
<td>0.02</td>
<td>0.33</td>
<td></td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.73</td>
<td>0.01</td>
<td>0.31</td>
<td>0.29</td>
<td>0.56</td>
<td>0.43</td>
<td>0.05</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>47.5</td>
<td>40.1</td>
<td>43.2</td>
<td>63.3</td>
<td>16.8</td>
<td>13.9</td>
<td>13.7</td>
<td>21.4</td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.05</td>
<td>0.71</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>6.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.7</td>
<td>1.6</td>
<td>0.6</td>
<td>0.0</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>53.6</td>
<td>40.1</td>
<td>43.4</td>
<td>63.9</td>
<td>36.2</td>
<td>10.3</td>
<td>13.7</td>
<td>22.3</td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>48.5</td>
<td></td>
<td>63.9</td>
<td></td>
<td>13.6</td>
<td></td>
<td>22.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>D</td>
<td>E</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Intersection Summary

- **HCM 2000 Control Delay**: 24.2 s
- **HCM 2000 Level of Service**: D
- **HCM 2000 Volume to Capacity ratio**: 0.66
- **Actuated Cycle Length (s)**: 140.0 s
- **Sum of lost time (s)**: 23.0 s
- **Intersection Capacity Utilization**: 74.7%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15
- **Critical Lane Group**
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>271</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h-ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>302</td>
<td>349</td>
<td>297</td>
<td>84</td>
<td>27</td>
<td>36</td>
<td>275</td>
<td>2449</td>
<td>55</td>
<td>468</td>
<td>3090</td>
<td>347</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.18</td>
<td>0.18</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>587</td>
<td>351</td>
<td>469</td>
<td>1810</td>
<td>3610</td>
<td>80</td>
<td>1810</td>
<td>4732</td>
<td>532</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>282</td>
<td>5</td>
<td>273</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>140</td>
<td>471</td>
<td>492</td>
<td>16</td>
<td>1097</td>
<td>574</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1900</td>
<td>1615</td>
<td>1407</td>
<td>0</td>
<td>0</td>
<td>1810</td>
<td>1805</td>
<td>1886</td>
<td>1810</td>
<td>1729</td>
<td>1806</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>9.0</td>
<td>0.3</td>
<td>23.2</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>9.0</td>
<td>0.3</td>
<td>23.2</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>1.00</td>
<td>0.53</td>
<td>0.33</td>
<td>1.00</td>
<td>0.04</td>
<td>1.00</td>
<td>0.29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>302</td>
<td>349</td>
<td>297</td>
<td>147</td>
<td>0</td>
<td>0</td>
<td>275</td>
<td>1224</td>
<td>1279</td>
<td>468</td>
<td>2258</td>
<td>1179</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.94</td>
<td>0.01</td>
<td>0.92</td>
<td>0.24</td>
<td>0.00</td>
<td>0.00</td>
<td>0.51</td>
<td>0.38</td>
<td>0.38</td>
<td>0.03</td>
<td>0.49</td>
<td>0.49</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>302</td>
<td>597</td>
<td>508</td>
<td>321</td>
<td>0</td>
<td>0</td>
<td>445</td>
<td>1224</td>
<td>1279</td>
<td>555</td>
<td>2258</td>
<td>1179</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>59.8</td>
<td>46.8</td>
<td>56.1</td>
<td>61.0</td>
<td>0.0</td>
<td>0.0</td>
<td>9.9</td>
<td>0.0</td>
<td>0.0</td>
<td>7.7</td>
<td>12.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>34.7</td>
<td>0.0</td>
<td>8.5</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
<td>0.9</td>
<td>0.9</td>
<td>0.0</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>9.3</td>
<td>0.2</td>
<td>11.1</td>
<td>1.3</td>
<td>0.0</td>
<td>0.0</td>
<td>1.8</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>10.9</td>
<td>11.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>94.5</td>
<td>46.8</td>
<td>64.6</td>
<td>61.3</td>
<td>0.0</td>
<td>0.0</td>
<td>10.5</td>
<td>0.9</td>
<td>0.9</td>
<td>7.7</td>
<td>13.1</td>
<td>13.8</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>F</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>560</td>
<td>36</td>
<td>1103</td>
<td>1687</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>79.5</td>
<td>61.3</td>
<td>2.1</td>
<td>13.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>E</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned Phs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phs Duration (G+Y+Rc), s</td>
<td>15.0</td>
<td>16.7</td>
<td>11.9</td>
<td>96.4</td>
<td>31.7</td>
<td>8.3</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Period (Y+Rc), s</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Green Setting (Gmax), s</td>
<td>9.0</td>
<td>29.0</td>
<td>19.0</td>
<td>60.0</td>
<td>44.0</td>
<td>9.0</td>
<td>70.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Q Clear Time (g_c+I1), s</td>
<td>11.0</td>
<td>5.0</td>
<td>5.7</td>
<td>24.6</td>
<td>25.2</td>
<td>2.4</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Ext Time (p_c), s</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>9.8</td>
<td>0.5</td>
<td>0.0</td>
<td>4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

<p>| HCM 2010 Ctrl Delay | 21.1 |
| HCM 2010 LOS | C |</p>
<table>
<thead>
<tr>
<th>Intersection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 4 0 0 40 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 4 0 0 40 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>Stop</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 0 - - 0 75 -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 0 0 0 0 0 0 0 0 0 16 0 0 160 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>176</td>
<td>176</td>
<td>176</td>
<td>176</td>
</tr>
<tr>
<td>Stage 1</td>
<td>160</td>
<td>160</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>16</td>
<td>16</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdyw</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Critical Hdyw Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Critical Hdyw Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Follow-up Hdyw</td>
<td>3.5</td>
<td>4.3</td>
<td>3.5</td>
<td>4.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>791</td>
<td>721</td>
<td>890</td>
<td>791</td>
</tr>
<tr>
<td>Stage 1</td>
<td>847</td>
<td>769</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1009</td>
<td>886</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>791</td>
<td>721</td>
<td>890</td>
<td>791</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>791</td>
<td>721</td>
<td>-</td>
<td>791</td>
</tr>
<tr>
<td>Stage 1</td>
<td>847</td>
<td>769</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1009</td>
<td>886</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>1432</td>
<td>-</td>
<td>-</td>
<td>- 1615</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0 0 0</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

Intersection Delay, s/veh 0  
Intersection LOS -

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Future Vol, veh/h</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>Heavy Vehicles, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Mvmt Flow</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Number of Lanes</strong></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opposing Approach</strong></td>
<td>WB</td>
<td>EB</td>
<td>SB</td>
<td>NB</td>
</tr>
<tr>
<td><strong>Opposing Lanes</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Conflicting Approach Left</strong></td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td><strong>Conflicting Lanes Left</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Conflicting Approach Right</strong></td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
</tr>
<tr>
<td><strong>Conflicting Lanes Right</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>HCM Control Delay</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>HCM LOS</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol Left, %</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Vol Thru, %</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Vol Right, %</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Sign Control</strong></td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td><strong>Traffic Vol by Lane</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>LT Vol</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Through Vol</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>RT Vol</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Lane Flow Rate</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Geometry Grp</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Degree of Util (X)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Departure Headway (Hd)</strong></td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>Convergence, Y/N</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Cap</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Service Time</strong></td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>HCM Lane V/C Ratio</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>HCM Control Delay</strong></td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>HCM Lane LOS</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>HCM 95th-tile Q</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Intersection Delay, s/veh</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection LOS</td>
<td>-</td>
</tr>
</tbody>
</table>

### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Traffic Vol, veh/h</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peak Hour Factor</th>
<th>0.75</th>
<th>0.75</th>
<th>0.75</th>
<th>0.75</th>
<th>0.75</th>
<th>0.75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Movement Flow</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of Lanes</th>
<th>1</th>
<th>0</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
</table>

### Approach

<table>
<thead>
<tr>
<th>Opposing Approach</th>
<th>WB</th>
<th>EB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposing Lanes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>NB</td>
<td>EB</td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Conflicting Approach Right NB</td>
<td>WB</td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Lane

| Vol Left, % | 0% | 0% | 0% |
| Vol Thru, % | 100% | 100% | 100% |
| Vol Right, %| 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 0 | 0 | 0 |
| LT Vol                   | 0 | 0 | 0 |
| Through Vol              | 0 | 0 | 0 |
| RT Vol                   | 0 | 0 | 0 |
| Lane Flow Rate           | 0 | 0 | 0 |
| Geometry Grp             | 1 | 1 | 1 |
| Degree of Util (X)       | 0 | 0 | 0 |
| Departure Headway (Hd)   | 3.9 | 3.9 | 3.9 |
| Convergence, Y/N         | Yes | Yes | Yes |
| Cap                      | 0 | 0 | 0 |
| Service Time             | 1.9 | 1.9 | 1.9 |
| HCM Lane V/C Ratio       | 0 | 0 | 0 |
| HCM Control Delay        | 6.9 | 6.9 | 6.9 |
| HCM Lane LOS             | N  | N  | N  |
| HCM 95th-tile Q          | 0  | 0  | 0  |
### Intersection

| Int Delay, s/veh | 0 |

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

| RT Channelized | Free | Stop | Stop | Free | Stop | Stop | Stop | Stop | Stop | Stop |

| Storage Length | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |

| Veh in Median Storage, # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

### Grade, %

- 0
- 0
- 0
- 0
- 0

### Peak Hour Factor

- 25
- 25
- 25
- 25
- 25
- 25
- 25
- 25
- 25

### Heavy Vehicles, %

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Mvmt Flow

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>4</th>
<th>0</th>
<th>4</th>
<th>0</th>
<th>4</th>
<th>8</th>
<th>8</th>
<th>8</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Hdyw</td>
<td>4.1</td>
<td>4.1</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Critical Hdyw Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>6.1</td>
<td>5.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Hdyw Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>6.1</td>
<td>5.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow-up Hdyw</td>
<td>2.2</td>
<td>2.2</td>
<td>3.5</td>
<td>3.3</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1631</td>
<td>1631</td>
<td>1016</td>
<td>891</td>
<td>1085</td>
<td>1016</td>
<td>891</td>
<td>1085</td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>1024</td>
<td>897</td>
<td>1024</td>
<td>897</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>1024</td>
<td>897</td>
<td>1024</td>
<td>897</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1631</td>
<td>1631</td>
<td>1016</td>
<td>891</td>
<td>1085</td>
<td>1016</td>
<td>891</td>
<td>1085</td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>1016</td>
<td>891</td>
<td>1016</td>
<td>891</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>1024</td>
<td>897</td>
<td>1024</td>
<td>897</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HCM Control Delay, s

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### HCM LOS

- A
- A

### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>1631</td>
<td>1631</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Lane V/C Ratio

- -
- -
- -
- -
- -

### HCM Control Delay (s)

| HCM Control Delay (s) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

### HCM Lane LOS

- A
- A
- A
- A

### HCM 95th %tile Q(veh)

- 0
- 0
- 0
- 0
- A
- A
- A
- A

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour

Kittelson & Associates, Inc.
Intersection

Intersection Delay, s/veh 7.1
Intersection LOS A

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0 0 0 0 0 0 0 3 0 0 13 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0 0 0 0 0 0 0 3 0 0 13 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>0 0 0 0 0 0 0 12 0 0 52 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Lanes</td>
<td>0 1 0 0 1 0 0 1 0 0 1 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach</td>
<td>EB</td>
<td>WB</td>
<td>NB</td>
<td>SB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opposing Approach</td>
<td>WB</td>
<td>EB</td>
<td>SB</td>
<td>NB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opposing Lanes</td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Approach Left</td>
<td>SB</td>
<td>NB</td>
<td>EB</td>
<td>WB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Left</td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Approach Right</td>
<td>NB</td>
<td>SB</td>
<td>WB</td>
<td>EB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Lanes Right</td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>0 0 7 7.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM LOS</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane</th>
<th>NBLn1</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Left, %</td>
<td>0% 0% 0% 0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vol Thru, %</td>
<td>100% 100% 100% 100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vol Right, %</td>
<td>0% 0% 0% 0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop Stop Stop Stop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol by Lane</td>
<td>3 0 0 13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT Vol</td>
<td>0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through Vol</td>
<td>3 0 0 13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Vol</td>
<td>0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Flow Rate</td>
<td>12 0 0 52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometry Grp</td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Util (X)</td>
<td>0.013 0 0 0.056</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departure Headway (Hd)</td>
<td>3.938 4.011 4.011 3.909</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convergence, Y/N</td>
<td>Yes Yes Yes Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap</td>
<td>912 0 0 921</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Time</td>
<td>1.947 2.034 2.034 1.911</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.013 0 0 0.056</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay</td>
<td>7 7 7 7.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A N N A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCM 95th-tile Q</td>
<td>0 0 0 0.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Lane Configurations

| Traffic Vol, veh/h | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Future Vol, veh/h  | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Conflicting Peds, #/hr | 0 0 0 0 0 0 0 0 0 0 0 0 |

| Sign Control | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | None | - | None | - | None | - | None | - | None | - | None |

| Veh in Median Storage, # | - | 0 | - | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Grade, % | - | 0 | - | 0 | 0 | - | 0 | - | 0 | - | 0 | - |
| Peak Hour Factor | 90 90 90 90 90 90 90 90 90 90 90 90 |
| Heavy Vehicles, % | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Mvmt Flow | 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>1 0 1 0</td>
<td>0 2 2 1</td>
<td>2 2 1 1</td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>- - - -</td>
<td>1 1 -</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>- - - -</td>
<td>1 1 -</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>- 4.1</td>
<td>-</td>
<td>7.1 6.5 6.2 7.1 6.5 6.2</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>- - - -</td>
<td>6.1 5.5</td>
<td>-</td>
<td>6.1 5.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>- - - -</td>
<td>6.1 5.5</td>
<td>-</td>
<td>6.1 5.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>- 2.2</td>
<td>-</td>
<td>3.5 3.3 3.5 3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1635</td>
<td>- 1635</td>
<td>-</td>
<td>1026 898 1090 1026 898 1090</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1027 899</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1027 899</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>- - - -</td>
<td>- - - -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1635</td>
<td>- 1635</td>
<td>-</td>
<td>1026 898 1090 1026 898 1090</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>- - -</td>
<td>- 1026 898</td>
<td>-</td>
<td>1026 898</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>- 1635</td>
<td>-</td>
<td>- 1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0 0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>- 0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0 |

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sign Control

<table>
<thead>
<tr>
<th>RT Channelized</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Stage 2</td>
<td>4</td>
<td>0</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Critical Hwy</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Critical Hwy Stg 1</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Critical Hwy Stg 2</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Follow-up Hwy</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1021</td>
<td>899</td>
<td>1090</td>
<td>1027</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1027</td>
<td>899</td>
<td>1090</td>
<td>1027</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1024</td>
<td>-</td>
<td>1027</td>
<td>899</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>899</td>
<td>1090</td>
<td>1027</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>899</td>
<td>-</td>
<td>1027</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1027</td>
<td>899</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1024</td>
<td>-</td>
<td>1027</td>
<td>899</td>
</tr>
</tbody>
</table>

### Approach

| HCM Control Delay, s | 0 |
| HCM LOS | A |

### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 1.7 |

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1593</td>
<td>29</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1593</td>
<td>29</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1593</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>2333</td>
<td>2883</td>
<td>854</td>
<td>1849</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1775</td>
<td>1775</td>
<td>-</td>
<td>1095</td>
</tr>
<tr>
<td>Stage 2</td>
<td>558</td>
<td>1108</td>
<td>-</td>
<td>754</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>6.95</td>
<td>6.5</td>
<td>7.1</td>
<td>6.95</td>
</tr>
<tr>
<td>Critical Hdwy Stg1</td>
<td>7.3</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg2</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.7</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>3.65</td>
<td>4</td>
<td>3.9</td>
<td>3.65</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>28</td>
<td>16</td>
<td>263</td>
<td>62</td>
</tr>
<tr>
<td>Stage 1</td>
<td>58</td>
<td>137</td>
<td>-</td>
<td>226</td>
</tr>
<tr>
<td>Stage 2</td>
<td>472</td>
<td>288</td>
<td>-</td>
<td>347</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>23</td>
<td>14</td>
<td>263</td>
<td>44</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>23</td>
<td>14</td>
<td>-</td>
<td>44</td>
</tr>
<tr>
<td>Stage 1</td>
<td>52</td>
<td>129</td>
<td>-</td>
<td>205</td>
</tr>
<tr>
<td>Stage 2</td>
<td>396</td>
<td>261</td>
<td>-</td>
<td>310</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>184.3</td>
<td>33.9</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>F</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>179</td>
<td>-</td>
<td>-</td>
<td>32</td>
<td>168</td>
<td>657</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.094</td>
<td>-</td>
<td>-</td>
<td>0.428</td>
<td>0.263</td>
<td>0.062</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>27.2</td>
<td>-</td>
<td>-</td>
<td>184.3</td>
<td>33.9</td>
<td>10.8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>D</td>
<td>-</td>
<td>-</td>
<td>F</td>
<td>D</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1.4</td>
<td>1</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Timings

#### 117: Lincoln Ave & Beacon St

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>85</td>
<td>333</td>
<td>12</td>
<td>525</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>85</td>
<td>333</td>
<td>12</td>
<td>525</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Detector Phase</strong></td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Switch Phase</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Initial (s)</strong></td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
<td>4.0</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Minimum Split (s)</strong></td>
<td>9.5</td>
<td>28.0</td>
<td>9.5</td>
<td>25.0</td>
<td>9.5</td>
<td>31.0</td>
<td>9.5</td>
<td>31.0</td>
</tr>
<tr>
<td><strong>Total Split (s)</strong></td>
<td>11.0</td>
<td>28.0</td>
<td>9.5</td>
<td>26.5</td>
<td>9.5</td>
<td>32.9</td>
<td>9.5</td>
<td>33.0</td>
</tr>
<tr>
<td><strong>Total Split (%)</strong></td>
<td>13.8%</td>
<td>35.0%</td>
<td>11.9%</td>
<td>33.1%</td>
<td>11.9%</td>
<td>41.1%</td>
<td>12.0%</td>
<td>41.3%</td>
</tr>
<tr>
<td><strong>Yellow Time (s)</strong></td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>All-Red Time (s)</strong></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Lost Time Adjust (s)</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Lost Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lead/Lag</strong></td>
<td>Lead</td>
<td>Lag</td>
<td>Lead</td>
<td>Lag</td>
<td>Lead</td>
<td>Lag</td>
<td>Lead</td>
<td>Lag</td>
</tr>
<tr>
<td><strong>Lead-Lag Optimize?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Recall Mode</strong></td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Min</td>
<td>Min</td>
</tr>
<tr>
<td><strong>Act Effct Green (s)</strong></td>
<td>24.1</td>
<td>23.1</td>
<td>20.1</td>
<td>16.8</td>
<td>14.2</td>
<td>10.9</td>
<td>17.0</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.45</td>
<td>0.43</td>
<td>0.38</td>
<td>0.32</td>
<td>0.27</td>
<td>0.20</td>
<td>0.32</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.25</td>
<td>0.23</td>
<td>0.03</td>
<td>0.61</td>
<td>0.00</td>
<td>0.10</td>
<td>0.30</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>Control Delay</strong></td>
<td>9.8</td>
<td>10.6</td>
<td>7.9</td>
<td>18.2</td>
<td>14.0</td>
<td>21.1</td>
<td>17.5</td>
<td>7.9</td>
</tr>
<tr>
<td><strong>Queue Delay</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Delay</strong></td>
<td>9.8</td>
<td>10.6</td>
<td>7.9</td>
<td>18.2</td>
<td>14.0</td>
<td>21.1</td>
<td>17.5</td>
<td>7.9</td>
</tr>
<tr>
<td><strong>LOS</strong></td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td><strong>Approach Delay</strong></td>
<td>10.4</td>
<td>18.0</td>
<td>20.9</td>
<td>20.9</td>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Intersection Summary

- **Cycle Length:** 80
- **Actuated Cycle Length:** 53.3
- **Natural Cycle:** 80
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.61
- **Intersection Signal Delay:** 14.5
- **Intersection Capacity Utilization:** 49.2%
- **Analysis Period (min):** 15

**Splits and Phases:**

117: Lincoln Ave & Beacon St

---

2018 Existing Conditions  05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.

Synchro 10 Report
Page 20
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Ideal Flow (vphpl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3605</td>
<td>1805</td>
<td>3508</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1877</td>
<td>1805</td>
<td>1672</td>
<td>1805</td>
<td>1672</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.24</td>
<td>1.00</td>
<td>0.54</td>
<td>1.00</td>
<td>0.63</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
<td>0.62</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>458</td>
<td>3605</td>
<td>1023</td>
<td>3508</td>
<td>1202</td>
<td>1877</td>
<td>1179</td>
<td>1672</td>
<td>1179</td>
<td>1672</td>
<td>1179</td>
<td>1672</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>90</td>
<td>354</td>
<td>3</td>
<td>13</td>
<td>559</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>159</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>117</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>90</td>
<td>356</td>
<td>0</td>
<td>13</td>
<td>666</td>
<td>0</td>
<td>1</td>
<td>35</td>
<td>0</td>
<td>132</td>
<td>82</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>27.3</td>
<td>23.1</td>
<td>20.5</td>
<td>19.7</td>
<td>14.6</td>
<td>13.8</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>27.3</td>
<td>23.1</td>
<td>20.5</td>
<td>19.7</td>
<td>14.6</td>
<td>13.8</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
<td>19.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.45</td>
<td>0.38</td>
<td>0.34</td>
<td>0.32</td>
<td>0.24</td>
<td>0.23</td>
<td>0.32</td>
<td>0.27</td>
<td>0.32</td>
<td>0.27</td>
<td>0.32</td>
<td>0.27</td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>297</td>
<td>1365</td>
<td>354</td>
<td>1132</td>
<td>295</td>
<td>424</td>
<td>412</td>
<td>446</td>
<td>412</td>
<td>446</td>
<td>412</td>
<td>446</td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.02</td>
<td>0.10</td>
<td>0.00</td>
<td>c0.19</td>
<td>0.00</td>
<td>c0.02</td>
<td>0.02</td>
<td>c0.02</td>
<td>0.02</td>
<td>c0.02</td>
<td>0.02</td>
<td>c0.02</td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.11</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>c0.09</td>
<td>0.11</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.30</td>
<td>0.26</td>
<td>0.04</td>
<td>0.59</td>
<td>0.00</td>
<td>0.00</td>
<td>0.08</td>
<td>0.32</td>
<td>0.18</td>
<td>0.32</td>
<td>0.18</td>
<td>0.32</td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>10.5</td>
<td>13.1</td>
<td>13.5</td>
<td>17.3</td>
<td>17.7</td>
<td>18.6</td>
<td>15.2</td>
<td>17.2</td>
<td>15.2</td>
<td>17.2</td>
<td>15.2</td>
<td>17.2</td>
</tr>
<tr>
<td>Progressor Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Delay (s)</td>
<td>10.7</td>
<td>13.2</td>
<td>13.6</td>
<td>18.0</td>
<td>17.7</td>
<td>18.6</td>
<td>15.4</td>
<td>17.3</td>
<td>15.4</td>
<td>17.3</td>
<td>15.4</td>
<td>17.3</td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>12.7</td>
<td>18.0</td>
<td>18.6</td>
<td>16.5</td>
<td>18.6</td>
<td>16.5</td>
<td>18.6</td>
<td>16.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>16.1</th>
<th>HCM 2000 Level of Service</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>61.0</td>
<td>Sum of lost time (s)</td>
<td>20.0</td>
</tr>
<tr>
<td>Intersection Capacity Utilization</td>
<td>49.2%</td>
<td>ICU Level of Service</td>
<td>A</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Critical Lane Group</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>85</td>
<td>333</td>
<td>3</td>
<td>12</td>
<td>525</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>149</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>90</td>
<td>354</td>
<td>3</td>
<td>13</td>
<td>559</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>159</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>322</td>
<td>1168</td>
<td>10</td>
<td>421</td>
<td>801</td>
<td>186</td>
<td>357</td>
<td>338</td>
<td>30</td>
<td>537</td>
<td>92</td>
<td>366</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.32</td>
<td>0.32</td>
<td>0.01</td>
<td>0.28</td>
<td>0.28</td>
<td>0.00</td>
<td>0.20</td>
<td>0.20</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>3686</td>
<td>31</td>
<td>1810</td>
<td>2911</td>
<td>675</td>
<td>1810</td>
<td>1721</td>
<td>152</td>
<td>1810</td>
<td>335</td>
<td>1330</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>90</td>
<td>174</td>
<td>183</td>
<td>13</td>
<td>346</td>
<td>343</td>
<td>1</td>
<td>0</td>
<td>37</td>
<td>132</td>
<td>0</td>
<td>199</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1895</td>
<td>1810</td>
<td>1805</td>
<td>1781</td>
<td>1810</td>
<td>0</td>
<td>1873</td>
<td>1810</td>
<td>0</td>
<td>1665</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>1.8</td>
<td>3.7</td>
<td>3.7</td>
<td>0.3</td>
<td>8.8</td>
<td>8.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.8</td>
<td>2.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>1.8</td>
<td>3.7</td>
<td>3.7</td>
<td>0.3</td>
<td>8.8</td>
<td>8.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.8</td>
<td>2.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.02</td>
<td>1.00</td>
<td>0.38</td>
<td>1.00</td>
<td>0.08</td>
<td>1.00</td>
<td>0.80</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>322</td>
<td>575</td>
<td>603</td>
<td>421</td>
<td>497</td>
<td>490</td>
<td>357</td>
<td>0</td>
<td>367</td>
<td>537</td>
<td>0</td>
<td>458</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.28</td>
<td>0.30</td>
<td>0.30</td>
<td>0.03</td>
<td>0.70</td>
<td>0.70</td>
<td>0.00</td>
<td>0.10</td>
<td>0.25</td>
<td>0.00</td>
<td>0.43</td>
<td>0.00</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>432</td>
<td>814</td>
<td>854</td>
<td>557</td>
<td>761</td>
<td>751</td>
<td>513</td>
<td>0</td>
<td>1025</td>
<td>555</td>
<td>0</td>
<td>914</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>12.8</td>
<td>13.1</td>
<td>13.1</td>
<td>13.0</td>
<td>16.6</td>
<td>16.6</td>
<td>16.4</td>
<td>0</td>
<td>16.8</td>
<td>13.7</td>
<td>0</td>
<td>15.2</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.0</td>
<td>1.8</td>
<td>1.8</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Initial Q Delay(d3), s/veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>0.9</td>
<td>1.9</td>
<td>2.0</td>
<td>0.1</td>
<td>4.6</td>
<td>4.5</td>
<td>0.0</td>
<td>0</td>
<td>0.4</td>
<td>1.4</td>
<td>0.0</td>
<td>2.3</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>13.0</td>
<td>13.4</td>
<td>13.4</td>
<td>13.0</td>
<td>18.3</td>
<td>18.4</td>
<td>16.4</td>
<td>0</td>
<td>16.9</td>
<td>13.7</td>
<td>0</td>
<td>15.5</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>447</td>
<td>702</td>
<td>38</td>
<td>331</td>
<td>13.3</td>
<td>18.3</td>
<td>16.8</td>
<td>14.8</td>
<td>1.0</td>
<td>6.7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>1.0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>1.0</td>
<td>6.7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

**Intersection Summary**

HCM 2010 Ctrl Delay 16.0

HCM 2010 LOS B
### Intersection

Int Delay, s/veh | 3.1

### Movement Characteristics

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Vol, veh/h</th>
<th>Future Vol, veh/h</th>
<th>Conflicting Peds, #/hr</th>
<th>Sign Control</th>
<th>RT Channelized</th>
<th>Veh in Median Storage, #</th>
<th>Grade, %</th>
<th>Peak Hour Factor</th>
<th>Heavy Vehicles, %</th>
<th>Mvmt Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL</td>
<td>EBT</td>
<td>EBR</td>
<td>WBL</td>
<td>WBT</td>
<td>WBR</td>
<td>NBL</td>
<td>NBT</td>
<td>NBR</td>
<td>SBL</td>
<td>SBT</td>
</tr>
<tr>
<td>15</td>
<td>441</td>
<td>3</td>
<td>5</td>
<td>621</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>441</td>
<td>3</td>
<td>5</td>
<td>621</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>474</td>
<td>3</td>
<td>5</td>
<td>668</td>
<td>52</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>76</td>
<td>3</td>
</tr>
</tbody>
</table>

### Major/Minor Movements

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>891</td>
<td>-</td>
<td>1096</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>891</td>
<td>-</td>
<td>1096</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach Characteristics

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0.1</td>
<td>16.8</td>
<td>30</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Movements

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>316</td>
<td>891</td>
<td>-</td>
<td>-</td>
<td>1096</td>
<td>-</td>
<td>-</td>
<td>268</td>
<td></td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.031</td>
<td>0.018</td>
<td>-</td>
<td>-</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>0.473</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>16.8</td>
<td>9.1</td>
<td>0.1</td>
<td>-</td>
<td>8.3</td>
<td>0</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>2.4</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int Delay, s/veh</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Movement Details

#### Lane Configurations

- **Traffic Vol, veh/h**:
  - EBL: 0
  - EBT: 3
  - EBR: 0
  - WBL: 0
  - WBT: 13
  - WBR: 0
  - NBL: 0
  - NBT: 0
  - NBR: 0
  - SBL: 0
  - SBT: 0
  - SBR: 0

- **Future Vol, veh/h**:
  - EBL: 0
  - EBT: 3
  - EBR: 0
  - WBL: 0
  - WBT: 13
  - WBR: 0
  - NBL: 0
  - NBT: 0
  - NBR: 0
  - SBL: 0
  - SBT: 0
  - SBR: 0

- **Conflicting Peds, #/hr**:
  - EBL: 0
  - EBT: 0
  - EBR: 0
  - WBL: 0
  - WBT: 0
  - WBR: 0
  - NBL: 0
  - NBT: 0
  - NBR: 0
  - SBL: 0
  - SBT: 0
  - SBR: 0

- **Sign Control**: Free
- **RT Channelized**: None
- **Veh in Median Storage, #**: 0
- **Grade, %**: 0
- **Peak Hour Factor**: 25
- **Heavy Vehicles, %**: 0
- **Mvmt Flow**: 0

#### Major/Minor

- **Major1**: 52
- **Major2**: 0
- **Minor1**: 12
- **Minor2**: 0

- **Critical Hdyw**: 4.1
- **Critical Hdyw Stg 1**: 6.5
- **Critical Hdyw Stg 2**: 6.5
- **Follow-up Hdyw**: 2.2
- **Pot Cap-1 Maneuver**: 1567
- **Mov Cap-1 Maneuver**: 1567
- **Mov Cap-2 Maneuver**: 1567

- **Stage 1**: 1012
- **Stage 2**: 994

- **Plateau blocked, %**: 0

#### Approach Details

- **EB**: 0
- **WB**: 0
- **NB**: 0
- **SB**: 0

- **HCM Control Delay, s**: 0
- **HCM LOS**: A

#### Minor Lane/Major Mvmt

- **Capacity (veh/h)**: 1567
- **HCM Lane V/C Ratio**: A
- **HCM Control Delay (s)**: 0
- **HCM Lane LOS**: A
- **HCM 95th %tile Q(veh)**: 0

---

### Intersection

| Int Delay, s/veh | 0.3 |

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
</table>

#### Traffic Vol, veh/h

| Traffic Vol, veh/h | 0 501 13 4 625 3 12 0 8 0 0 0 |

#### Future Vol, veh/h

| Future Vol, veh/h | 0 501 13 4 625 3 12 0 8 0 0 0 |

#### Conflicting Peds, #/hr

| Conflicting Peds, #/hr | 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Sign Control

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>None</th>
<th>None</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
</table>

#### RT Channelized

| RT Channelized | - | - | None | - | - | None | - | - | None | - |

#### Veh in Median Storage, #

| Veh in Median Storage, # | - | 0 | - | 0 | - | - | 0 | - | - | 0 |

#### Grade, %

| Grade, % | - | 0 | - | 0 | - | - | 0 | - | - | 0 |

#### Peak Hour Factor

| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |

#### Heavy Vehicles, %

| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

#### Mvmt Flow

| Mvmt Flow | 0 516 13 4 644 3 12 0 8 0 0 0 |

#### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
</table>

#### Conflicting Flow All

| Conflicting Flow All | 647 | 0 | 529 | 0 | 0 | 853 | 1178 | 265 | 912 | 1183 | 324 |

#### Critical Hdwy

| Critical Hdwy | 4.1 | - | 4.1 | - | - | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |

#### Critical Hdwy Stg 1

| Critical Hdwy Stg 1 | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |

#### Critical Hdwy Stg 2

| Critical Hdwy Stg 2 | - | - | - | - | - | 6.5 | 5.5 | - | 6.5 | 5.5 | - |

#### Follow-up Hdwy

| Follow-up Hdwy | 2.2 | - | 2.2 | - | - | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 |

#### Pot Cap-1 Maneuver

| Pot Cap-1 Maneuver | 948 | - | 1048 | - | - | 256 | 192 | 739 | 232 | 191 | 678 |

#### Stage 1

| Stage 1 | - | - | - | - | - | 510 | 534 | - | 427 | 466 | - |

#### Stage 2

| Stage 2 | - | - | - | - | - | 663 | 466 | - | 730 | 530 | - |

#### Platoon blocked, %

| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - |

#### Mov Cap-1 Maneuver

| Mov Cap-1 Maneuver | 948 | - | 1048 | - | - | 255 | 191 | 739 | 228 | 190 | 678 |

#### Mov Cap-2 Maneuver

| Mov Cap-2 Maneuver | - | - | - | - | - | 255 | 191 | - | 228 | 190 | - |

#### Stage 1

| Stage 1 | - | - | - | - | - | 510 | 534 | - | 427 | 463 | - |

#### Stage 2

| Stage 2 | - | - | - | - | - | 659 | 463 | - | 722 | 530 | - |

#### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
</table>

| HCM Control Delay, s | 0 | 0.1 | 16.1 | 0 |

| HCM LOS | C | A |

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBLn1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>346</th>
<th>948</th>
<th>-</th>
<th>-</th>
<th>1048</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HCM Lane V/C Ratio</th>
<th>0.06</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>0.004</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HCM Control Delay (s)</th>
<th>16.1</th>
<th>0</th>
<th>-</th>
<th>-</th>
<th>8.4</th>
<th>0</th>
<th>-</th>
<th>0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HCM Lane LOS</th>
<th>C</th>
<th>A</th>
<th>A</th>
<th>A</th>
<th>A</th>
</tr>
</thead>
</table>

| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | - |
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>39</td>
<td>463</td>
<td>11</td>
<td>13</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>57</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>39</td>
<td>463</td>
<td>11</td>
<td>13</td>
<td>571</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>30</td>
<td>3</td>
<td>57</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Traffic Control

<table>
<thead>
<tr>
<th>Traffic Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Peak Hour Factor

<table>
<thead>
<tr>
<th>Peak Hour Factor</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
<th>93</th>
</tr>
</thead>
</table>

#### Heavy Vehicles, %

| Heavy Vehicles, % | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

#### Mvmt Flow

| Mvmt Flow | 42  | 498 | 12  | 14  | 614 | 19  | 12  | 2   | 9   | 32  | 3   | 61  |

#### Major/Minor Conflicting Flow

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>633</th>
<th>0</th>
<th>510</th>
<th>0</th>
<th>0</th>
<th>925</th>
<th>1249</th>
<th>255</th>
<th>986</th>
<th>1246</th>
<th>317</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7.5</td>
<td>6.5</td>
<td>6.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.5</td>
<td>4</td>
<td>3.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

#### Pot Cap-1 Maneuver

<table>
<thead>
<tr>
<th>Pot Cap-1 Maneuver</th>
<th>960</th>
<th>-</th>
<th>1065</th>
<th>-</th>
<th>-</th>
<th>227</th>
<th>175</th>
<th>750</th>
<th>205</th>
<th>175</th>
<th>685</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>467</td>
<td>499</td>
<td>-</td>
<td>428</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>656</td>
<td>463</td>
<td>-</td>
<td>659</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Mov Cap-1 Maneuver

<table>
<thead>
<tr>
<th>Mov Cap-1 Maneuver</th>
<th>960</th>
<th>-</th>
<th>1065</th>
<th>-</th>
<th>-</th>
<th>191</th>
<th>161</th>
<th>750</th>
<th>188</th>
<th>161</th>
<th>685</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>439</td>
<td>469</td>
<td>-</td>
<td>402</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>581</td>
<td>454</td>
<td>-</td>
<td>609</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.9</td>
<td>0.3</td>
<td>20.2</td>
<td>19.5</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>C</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>260</td>
<td>960</td>
<td>-</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
<td>344</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.087</td>
<td>0.044</td>
<td>-</td>
<td>-</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
<td>0.281</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>20.2</td>
<td>8.9</td>
<td>0.2</td>
<td>-</td>
<td>8.4</td>
<td>0.1</td>
<td>-</td>
<td>19.5</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>C</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>1.1</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.7 |

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>20</td>
<td>537</td>
<td>0</td>
<td>0</td>
<td>619</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>26</td>
</tr>
</tbody>
</table>

#### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>632</td>
<td>0</td>
<td>537</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>310</td>
<td>429</td>
<td>577</td>
<td>426</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>4.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>474</td>
<td>505</td>
<td>735</td>
<td>443</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>460</td>
<td>490</td>
<td>430</td>
<td>480</td>
</tr>
<tr>
<td>Approach</td>
<td>EB</td>
<td>WB</td>
<td>NB</td>
<td>SB</td>
</tr>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0</td>
<td>9.9</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Lane/Major Mvmt</td>
<td>NBLn1</td>
<td>EBL</td>
<td>EBT</td>
<td>EBR</td>
</tr>
<tr>
<td>Capacity (veh/h)</td>
<td>735</td>
<td>960</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.001</td>
<td>0.021</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>9.9</td>
<td>8.8</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>271</td>
<td>259</td>
<td>82</td>
<td>781</td>
<td>118</td>
<td>1257</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>271</td>
<td>259</td>
<td>82</td>
<td>781</td>
<td>118</td>
<td>1257</td>
</tr>
</tbody>
</table>

### Turn Type

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

### Switch Phase

| Minimum Initial (s) | 5.0 | 10.0 | 6.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 10.0 | 41.0 | 11.0 | 40.0 | 10.0 | 37.0 | 10.0 | 33.0 |
| Total Split (s) | 23.0 | 42.0 | 26.0 | 45.0 | 19.0 | 55.0 | 17.0 | 53.0 |
| Total Split (%) | 16.4% | 30.0% | 18.6% | 32.1% | 13.6% | 39.3% | 12.1% | 37.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |

### Intersection Summary

- **Cycle Length:** 140 seconds
- **Offset:** 71 (51%), Referenced to phase 4: SBTL and 8: NBTL, Start of Green
- **Natural Cycle:** 100 seconds
- **Control Type:** Actuated-Coordinated
- **Maximum v/c Ratio:** 0.84
- **Intersection Signal Delay:** 26.1 seconds
- **Intersection LOS:** C
- **Intersection Capacity Utilization:** 76.0%
- **ICU Level of Service:** D
- **Analysis Period (min):** 15

### Approach Delay

| Approach Delay | 47.2 | 57.4 | 21.6 | 9.9 |

### Approach LOS

| Approach LOS | D | E | C | A |

---

**Packet Pg. 701**

### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
<td>1257</td>
<td>203</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
<td>1257</td>
<td>203</td>
</tr>
<tr>
<td>Ideal Flow (vphl)</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Fp, ped/bikes</td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flp, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Fp</td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td>Fp</td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1805</td>
<td>3310</td>
<td>1805</td>
<td>3479</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
<td>1805</td>
<td>3533</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1034</td>
<td>3310</td>
<td>382</td>
<td>3479</td>
<td>197</td>
<td>3533</td>
<td>832</td>
<td>5069</td>
<td>1034</td>
<td>3310</td>
<td>382</td>
<td>3479</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>822</td>
<td>121</td>
<td>124</td>
<td>1323</td>
<td>214</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>139</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>166</td>
<td>248</td>
<td>0</td>
<td>285</td>
<td>326</td>
<td>0</td>
<td>86</td>
<td>937</td>
<td>0</td>
<td>124</td>
<td>1526</td>
<td>0</td>
</tr>
<tr>
<td>Confl. Bikes (#/hr)</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>28.6</td>
<td>14.9</td>
<td>42.2</td>
<td>23.5</td>
<td>83.3</td>
<td>75.3</td>
<td>82.3</td>
<td>74.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>28.6</td>
<td>14.9</td>
<td>42.2</td>
<td>23.5</td>
<td>83.3</td>
<td>75.3</td>
<td>82.3</td>
<td>74.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.20</td>
<td>0.11</td>
<td>0.30</td>
<td>0.17</td>
<td>0.59</td>
<td>0.54</td>
<td>0.59</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>286</td>
<td>352</td>
<td>341</td>
<td>583</td>
<td>209</td>
<td>1900</td>
<td>632</td>
<td>2708</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.06</td>
<td>0.08</td>
<td>c0.13</td>
<td>0.09</td>
<td>c0.02</td>
<td>0.27</td>
<td>0.01</td>
<td>c0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>0.06</td>
<td>c0.12</td>
<td>0.22</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.58</td>
<td>0.71</td>
<td>0.84</td>
<td>0.56</td>
<td>0.41</td>
<td>0.49</td>
<td>0.20</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>48.8</td>
<td>60.4</td>
<td>41.6</td>
<td>53.5</td>
<td>15.2</td>
<td>20.3</td>
<td>13.8</td>
<td>21.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.60</td>
<td>0.42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>1.9</td>
<td>5.2</td>
<td>16.1</td>
<td>0.7</td>
<td>0.5</td>
<td>0.9</td>
<td>0.1</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>50.7</td>
<td>65.6</td>
<td>57.7</td>
<td>54.2</td>
<td>15.7</td>
<td>21.3</td>
<td>8.4</td>
<td>9.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>C</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>61.2</td>
<td>55.8</td>
<td>20.8</td>
<td>9.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>E</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 27.5
- **HCM 2000 Volume to Capacity ratio**: 0.66
- **Actuated Cycle Length (s)**: 140.0
- **Intersection Capacity Utilization**: 76.0%
- **Analysis Period (min)**: 15
- **Critical Lane Group**:

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour
Kittelson & Associates, Inc.
### HCM 2010 Signalized Intersection Summary

#### 124: Broadway Ave & Beacon St

**08/08/2018**

- **2018 Existing Conditions**
- **05/14/2018 Weekday PM Peak Hour Synchro 10 Report**

**Lane Configurations**

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>781</td>
<td>82</td>
<td>781</td>
<td>115</td>
<td>118</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>822</td>
<td>121</td>
<td>124</td>
<td>1323</td>
<td>214</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>328</td>
<td>257</td>
<td>215</td>
<td>340</td>
<td>543</td>
<td>142</td>
<td>298</td>
<td>1900</td>
<td>249</td>
<td>664</td>
<td>2413</td>
<td>390</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.09</td>
<td>0.14</td>
<td>0.14</td>
<td>0.15</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
<td>0.54</td>
<td>0.54</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1810</td>
<td>1846</td>
<td>1541</td>
<td>1810</td>
<td>2818</td>
<td>738</td>
<td>1810</td>
<td>3150</td>
<td>464</td>
<td>3510</td>
<td>4492</td>
<td>726</td>
</tr>
<tr>
<td>Grp Volume(v), veh/h</td>
<td>166</td>
<td>200</td>
<td>187</td>
<td>285</td>
<td>173</td>
<td>173</td>
<td>86</td>
<td>471</td>
<td>472</td>
<td>124</td>
<td>1018</td>
<td>519</td>
</tr>
<tr>
<td>Grp Sat Flow(s),veh/h/ln</td>
<td>1810</td>
<td>1805</td>
<td>1582</td>
<td>1810</td>
<td>1805</td>
<td>1751</td>
<td>1810</td>
<td>1805</td>
<td>1809</td>
<td>1755</td>
<td>1729</td>
<td>1760</td>
</tr>
<tr>
<td>Q Serve(g_s), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>12.0</td>
<td>12.4</td>
<td>3.0</td>
<td>22.9</td>
<td>22.9</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycle Q Clear(g_c), s</td>
<td>10.9</td>
<td>15.0</td>
<td>16.1</td>
<td>18.3</td>
<td>12.0</td>
<td>12.4</td>
<td>3.0</td>
<td>22.9</td>
<td>22.9</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Prop In Lane</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.42</td>
<td>1.00</td>
<td>0.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Grp Cap(c), veh/h</td>
<td>328</td>
<td>252</td>
<td>221</td>
<td>340</td>
<td>348</td>
<td>338</td>
<td>298</td>
<td>968</td>
<td>971</td>
<td>664</td>
<td>1858</td>
<td>946</td>
</tr>
<tr>
<td>V/C Ratio(X)</td>
<td>0.51</td>
<td>0.80</td>
<td>0.85</td>
<td>0.84</td>
<td>0.50</td>
<td>0.51</td>
<td>0.29</td>
<td>0.49</td>
<td>0.49</td>
<td>0.19</td>
<td>0.55</td>
<td>0.55</td>
</tr>
<tr>
<td>Avail Cap(c_a), veh/h</td>
<td>394</td>
<td>477</td>
<td>418</td>
<td>347</td>
<td>516</td>
<td>500</td>
<td>416</td>
<td>968</td>
<td>971</td>
<td>841</td>
<td>1858</td>
<td>946</td>
</tr>
<tr>
<td>HCM Platoon Ratio</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Upstream Filter(I)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Uniform Delay (d), s/veh</td>
<td>45.6</td>
<td>58.3</td>
<td>58.8</td>
<td>42.3</td>
<td>50.4</td>
<td>50.6</td>
<td>13.5</td>
<td>20.3</td>
<td>20.3</td>
<td>14.8</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Incr Delay (d2), s/veh</td>
<td>0.4</td>
<td>2.2</td>
<td>3.4</td>
<td>16.2</td>
<td>0.4</td>
<td>0.5</td>
<td>0.2</td>
<td>1.7</td>
<td>1.7</td>
<td>0.1</td>
<td>1.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Initial Q Delay(d3),s/veh</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%ile BackOfQ(50%),veh/ln</td>
<td>5.4</td>
<td>7.7</td>
<td>7.3</td>
<td>10.6</td>
<td>6.0</td>
<td>6.1</td>
<td>1.5</td>
<td>11.9</td>
<td>11.9</td>
<td>1.1</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>LnGrp Delay(d),s/veh</td>
<td>46.0</td>
<td>60.5</td>
<td>62.2</td>
<td>58.5</td>
<td>50.8</td>
<td>51.1</td>
<td>13.7</td>
<td>22.1</td>
<td>22.1</td>
<td>15.0</td>
<td>1.2</td>
<td>2.3</td>
</tr>
<tr>
<td>LnGrp LOS</td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Vol, veh/h</td>
<td>553</td>
<td>631</td>
<td>631</td>
<td>1029</td>
<td>1661</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay, s/veh</td>
<td>56.7</td>
<td>54.4</td>
<td>54.4</td>
<td>21.4</td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
<td>D</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Intersection Summary**

- **HCM 2010 Ctrl Delay**: 23.7
- **HCM 2010 LOS**: C

---

2018 Existing Conditions 05/14/2018 Weekday PM Peak Hour

Kittelson & Associates, Inc.

Synchro 10 Report Page 30
ATTACHEMENT J – 2023 TOTAL NO ADJACENT PARKING TRAFFIC OPERATIONS
### Timings

#### 101: Lincoln Ave & University Dr

**Weekday PM Peak Hour**

2023 Total Traffic - No Adjacent Parking

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Switch Phase

| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s)   | 33.0| 33.0| 31.0 | 10.0| 10.0|
| Total Split (s)     | 33.0| 33.0| 31.0 | 11.0| 42.0|
| Total Split (%)     | 44.0%| 44.0%| 41.3%| 14.7%| 56.0%|
| Yellow Time (s)     | 4.0 | 4.0 | 4.0  | 4.0 | 4.0 |
| All-Red Time (s)    | 1.0 | 1.0 | 1.0  | 1.0 | 1.0 |
| Lost Time Adjust (s)| 0.0 | 0.0 | 0.0  | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0  | 5.0 | 5.0 |

#### Lead/Lag

<table>
<thead>
<tr>
<th>Lag</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Recall Mode

| None | None | None | None | None | None |

#### Actuated g/C Ratio

| 0.19 | 0.19 | 0.36 | 0.55 | 0.55 |

#### v/c Ratio

| 0.26 | 0.63 | 0.66 | 0.28 | 0.24 |

#### Control Delay

| 19.0 | 10.6 | 17.9 | 6.1  | 5.5 |

#### Queue Delay

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

#### Total Delay

| 19.0 | 10.6 | 17.9 | 6.1  | 5.5 |

#### LOS

| B  | B  | B  | A  | A  |

#### Approach LOS

| B  | B  | A  |

### Intersection Summary

- **Cycle Length:** 75
- **Actuated Cycle Length:** 41.9
- **Natural Cycle:** 75
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.66
- **Intersection Signal Delay:** 12.2
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 43.5%
- **ICU Level of Service:** A
- **Analysis Period (min):** 15

### Splits and Phases

[Diagram of signal phases]

---

H:\2222452 - Boise State University SE Campus Study\synchro\22452_total_no_bballparking.syn
Kittelson & Associates, Inc.

Synchro 10 Report
Page 1
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td>Ideal Flow (vph)</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Total Lost time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lane Util. Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flpb, ped/bikes</td>
<td>1.00</td>
<td>0.47</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flb, ped/bikes</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt</td>
<td>1.00</td>
<td>0.85</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Flt Protected</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (prot)</td>
<td>1710</td>
<td>722</td>
<td>1692</td>
<td>1710</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Flt Permitted</td>
<td>0.95</td>
<td>1.00</td>
<td>1.00</td>
<td>0.32</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Satd. Flow (perm)</td>
<td>1710</td>
<td>722</td>
<td>1692</td>
<td>568</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Peak-hour factor, PHF</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Adj. Flow (vph)</td>
<td>83</td>
<td>271</td>
<td>327</td>
<td>79</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>RTOR Reduction (vph)</td>
<td>0</td>
<td>221</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lane Group Flow (vph)</td>
<td>83</td>
<td>50</td>
<td>394</td>
<td>0</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td>Contl. Bikes (#/hr)</td>
<td>253</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Vehicles (%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Turn Type</td>
<td>Prot</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Protected Phases</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuated Green, G (s)</td>
<td>7.8</td>
<td>7.8</td>
<td>15.0</td>
<td>24.5</td>
<td>24.5</td>
<td></td>
</tr>
<tr>
<td>Effective Green, g (s)</td>
<td>7.8</td>
<td>7.8</td>
<td>15.0</td>
<td>24.5</td>
<td>24.5</td>
<td></td>
</tr>
<tr>
<td>Actuated g/C Ratio</td>
<td>0.18</td>
<td>0.18</td>
<td>0.35</td>
<td>0.58</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>Clearance Time (s)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Vehicle Extension (s)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Lane Grp Cap (vph)</td>
<td>315</td>
<td>133</td>
<td>600</td>
<td>450</td>
<td>1042</td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Prot</td>
<td>0.05</td>
<td>c0.23</td>
<td>0.03</td>
<td>c0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/s Ratio Perm</td>
<td>c0.07</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v/c Ratio</td>
<td>0.26</td>
<td>0.38</td>
<td>0.66</td>
<td>0.30</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>Uniform Delay, d1</td>
<td>14.8</td>
<td>15.1</td>
<td>11.5</td>
<td>4.9</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Progression Factor</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Incremental Delay, d2</td>
<td>0.2</td>
<td>0.7</td>
<td>2.0</td>
<td>0.1</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Delay (s)</td>
<td>15.0</td>
<td>15.8</td>
<td>13.5</td>
<td>5.1</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>Level of Service</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>15.6</td>
<td>13.5</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 11.2
- **HCM 2000 Volume to Capacity ratio**: 0.53
- **Actuated Cycle Length (s)**: 42.3
- **Sum of lost time (s)**: 15.0
- **Intersection Capacity Utilization**: 43.5%
- **Analysis Period (min)**: 15

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_total_no_bballparking.syn

Kittelson & Associates, Inc.

Synchro 10 Report

Packet Pg. 706
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traffic Volume (veh/h)</strong></td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Future Volume (veh/h)</strong></td>
<td>71</td>
<td>233</td>
<td>281</td>
<td>68</td>
<td>115</td>
<td>209</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Initial Q (Qb), veh</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ped-Bike Adj(A_pbT)</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.80</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parking Bus, Adj</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Adj Sat Flow, veh/h/ln</strong></td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td><strong>Adj Flow Rate, veh/h</strong></td>
<td>83</td>
<td>271</td>
<td>327</td>
<td>79</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>Adj No. of Lanes</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Peak Hour Factor</strong></td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Percent Heavy Veh, %</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cap, veh/h</strong></td>
<td>386</td>
<td>345</td>
<td>412</td>
<td>99</td>
<td>426</td>
<td>952</td>
</tr>
<tr>
<td><strong>Arrive On Green</strong></td>
<td>0.23</td>
<td>0.23</td>
<td>0.31</td>
<td>0.31</td>
<td>0.10</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Sat Flow, veh/h</strong></td>
<td>1714</td>
<td>1530</td>
<td>1328</td>
<td>321</td>
<td>1714</td>
<td>1800</td>
</tr>
<tr>
<td><strong>Grp Volume(v), veh/h</strong></td>
<td>83</td>
<td>271</td>
<td>0</td>
<td>406</td>
<td>134</td>
<td>243</td>
</tr>
<tr>
<td><strong>Grp Sat Flow(s),veh/h/ln</strong></td>
<td>1714</td>
<td>1530</td>
<td>0</td>
<td>1649</td>
<td>1714</td>
<td>1800</td>
</tr>
<tr>
<td><strong>Q Serve(g_s), s</strong></td>
<td>1.6</td>
<td>6.8</td>
<td>0.0</td>
<td>9.2</td>
<td>1.9</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Cycle Q Clear(g_c), s</strong></td>
<td>1.6</td>
<td>6.8</td>
<td>0.0</td>
<td>9.2</td>
<td>1.9</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Prop In Lane</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.19</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap(c), veh/h</strong></td>
<td>386</td>
<td>345</td>
<td>0</td>
<td>511</td>
<td>426</td>
<td>952</td>
</tr>
<tr>
<td><strong>V/C Ratio(X)</strong></td>
<td>0.21</td>
<td>0.79</td>
<td>0.00</td>
<td>0.79</td>
<td>0.31</td>
<td>0.26</td>
</tr>
<tr>
<td><strong>Avail Cap(c_a), veh/h</strong></td>
<td>1180</td>
<td>1053</td>
<td>0</td>
<td>1054</td>
<td>514</td>
<td>1637</td>
</tr>
<tr>
<td><strong>HCM Platoon Ratio</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Upstream Filter(I)</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Uniform Delay (d), s/veh</strong></td>
<td>12.8</td>
<td>14.8</td>
<td>0.0</td>
<td>12.8</td>
<td>8.3</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Incr Delay (d2), s/veh</strong></td>
<td>0.1</td>
<td>1.5</td>
<td>0.0</td>
<td>1.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Initial Q Delay(d3), s/veh</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>%ile BackOfQ(50%),veh/ln</strong></td>
<td>0.8</td>
<td>3.0</td>
<td>0.0</td>
<td>4.2</td>
<td>0.9</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>LnGrp Delay(d),s/veh</strong></td>
<td>12.9</td>
<td>16.4</td>
<td>0.0</td>
<td>13.9</td>
<td>8.5</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>LnGrp LOS</strong></td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td><strong>Approach Vol, veh/h</strong></td>
<td>354</td>
<td>406</td>
<td></td>
<td>377</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach Delay, s/veh</strong></td>
<td>15.6</td>
<td>13.9</td>
<td>6.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>B</td>
<td>B</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Timer</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td><strong>Assigned Phs</strong></td>
<td>2</td>
<td>4</td>
<td></td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Phs Duration (G+Y+Rc), s</strong></td>
<td>14.2</td>
<td>26.5</td>
<td>8.9</td>
<td>17.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Change Period (Y+Rc), s</strong></td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Max Green Setting (Gmax), s</strong></td>
<td>28.0</td>
<td>37.0</td>
<td></td>
<td>6.0</td>
<td>26.0</td>
<td></td>
</tr>
<tr>
<td><strong>Max Q Clear Time (g_c+I1), s</strong></td>
<td>8.8</td>
<td>5.0</td>
<td></td>
<td>3.9</td>
<td>11.2</td>
<td></td>
</tr>
<tr>
<td><strong>Green Ext Time (p_c), s</strong></td>
<td>0.6</td>
<td>0.9</td>
<td></td>
<td>0.0</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2010 Ctrl Delay</th>
<th>11.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2010 LOS</td>
<td>B</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>187</td>
<td>0</td>
<td>0</td>
<td>331</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>187</td>
<td>0</td>
<td>0</td>
<td>331</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>0</td>
<td>0</td>
<td>217</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>217</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>385</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1365</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>824</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>692</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1365</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>824</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>692</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBLn1</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Intersection</td>
<td>Int Delay, s/veh</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement</td>
<td>EBL</td>
<td>EBT</td>
<td>EBR</td>
<td>WBL</td>
<td>WBT</td>
</tr>
<tr>
<td>Lane Configurations</td>
<td>Traffic Vol, veh/h</td>
<td>2</td>
<td>157</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Future Vol, veh/h</td>
<td>2</td>
<td>157</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Storage Length</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
<td>74</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>3</td>
<td>212</td>
<td>0</td>
<td>0</td>
<td>372</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>372</td>
<td>0</td>
<td>212</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdw 2.2</td>
<td>-</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1198</td>
<td>-</td>
<td>1370</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1198</td>
<td>-</td>
<td>1370</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>13.6</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1198</td>
<td>-</td>
<td>-</td>
<td>1370</td>
<td>-</td>
<td>-</td>
<td>421</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.006</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>13.6</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh** 3.4

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>17</td>
<td>125</td>
<td>36</td>
<td>34</td>
<td>259</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>35</td>
<td>45</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>17</td>
<td>125</td>
<td>36</td>
<td>34</td>
<td>259</td>
<td>39</td>
<td>13</td>
<td>2</td>
<td>35</td>
<td>45</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sign Control</strong></td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>20</td>
<td>145</td>
<td>42</td>
<td>40</td>
<td>301</td>
<td>45</td>
<td>15</td>
<td>2</td>
<td>41</td>
<td>52</td>
<td>9</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major/Minor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting Flow All</td>
<td>346</td>
<td>0</td>
<td>187</td>
<td>0</td>
<td>0</td>
<td>629</td>
<td>632</td>
<td>166</td>
<td>632</td>
<td>324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>187</td>
<td>0</td>
<td>206</td>
<td>206</td>
<td>-</td>
<td>404</td>
<td>404</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>629</td>
<td>423</td>
<td>426</td>
<td>-</td>
<td>228</td>
<td>227</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td>6.1</td>
<td>5.5</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>3.5</td>
<td>3.3</td>
<td>3.5</td>
<td>3.5</td>
<td>3.3</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>1224</td>
<td>-</td>
<td>1399</td>
<td>-</td>
<td>398</td>
<td>400</td>
<td>884</td>
<td>396</td>
<td>401</td>
<td>722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>801</td>
<td>735</td>
<td>-</td>
<td>-</td>
<td>627</td>
<td>603</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>613</td>
<td>589</td>
<td>-</td>
<td>-</td>
<td>779</td>
<td>720</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>1224</td>
<td>-</td>
<td>1399</td>
<td>-</td>
<td>362</td>
<td>382</td>
<td>884</td>
<td>363</td>
<td>383</td>
<td>722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>1224</td>
<td>-</td>
<td>1399</td>
<td>-</td>
<td>362</td>
<td>382</td>
<td>884</td>
<td>363</td>
<td>383</td>
<td>722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>788</td>
<td>723</td>
<td>-</td>
<td>-</td>
<td>617</td>
<td>586</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>562</td>
<td>572</td>
<td>-</td>
<td>-</td>
<td>729</td>
<td>708</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.8</td>
<td>0.8</td>
<td>11.4</td>
<td>15.4</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>619</td>
<td>1224</td>
<td>-</td>
<td>-</td>
<td>1399</td>
<td>-</td>
<td>-</td>
<td>435</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.094</td>
<td>0.016</td>
<td>-</td>
<td>-</td>
<td>0.028</td>
<td>-</td>
<td>-</td>
<td>0.209</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>11.4</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>7.6</td>
<td>-</td>
<td>-</td>
<td>15.4</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>B</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>C</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
</tr>
</tbody>
</table>
### Intersection

<table>
<thead>
<tr>
<th>Int Delay, s/veh</th>
<th>1</th>
</tr>
</thead>
</table>

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>491</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>491</td>
<td>14</td>
<td>9</td>
<td>286</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>546</td>
<td>16</td>
<td>10</td>
<td>318</td>
<td>17</td>
<td>47</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>0</th>
<th>0</th>
<th>562</th>
<th>0</th>
<th>892</th>
<th>554</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>554</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>338</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>-</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1019</td>
<td>-</td>
<td>315</td>
<td>536</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>580</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>727</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>-</td>
<td>-</td>
<td>1019</td>
<td>-</td>
<td>312</td>
<td>536</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>430</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>574</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>727</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.3</td>
<td>13.2</td>
</tr>
<tr>
<td>HCM Control Delay, s</td>
<td>0</td>
<td>0.3</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

| Capacity (veh/h) | 503 | - | - | 1019 | - |
| HCM Lane V/C Ratio | 0.126 | - | - | 0.01 | - |
| HCM Control Delay (s) | 13.2 | - | - | 8.6 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.4 | - | - | 0 | - |
### Timings

#### 108: Broadway Ave & University Dr

**Weekday PM Peak Hour**

2023 Total Traffic - No Adjacent Parking

---

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>134</td>
<td>904</td>
<td>15</td>
<td>1442</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>134</td>
<td>904</td>
<td>15</td>
<td>1442</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>Perm</td>
<td>Perm</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Switch Phase

| Minimum Initial (s) | 5.0 | 8.0 | 8.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.0 | 33.0 | 33.0 | 34.0 | 34.0 | 11.0 | 20.0 | 11.0 | 27.0 |
| Total Split (s) | 15.0 | 50.0 | 50.0 | 35.0 | 35.0 | 25.0 | 75.0 | 15.0 | 65.0 |

#### Total Split (%)

| 10.7% | 35.7% | 35.7% | 25.0% | 25.0% | 17.9% | 53.6% | 10.7% | 46.4% |

| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 2.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 5.0 |

#### Lead/Lag

<table>
<thead>
<tr>
<th>Lead</th>
<th>Lag</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
<th>Lead</th>
<th>Lag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Recall Mode

| Act Effct Green (s) | 32.6 | 32.6 | 32.6 | 10.1 | 95.4 | 91.9 | 81.9 | 81.9 | 77.7 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.23 | 0.07 | 0.68 | 0.66 | 0.58 | 0.58 | 0.56 |
| v/c Ratio | 0.80 | 0.01 | 0.54 | 0.32 | 0.58 | 0.43 | 0.05 | 0.62 |
| Control Delay | 66.5 | 40.4 | 16.7 | 52.4 | 39.9 | 9.7 | 9.4 | 23.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.5 | 40.4 | 16.7 | 52.4 | 39.9 | 9.7 | 9.4 | 23.5 |
| LOS | E | D | B | D | A | A | C |
| Approach Delay | 41.9 | 52.4 | 13.5 | 23.4 |
| Approach LOS | D | D | B | C |

#### Intersection Summary

| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 64 (46%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |
| Maximum v/c Ratio: 0.80 |
| Intersection Signal Delay: 23.6 |

**Intersection LOS:** C

**Intersection Capacity Utilization 77.7%**

**ICU Level of Service D**

**Analysis Period (min)** 15

---

**Splits and Phases:** 108: Broadway Ave & University Dr

---

**Attachment:** PZ_Project Report_January 6, 2020_CAR19-00021 & CPA19-00001 (CPA19-00001 / Boise State University)
## Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
</tbody>
</table>

## Traffic Volume Summary

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Volume (vph)</th>
<th>Ideal Flow (vphl)</th>
<th>Total Lost time (s)</th>
<th>Lane Util. Factor</th>
<th>Flt Protected</th>
<th>Satd. Flow (prot)</th>
<th>Flt Permitted</th>
<th>Satd. Flow (perm)</th>
<th>Peak-hour factor, PHF</th>
<th>Adj. Flow (vph)</th>
<th>RTOR Reduction (vph)</th>
<th>Lane Group Flow (vph)</th>
<th>Heavy Vehicles (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1800 1800 1800 1800</td>
<td>1800 1800 1800 1800</td>
<td>6.0 6.0 6.0 6.0</td>
<td>1.00 1.00 0.85 0.95</td>
<td>0.95 1.00</td>
<td>1710 1800 1530</td>
<td>0.67 1.00 0.84</td>
<td>1710 1800 1530</td>
<td>0.96 0.96 0.96 0.96</td>
<td>281 5 273</td>
<td>0 0 152</td>
<td>281 5 121</td>
<td>0</td>
</tr>
</tbody>
</table>

## Lane Utilization Factor

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>Traffic Volume (vph)</th>
<th>Future Volume (vph)</th>
<th>Ideal Flow (vphl)</th>
<th>Total Lost time (s)</th>
<th>Lane Util. Factor</th>
<th>Flt Protected</th>
<th>Satd. Flow (prot)</th>
<th>Flt Permitted</th>
<th>Satd. Flow (perm)</th>
<th>Peak-hour factor, PHF</th>
<th>Adj. Flow (vph)</th>
<th>RTOR Reduction (vph)</th>
<th>Lane Group Flow (vph)</th>
<th>Heavy Vehicles (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1800 1800 1800 1800</td>
<td>1800 1800 1800 1800</td>
<td>6.0 6.0 6.0 6.0</td>
<td>1.00 1.00 0.85 0.95</td>
<td>0.95 1.00</td>
<td>1710 1800 1530</td>
<td>0.67 1.00 0.84</td>
<td>1710 1800 1530</td>
<td>0.96 0.96 0.96 0.96</td>
<td>281 5 273</td>
<td>0 0 152</td>
<td>281 5 121</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

## Intersection Summary

<table>
<thead>
<tr>
<th>HCM 2000 Control Delay</th>
<th>25.0</th>
<th>HCM 2000 Level of Service</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 2000 Volume to Capacity ratio</td>
<td>0.69</td>
<td>Sum of lost time (s)</td>
<td>23.0</td>
</tr>
<tr>
<td>Actuated Cycle Length (s)</td>
<td>140.0</td>
<td>ICU Level of Service</td>
<td>D</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td>Critical Lane Group</td>
<td></td>
</tr>
</tbody>
</table>
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>270</td>
<td>5</td>
<td>262</td>
<td>18</td>
<td>5</td>
<td>12</td>
<td>134</td>
<td>904</td>
<td>20</td>
<td>15</td>
<td>1442</td>
<td>162</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td></td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>281</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>305</td>
<td>347</td>
<td>295</td>
<td>90</td>
<td>28</td>
<td>39</td>
<td>266</td>
<td>2288</td>
<td>51</td>
<td>460</td>
<td>2875</td>
<td>323</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.19</td>
<td>0.19</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>1800</td>
<td>1530</td>
<td>587</td>
<td>321</td>
<td>454</td>
<td>454</td>
<td>1714</td>
<td>3420</td>
<td>76</td>
<td>1714</td>
<td>4483</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>281</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>305</td>
<td>347</td>
<td>295</td>
<td>90</td>
<td>28</td>
<td>39</td>
<td>266</td>
<td>2288</td>
<td>51</td>
<td>460</td>
<td>2875</td>
<td>323</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.19</td>
<td>0.19</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>1.00</td>
<td>1.00</td>
<td>0.02</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>1800</td>
<td>1530</td>
<td>587</td>
<td>321</td>
<td>454</td>
<td>454</td>
<td>1714</td>
<td>3420</td>
<td>76</td>
<td>1714</td>
<td>4483</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>281</td>
<td>5</td>
<td>273</td>
<td>19</td>
<td>5</td>
<td>12</td>
<td>140</td>
<td>942</td>
<td>21</td>
<td>16</td>
<td>1502</td>
<td>169</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>305</td>
<td>347</td>
<td>295</td>
<td>90</td>
<td>28</td>
<td>39</td>
<td>266</td>
<td>2288</td>
<td>51</td>
<td>460</td>
<td>2875</td>
<td>323</td>
</tr>
</tbody>
</table>

### Intersection Summary

| HCM 2010 Ctrl Delay | 21.7 |
| HCM 2010 LOS | C |
### Intersection

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

| Int Delay, s/veh | 0 |

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Follow-up Hdwy</th>
<th>2.2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pot Cap-1 Maneuver</th>
<th>1635</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
</tr>
</tbody>
</table>

| Platoon blocked, % | -    |

<table>
<thead>
<tr>
<th>Mov Cap-1 Maneuver</th>
<th>1635</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mov Cap-2 Maneuver</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCM Control Delay, s</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM LOS</td>
<td>A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>-</td>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>1635</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>A</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Intersection

**Int Delay, s/veh**: 1.7

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lane Configurations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1594</td>
<td>29</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>34</td>
<td>16</td>
<td>995</td>
<td>26</td>
<td>39</td>
<td>1594</td>
<td>29</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Storage Length</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grade, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>36</td>
<td>17</td>
<td>1047</td>
<td>27</td>
<td>41</td>
<td>1678</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Minor2</th>
<th>Minor1</th>
<th>Major1</th>
<th>Major2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>2334</td>
<td>2884</td>
<td>855</td>
<td>1850</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1776</td>
<td>1776</td>
<td>1095</td>
<td>1095</td>
</tr>
<tr>
<td>Stage 2</td>
<td>558</td>
<td>1108</td>
<td>755</td>
<td>1791</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>6.95</td>
<td>6.5</td>
<td>7.1</td>
<td>6.95</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>7.3</td>
<td>5.5</td>
<td>-</td>
<td>6.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>6.5</td>
<td>5.5</td>
<td>-</td>
<td>6.7</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>3.65</td>
<td>4</td>
<td>3.9</td>
<td>3.65</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>28</td>
<td>16</td>
<td>262</td>
<td>61</td>
</tr>
<tr>
<td>Stage 1</td>
<td>78</td>
<td>137</td>
<td>226</td>
<td>292</td>
</tr>
<tr>
<td>Stage 2</td>
<td>472</td>
<td>288</td>
<td>346</td>
<td>134</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>23</td>
<td>14</td>
<td>262</td>
<td>44</td>
</tr>
<tr>
<td>Stage 1</td>
<td>52</td>
<td>129</td>
<td>-</td>
<td>205</td>
</tr>
<tr>
<td>Stage 2</td>
<td>396</td>
<td>261</td>
<td>309</td>
<td>126</td>
</tr>
</tbody>
</table>

### Major Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Capacity (veh/h)</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM LOS</td>
<td>F</td>
<td>D</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Lane Delay (s)

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>184.3</td>
<td>33.9</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>F</td>
<td>D</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### HCM Lane Q(veh)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>EBLn1</th>
<th>WBLn1</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>179</td>
<td>-</td>
<td>-</td>
<td>32</td>
<td>168</td>
<td>657</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.094</td>
<td>-</td>
<td>-</td>
<td>0.428</td>
<td>0.263</td>
<td>0.062</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>27.2</td>
<td>-</td>
<td>-</td>
<td>184.3</td>
<td>33.9</td>
<td>10.8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>D</td>
<td>-</td>
<td>-</td>
<td>F</td>
<td>D</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>1.4</td>
<td>1</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Timings

#### 117: Lincoln Ave & Beacon St

**Weekday PM Peak Hour**

---

#### 2023 Total Traffic - No Adjacent Parking

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Volume (vph)</td>
<td>88</td>
<td>330</td>
<td>12</td>
<td>512</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>88</td>
<td>330</td>
<td>12</td>
<td>512</td>
<td>1</td>
<td>32</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Switch Phase

| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 |
| Minimum Split (s)   | 9.5 | 28.0 | 9.5 | 25.0 | 9.5 | 31.0 | 9.5 | 31.0 |
| Total Split (s)      | 11.0| 28.0 | 9.5 | 26.5 | 9.5 | 32.9 | 9.6 | 33.0 |
| Total Split (%)      | 13.8%| 35.0%| 11.9%| 33.1%| 11.9%| 41.1%| 12.0%| 41.3%|
| Yellow Time (s)      | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  | 4.0 | 4.0  |
| All-Red Time (s)     | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  | 1.0 | 1.0  |
| Lost Time Adjust (s) | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Lost Time (s)  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  | 5.0 | 5.0  |

#### Lead/Lag

| Lead/Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode        | None| None| None| None| None| Min| None| Min |
| Act Effct Green (s)| 24.2| 23.2| 20.2| 16.9| 14.3| 11.1| 17.2| 16.4|
| Actuated g/C Ratio | 0.45| 0.43| 0.38| 0.32| 0.27| 0.21| 0.32| 0.31|
| v/c Ratio          | 0.28| 0.24| 0.03| 0.63| 0.00| 0.10| 0.32| 0.35|
| Control Delay      | 10.3| 10.8| 8.2 | 18.8| 14.0| 21.0| 17.9| 7.9 |
| Queue Delay        | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  |
| Total Delay        | 10.3| 10.8| 8.2 | 18.8| 14.0| 21.0| 17.9| 7.9 |
| LOS                | B   | B   | A   | B   | C   | B   | A   |     |
| Approach Delay     | 10.7| 18.6| 20.8| 11.7|     |     |     |     |
| Approach LOS       | B   | B   | C   |     |     |     |     |     |

#### Intersection Summary

- **Cycle Length:** 80
- **Actuated Cycle Length:** 53.6
- **Natural Cycle:** 80
- **Control Type:** Actuated-Uncoordinated
- **Maximum v/c Ratio:** 0.63
- **Intersection Signal Delay:** 14.8
- **Intersection LOS:** B
- **Intersection Capacity Utilization:** 50.6%
- **ICU Level of Service:** A
- **Analysis Period (min):** 15

---

**Splits and Phases:**

<table>
<thead>
<tr>
<th>Split</th>
<th>117: Lincoln Ave &amp; Beacon St</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 s</td>
<td></td>
</tr>
<tr>
<td>26.5 s</td>
<td></td>
</tr>
<tr>
<td>9.5 s</td>
<td></td>
</tr>
<tr>
<td>33 s</td>
<td></td>
</tr>
<tr>
<td>9.5 s</td>
<td></td>
</tr>
<tr>
<td>28 s</td>
<td></td>
</tr>
<tr>
<td>9.6 s</td>
<td></td>
</tr>
<tr>
<td>32.9 s</td>
<td></td>
</tr>
</tbody>
</table>
### Movement EBL  EBT  EBR  WBL  WBT  WBR  NBL  NBT  NBR  SBL  SBT  SBR
Lane Configurations
Traffic Volume (vph)  88  330  3  12  512  122  1  32  3  124  38  162
Future Volume (vph)  88  330  3  12  512  122  1  32  3  124  38  162
Ideal Flow (vph) 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
Total Lost time (s) 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Lane Util. Factor 1.00 0.95 1.00 0.95 1.00 1.00 1.00 1.00
Frt 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Ft Protected 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00
Satd. Flow (prot) 1710 3416 1710 3321 1710 1778 1710 1581
Ft Permitted 0.25 1.00 0.54 1.00 0.63 1.00 0.62 1.00
Satd. Flow (perm) 448 3416 972 3321 1126 1778 1118 1581
Peak-hour factor, PHF 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
Adj. Flow (vph) 94 351 3 13 545 130 1 34 3 132 40 172
RTOR Reduction (vph) 0 1 0 0 24 0 0 2 0 0 126 0
Lane Group Flow (vph) 94 353 0 13 651 0 1 35 0 132 86 0
Heavy Vehicles (%) 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

<table>
<thead>
<tr>
<th>Turn Type</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
<th>pm+pt</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected Phases</td>
<td>1 6</td>
<td>5 2</td>
<td>3 8</td>
<td>7 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Actuated Green, G (s) | 27.4 | 23.2 | 20.6 | 19.8 | 14.7 | 13.9 | 19.7 | 16.4 |
| Effective Green, g (s) | 27.4 | 23.2 | 20.6 | 19.8 | 14.7 | 13.9 | 19.7 | 16.4 |
| Actuated g/C Ratio | 0.45 | 0.38 | 0.34 | 0.32 | 0.24 | 0.23 | 0.32 | 0.27 |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Vehicle Extension (s) | 2.0 | 3.0 | 2.0 | 3.0 | 2.0 | 2.0 | 2.0 | 2.0 |

| Lane Grp Cap (vph) | 287 | 1294 | 336 | 1074 | 278 | 403 | 391 | 423 |
| v/s Ratio Prot | 0.02 | 0.10 | 0.00 | 0.20 | 0.00 | 0.02 | 0.02 | 0.05 |
| v/s Ratio Perm | 0.12 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| v/c Ratio | 0.33 | 0.27 | 0.04 | 0.61 | 0.00 | 0.09 | 0.34 | 0.20 |
| Uniform Delay, d1 | 10.6 | 13.2 | 13.6 | 17.4 | 17.7 | 18.6 | 15.4 | 17.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.2 | 0.1 | 0.0 | 1.0 | 0.0 | 0.0 | 0.2 | 0.1 |
| Delay (s) | 10.8 | 13.3 | 13.6 | 18.4 | 17.7 | 18.7 | 15.6 | 17.4 |
| Level of Service | B | B | B | B | B | B | B | B |
| Approach Delay (s) | 12.8 | 18.3 | 18.7 | 16.7 | 18.7 | 16.7 | 18.7 | 16.7 |

**Intersection Summary**

- HCM 2000 Control Delay: 16.3
- HCM 2000 Level of Service: B
- HCM 2000 Volume to Capacity ratio: 0.49
- Actuated Cycle Length (s): 61.2
- Sum of lost time (s): 20.0
- Intersection Capacity Utilization: 50.6%
- ICU Level of Service: A
- Analysis Period (min): 15

<br>

| c | Critical Lane Group |

---

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>88</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>162</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>88</td>
<td>330</td>
<td>3</td>
<td>12</td>
<td>512</td>
<td>122</td>
<td>1</td>
<td>32</td>
<td>3</td>
<td>124</td>
<td>38</td>
<td>162</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT), veh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>94</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>172</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>314</td>
<td>1120</td>
<td>10</td>
<td>419</td>
<td>763</td>
<td>181</td>
<td>336</td>
<td>316</td>
<td>28</td>
<td>527</td>
<td>82</td>
<td>352</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.32</td>
<td>0.32</td>
<td>0.01</td>
<td>0.28</td>
<td>0.28</td>
<td>0.00</td>
<td>0.19</td>
<td>0.19</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>3475</td>
<td>30</td>
<td>1714</td>
<td>2743</td>
<td>652</td>
<td>1714</td>
<td>1631</td>
<td>144</td>
<td>1714</td>
<td>297</td>
<td>1277</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>94</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>172</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>314</td>
<td>1120</td>
<td>10</td>
<td>419</td>
<td>763</td>
<td>181</td>
<td>336</td>
<td>316</td>
<td>28</td>
<td>527</td>
<td>82</td>
<td>352</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.32</td>
<td>0.32</td>
<td>0.01</td>
<td>0.28</td>
<td>0.28</td>
<td>0.00</td>
<td>0.19</td>
<td>0.19</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>3475</td>
<td>30</td>
<td>1714</td>
<td>2743</td>
<td>652</td>
<td>1714</td>
<td>1631</td>
<td>144</td>
<td>1714</td>
<td>297</td>
<td>1277</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>94</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>172</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>314</td>
<td>1120</td>
<td>10</td>
<td>419</td>
<td>763</td>
<td>181</td>
<td>336</td>
<td>316</td>
<td>28</td>
<td>527</td>
<td>82</td>
<td>352</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.32</td>
<td>0.32</td>
<td>0.01</td>
<td>0.28</td>
<td>0.28</td>
<td>0.00</td>
<td>0.19</td>
<td>0.19</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>3475</td>
<td>30</td>
<td>1714</td>
<td>2743</td>
<td>652</td>
<td>1714</td>
<td>1631</td>
<td>144</td>
<td>1714</td>
<td>297</td>
<td>1277</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>94</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>172</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>314</td>
<td>1120</td>
<td>10</td>
<td>419</td>
<td>763</td>
<td>181</td>
<td>336</td>
<td>316</td>
<td>28</td>
<td>527</td>
<td>82</td>
<td>352</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.06</td>
<td>0.32</td>
<td>0.32</td>
<td>0.01</td>
<td>0.28</td>
<td>0.28</td>
<td>0.00</td>
<td>0.19</td>
<td>0.19</td>
<td>0.08</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>3475</td>
<td>30</td>
<td>1714</td>
<td>2743</td>
<td>652</td>
<td>1714</td>
<td>1631</td>
<td>144</td>
<td>1714</td>
<td>297</td>
<td>1277</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>94</td>
<td>351</td>
<td>3</td>
<td>13</td>
<td>545</td>
<td>130</td>
<td>1</td>
<td>34</td>
<td>3</td>
<td>132</td>
<td>40</td>
<td>172</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 3.1 |

### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>15</td>
<td>438</td>
<td>3</td>
<td>5</td>
<td>607</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>15</td>
<td>438</td>
<td>3</td>
<td>5</td>
<td>607</td>
<td>48</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>71</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mvmt Flow</td>
<td>16</td>
<td>471</td>
<td>3</td>
<td>5</td>
<td>653</td>
<td>52</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>76</td>
<td>3</td>
<td>47</td>
</tr>
</tbody>
</table>

#### Major/Minor

<table>
<thead>
<tr>
<th>Conflicting Flow All</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>474</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>38</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>3.3</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>523</td>
</tr>
<tr>
<td>Pot Cap-2 Maneuver</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>523</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>523</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>523</td>
</tr>
</tbody>
</table>

#### Approach

<table>
<thead>
<tr>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>0.1</td>
<td>16.5</td>
<td>29</td>
</tr>
<tr>
<td>C</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>323</td>
<td>902</td>
<td>-</td>
<td>-</td>
<td>1099</td>
<td>-</td>
<td>-</td>
<td>274</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCM Lane V/C Ratio</th>
<th>0.03</th>
<th>0.018</th>
<th>-</th>
<th>-</th>
<th>0.005</th>
<th>-</th>
<th>-</th>
<th>0.483</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay (s)</td>
<td>16.5</td>
<td>9.1</td>
<td>0.1</td>
<td>-</td>
<td>8.3</td>
<td>0</td>
<td>-</td>
<td>29</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>2.3</td>
</tr>
</tbody>
</table>
Intersection

| Int Delay, s/veh | 0.3 |

### Movement

#### EBL  EBT  EBR  WBL  WBT  WBR  NBL  NBT  NBR  SBL  SB  SBR

#### Lane Configurations

| Traffic Vol, veh/h | 0 498 13 4 612 3 12 0 8 0 0 0 |
| Future Vol, veh/h | 0 498 13 4 612 3 12 0 8 0 0 0 |
| Conflicting Peds, #/hr | 0 0 0 0 0 0 0 0 0 0 0 0 |

#### Sign Control

| RT Channelized | Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop |
| Storage Length | - - - - - - - - - - - - |
| Veh in Median Storage, # | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Grade, % | - - - - - - - - - - - - |

#### Peak Hour Factor

| EBL  EBT  EBR  WBL  WBT  WBR  NBL  NBT  NBR  SBL  SB  SBR |
| 97 97 97 97 97 97 97 97 97 97 97 97 |

#### Major/Minor

| Major1  Major2  Minor1  Minor2 |
|-----------------|-----------------|-----------------|-----------------|
| Conflicting Flow All | 634 0 526 0 520 520 641 641 - |
| Critical Hdry | 4.1 4.1 7.5 6.5 7.5 6.5 6.9 6.9 - |
| Critical Hdry Stg | 6.5 5.5 6.5 5.5 - |
| Follow-up Hdry | 2.2 2.2 3.5 4 3.3 4 3.3 - |

#### Pot Cap-1 Maneuver

| Stage 1 | - - - - - - 512 535 - 434 473 - |
| Stage 2 | - - - - - - 668 472 - 731 532 - |

#### Mov Cap-1 Maneuver

| Stage 1 | - - - - - - 512 535 - 434 473 - |
| Stage 2 | - - - - - - 664 469 - 723 532 - |

#### Approach

| EB  WB  NB  SB |
|-----------------|-----------------|-----------------|-----------------|
| HCM Control Delay, s | 0 0.1 15.9 0 |
| HCM LOS | C A |

#### Capacity (veh/h)

<p>| Minor Lane/Major Mvmt | 350 959 - - 1051 - - - |
|-----------------------|-----------------|-----------------|-----------------|
| HCM Lane V/C Ratio | 0.059 - - 0.004 - - - |
| HCM Control Delay (s) | 15.9 C A A A A - |
| HCM 95th %tile Q(veh) | 0.2 0 - - 0 - - - |</p>
<table>
<thead>
<tr>
<th>Intersection</th>
<th>Int Delay, s/veh</th>
<th>2.1</th>
</tr>
</thead>
</table>

### Movement

| Movement   | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SB T | SBT | SBR |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Traffic Vol, veh/h | 36 | 463 | 11 | 13 | 571 | 18 | 11 | 2 | 8 | 30 | 3 | 44 |
| Future Vol, veh/h | 36 | 463 | 11 | 13 | 571 | 18 | 11 | 2 | 8 | 30 | 3 | 44 |

### Lane Configurations

- Traffic Vol, veh/h: 36 463 11 13 571 18 11 2 8 30 3 44
- Future Vol, veh/h: 36 463 11 13 571 18 11 2 8 30 3 44
- Conflicting Peds, #/hr: 0 0 0 0 0 0 0 0 0 0 0 0

### Sign Control

- RT Channelized: Free Free Free Free Free Free Stop Stop Stop Stop Stop Stop
- Storage Length: - - - - - - - - - - - -
- Veh in Median Storage, #: 0 0 0 0 0 0 0 0 0 0 0 0
- Grade, %: - 0 - - 0 - - 0 - - 0 -
- Peak Hour Factor: 93 93 93 93 93 93 93 93 93 93 93 93
- Heavy Vehicles, %: 0 0 0 0 0 0 0 0 0 0 0 0

### Major/Minor

<table>
<thead>
<tr>
<th>Major/Minor</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>633</td>
<td>0</td>
<td>510</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>37</td>
<td>661</td>
<td>328</td>
<td>588</td>
</tr>
<tr>
<td>Critical Hdw</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdw Stg 1</td>
<td>6.5</td>
<td>5.5</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Critical Hdw Stg 2</td>
<td>6.5</td>
<td>5.5</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Follow-up Hdw</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1065</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>471</td>
<td>502</td>
<td>428</td>
<td>467</td>
</tr>
<tr>
<td>Stage 2</td>
<td>656</td>
<td>463</td>
<td>664</td>
<td>499</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1065</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>198</td>
<td>163</td>
<td>191</td>
<td>164</td>
</tr>
<tr>
<td>Stage 2</td>
<td>594</td>
<td>454</td>
<td>616</td>
<td>471</td>
</tr>
</tbody>
</table>

### Minor Lane/Major Mvmt

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>268</td>
<td>960</td>
<td>-</td>
<td>-</td>
<td>1065</td>
<td>-</td>
<td>-</td>
<td>321</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.084</td>
<td>0.04</td>
<td>-</td>
<td>-</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
<td>0.258</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>19.7</td>
<td>8.9</td>
<td>0.2</td>
<td>-</td>
<td>8.4</td>
<td>0.1</td>
<td>-</td>
<td>20.1</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0.3</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>
### Intersection

| Int Delay, s/veh | 0.7 |

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Future Vol, veh/h</td>
<td>18</td>
<td>489</td>
<td>0</td>
<td>0</td>
<td>563</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Conflicting Peds, #/hr</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Channelized</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Veh in Median Storage, #</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Grade, %</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Heavy Vehicles, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Traffic Vol, veh/h

<table>
<thead>
<tr>
<th>Movement</th>
<th>Major1</th>
<th>Major2</th>
<th>Minor1</th>
<th>Minor2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflicting Flow All</td>
<td>632</td>
<td>0</td>
<td>537</td>
<td>0</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy</td>
<td>4.1</td>
<td>-</td>
<td>4.1</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Critical Hdwy Stg 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Follow-up Hdwy</td>
<td>2.2</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>Pot Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Platoon blocked, %</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-1 Maneuver</td>
<td>960</td>
<td>-</td>
<td>1041</td>
<td>-</td>
</tr>
<tr>
<td>Mov Cap-2 Maneuver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stage 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM Control Delay, s</td>
<td>0.4</td>
<td>0</td>
<td>9.9</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM LOS</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Capacity (veh/h)

<table>
<thead>
<tr>
<th>Minor Lane/Major Mvmt</th>
<th>NBLn1</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>SBLn1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (veh/h)</td>
<td>735</td>
<td>960</td>
<td>-</td>
<td>-</td>
<td>1041</td>
<td>-</td>
<td>-</td>
<td>410</td>
</tr>
<tr>
<td>HCM Lane V/C Ratio</td>
<td>0.001</td>
<td>0.021</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.094</td>
</tr>
<tr>
<td>HCM Control Delay (s)</td>
<td>9.9</td>
<td>8.8</td>
<td>0.1</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>14.7</td>
</tr>
<tr>
<td>HCM Lane LOS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>-</td>
<td>A</td>
<td>-</td>
<td>-</td>
<td>B</td>
</tr>
<tr>
<td>HCM 95th %tile Q(veh)</td>
<td>0</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
</tr>
</tbody>
</table>
### Timings
124: Broadway Ave & Beacon St

#### Weekday PM Peak Hour

### 2023 Total Traffic - No Adjacent Parking

#### Lane Configurations

<table>
<thead>
<tr>
<th>Lane Group</th>
<th>EBL</th>
<th>EBT</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBT</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>271</td>
<td>259</td>
<td>82</td>
<td>782</td>
<td>118</td>
<td>1310</td>
</tr>
<tr>
<td>Future Volume (vph)</td>
<td>158</td>
<td>195</td>
<td>271</td>
<td>259</td>
<td>82</td>
<td>782</td>
<td>118</td>
<td>1310</td>
</tr>
<tr>
<td>Turn Type</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
</tr>
<tr>
<td>Protected Phases</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Phases</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector Phase</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Switch Phase

| Minimum Initial (s) | 5.0 | 10.0 | 6.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 10.0 | 41.0 | 11.0 | 40.0 | 10.0 | 37.0 | 10.0 | 33.0 |
| Total Split (s) | 23.0 | 42.0 | 26.0 | 45.0 | 19.0 | 55.0 | 17.0 | 53.0 |
| Total Split (%) | 16.4% | 30.0% | 18.6% | 32.1% | 13.6% | 39.3% | 12.1% | 37.9% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |

#### Lead/Lag

| Lead/Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Min | None | C-Min |
| Act Effct Green (s) | 29.9 | 15.4 | 41.2 | 22.5 | 83.6 | 75.6 | 82.6 | 75.1 |
| Actuated g/C Ratio | 0.21 | 0.11 | 0.29 | 0.16 | 0.60 | 0.54 | 0.59 | 0.54 |
| v/c Ratio | 0.60 | 0.80 | 0.92 | 0.63 | 0.45 | 0.52 | 0.21 | 0.62 |
| Control Delay | 47.3 | 48.5 | 75.0 | 56.4 | 19.0 | 22.4 | 6.8 | 10.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.3 | 48.5 | 75.0 | 56.4 | 19.0 | 22.4 | 6.8 | 10.0 |
| LOS | D | D | E | E | B | C | A | B |
| Approach Delay | 48.1 | 64.8 | 22.1 | 9.8 |
| Approach LOS | D | E | C | A |

#### Intersection Summary

| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 71 (51%), Referenced to phase 4: SBTL and 8: NBTL, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |
| Maximum v/c Ratio: 0.92 |
| Intersection Signal Delay: 27.2 |
| Intersection LOS: C |
| Intersection Capacity Utilization 80.4% |
| ICU Level of Service D |
| Analysis Period (min) 15 |

#### Splits and Phases

![Splits and Phases Diagram]

---

H:\2222452 - Boise State University SE Campus Study\synchro\22452_total_no_bballparking.syn

Kittelson & Associates, Inc.

Packet Pg. 724
### HCM Signalized Intersection Capacity Analysis

**124: Broadway Ave & Beacon St**

**Weekday PM Peak Hour**

**2023 Total Traffic - No Adjacent Parking**

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic Volume (vph)</strong></td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>782</td>
<td>115</td>
<td>18</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td><strong>Future Volume (vph)</strong></td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>782</td>
<td>115</td>
<td>18</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td><strong>Ideal Flow (vphpl)</strong></td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td><strong>Total Lost time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Lane Util. Factor</strong></td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Frpb, ped/bikes</strong></td>
<td>1.00</td>
<td>0.99</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Ft</strong></td>
<td>1.00</td>
<td>0.93</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td><strong>Flt Protected</strong></td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
<td>0.95</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Satd. Flow (prot)</strong></td>
<td>1710</td>
<td>3137</td>
<td>3137</td>
<td>3296</td>
<td>3296</td>
<td>3296</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
</tr>
<tr>
<td><strong>Satd. Flow (perm)</strong></td>
<td>908</td>
<td>3137</td>
<td>353</td>
<td>3296</td>
<td>3296</td>
<td>3296</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
<td>3347</td>
</tr>
<tr>
<td><strong>Peak-hour factor, PHF</strong></td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Adj. Flow (vph)</strong></td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>823</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td><strong>RTOR Reduction (vph)</strong></td>
<td>0</td>
<td>138</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td><strong>Lane Group Flow (vph)</strong></td>
<td>166</td>
<td>249</td>
<td>0</td>
<td>285</td>
<td>326</td>
<td>0</td>
<td>86</td>
<td>938</td>
<td>0</td>
<td>124</td>
<td>1582</td>
<td>0</td>
</tr>
<tr>
<td><strong>Conf. Bikes (#/hr)</strong></td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heavy Vehicles (%)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Turn Type</strong></td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td>pm+pt</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protected Phases</strong></td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Phases</strong></td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated Green, G (s)</strong></td>
<td>29.8</td>
<td>15.4</td>
<td>41.9</td>
<td>22.5</td>
<td>83.6</td>
<td>75.6</td>
<td>82.6</td>
<td>75.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective Green, g (s)</strong></td>
<td>29.8</td>
<td>15.4</td>
<td>41.9</td>
<td>22.5</td>
<td>83.6</td>
<td>75.6</td>
<td>82.6</td>
<td>75.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuated g/C Ratio</strong></td>
<td>0.21</td>
<td>0.11</td>
<td>0.30</td>
<td>0.16</td>
<td>0.60</td>
<td>0.54</td>
<td>0.59</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clearance Time (s)</strong></td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vehicle Extension (s)</strong></td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lane Grp Cap (vph)</strong></td>
<td>275</td>
<td>345</td>
<td>314</td>
<td>529</td>
<td>190</td>
<td>1807</td>
<td>601</td>
<td>2578</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Prot</strong></td>
<td>0.06</td>
<td>0.08</td>
<td>0.14</td>
<td>0.10</td>
<td>0.03</td>
<td>0.28</td>
<td>0.01</td>
<td>0.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/s Ratio Perm</strong></td>
<td>0.07</td>
<td>0.13</td>
<td>0.24</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>v/c Ratio</strong></td>
<td>0.60</td>
<td>0.72</td>
<td>0.91</td>
<td>0.62</td>
<td>0.45</td>
<td>0.52</td>
<td>0.21</td>
<td>0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uniform Delay, d1</strong></td>
<td>48.0</td>
<td>60.2</td>
<td>42.3</td>
<td>54.7</td>
<td>15.7</td>
<td>20.6</td>
<td>13.7</td>
<td>22.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Progression Factor</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.56</td>
<td>0.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incremental Delay, d2</strong></td>
<td>2.6</td>
<td>6.2</td>
<td>28.2</td>
<td>1.5</td>
<td>0.6</td>
<td>1.1</td>
<td>0.1</td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Delay (s)</strong></td>
<td>50.6</td>
<td>66.4</td>
<td>70.5</td>
<td>56.2</td>
<td>16.3</td>
<td>21.7</td>
<td>7.9</td>
<td>9.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Service</strong></td>
<td>D</td>
<td>E</td>
<td>E</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach Delay (s)</strong></td>
<td>61.7</td>
<td>62.7</td>
<td>21.2</td>
<td>9.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approach LOS</strong></td>
<td>E</td>
<td>E</td>
<td>C</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2000 Control Delay**: 28.5
- **HCM 2000 Level of Service**: C
- **HCM 2000 Volume to Capacity ratio**: 0.72
- **Actuated Cycle Length (s)**: 140.0
- **Sum of lost time (s)**: 20.0
- **Intersection Capacity Utilization**: 80.4%
- **ICU Level of Service**: D
- **Analysis Period (min)**: 15

---

H:\22\22452 - Boise State University SE Campus Study\synchro\22452_total_no_bballparking.syn

Kittelson & Associates, Inc.
### Movement Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>782</td>
<td>115</td>
<td>118</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td>Future Volume (veh/h)</td>
<td>158</td>
<td>195</td>
<td>173</td>
<td>271</td>
<td>259</td>
<td>69</td>
<td>82</td>
<td>782</td>
<td>115</td>
<td>118</td>
<td>1310</td>
<td>203</td>
</tr>
<tr>
<td>Number</td>
<td>1</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Initial Q (Qb), veh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ped-Bike Adj(A_pbT)</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.98</td>
<td>1.00</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Bus, Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Adj Sat Flow, veh/h/ln</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>823</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>328</td>
<td>255</td>
<td>213</td>
<td>333</td>
<td>533</td>
<td>140</td>
<td>285</td>
<td>1570</td>
<td>231</td>
<td>625</td>
<td>2248</td>
<td>349</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.10</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.20</td>
<td>0.20</td>
<td>0.04</td>
<td>0.53</td>
<td>0.53</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>1749</td>
<td>1461</td>
<td>1714</td>
<td>2670</td>
<td>699</td>
<td>1714</td>
<td>2985</td>
<td>439</td>
<td>3326</td>
<td>4284</td>
<td>664</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>823</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Percent Heavy Veh, %</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cap, veh/h</td>
<td>328</td>
<td>255</td>
<td>213</td>
<td>333</td>
<td>533</td>
<td>140</td>
<td>285</td>
<td>1570</td>
<td>231</td>
<td>625</td>
<td>2248</td>
<td>349</td>
</tr>
<tr>
<td>Arrive On Green</td>
<td>0.10</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.20</td>
<td>0.20</td>
<td>0.04</td>
<td>0.53</td>
<td>0.53</td>
<td>0.07</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sat Flow, veh/h</td>
<td>1714</td>
<td>1749</td>
<td>1461</td>
<td>1714</td>
<td>2670</td>
<td>699</td>
<td>1714</td>
<td>2985</td>
<td>439</td>
<td>3326</td>
<td>4284</td>
<td>664</td>
</tr>
<tr>
<td>Adj Flow Rate, veh/h</td>
<td>166</td>
<td>205</td>
<td>182</td>
<td>285</td>
<td>273</td>
<td>73</td>
<td>86</td>
<td>823</td>
<td>121</td>
<td>124</td>
<td>1379</td>
<td>214</td>
</tr>
<tr>
<td>Adj No. of Lanes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
</tbody>
</table>

### Intersection Summary

- **HCM 2010 Ctrl Delay**: 24.2
- **HCM 2010 LOS**: C
ATTACHMENT K – LEVEL OF TRAFFIC STRESS ANALYSIS
Memorandum of Understanding between Boise State University and the City of Boise City for the Enhancement of Pedestrian and Bicycle Circulation and Access in the South Campus Area

The purpose of this Memorandum of Understanding (MOU) is to set forth certain understandings between Boise State University (the “University”) and the City of Boise City (“Boise City”). University and Boise City are sometimes referred to herein collectively as the “Parties.”

Recitals

WHEREAS, the purpose of this MOU is to establish agreement with respect to the parties’ recent discussions regarding enhancements to pedestrian and bicycle users in the South Campus area, within the boundaries defined by Beacon Street, Denver Avenue, Oakland Avenue, and University Drive (the “University Expansion Area”), where streets and alleys are currently planned for vacation by the Ada County Highway District (ACHD) in accordance with the Agreement and Addendum described below:

WHEREAS, the University and ACHD entered into a RIGHT-OF-WAY VACATION AND PROPERTY EXCHANGE AGREEMENT BETWEEN ADA COUNTY HIGHWAY DISTRICT AND BOISE STATE UNIVERSITY (the “Vacation Agreement”) dated September 1, 2010, and which was approved by the ACHD Board of Commissioners by virtue of Resolution Number 954 on September 1, 2010; and

WHEREAS, the University and ACHD entered into a FIRST ADDENDUM TO THE RIGHT-OF-WAY VACATION AND PROPERTY EXCHANGE AGREEMENT BETWEEN ADA COUNTY HIGHWAY DISTRICT AND BOISE STATE UNIVERSITY (the “Addendum”) on the 17th of July, 2019; and

WHEREAS, the Vacation Agreement and Addendum established, among other property related matters, a trade of publicly owned real property, owned by the University and owned by ACHD, in accordance with Idaho laws relating to their joint powers of public entities under Idaho Code § 67-2332; and

WHEREAS, as part of the University’s Master Planning activity, Boise City, through its Planning and Development Services department has expressed a desire to ensure adequate measures are in place to ensure pedestrian and bicycle access and circulation, in accordance with the University’s Circulation Plan, through those areas currently existing as public rights of way, after the rights of way are vacated and become real property owned by the University, as such properties are developed; and

WHEREAS, the Parties agree that a written commitment regarding the use and development of the rights of way is appropriate, and regardless of short and long term plans for development of the University Expansion Area, the University has a vested and public interest in the safe and efficient movement of pedestrians and bicycles.

Now Therefore, the Parties enter into this MOU, with the following numbered paragraphs reflecting our understanding of the matters described.

1. Rights of way currently held by ACHD which are anticipated to be vacated pursuant to the terms of the Vacation Agreement and Addendum represent important opportunities both for the University to plan for infrastructure and also to serve bicycle and pedestrian traffic and movements, both for the benefit of Boise State and the broader area. These rights of way are depicted in shaded portions of Attachment A, attached hereto and incorporated herein. The parties have agreed to memorialize their agreement for a Circulation Plan highlighting the anticipated future corridors in relation to those rights of way set to be vacated, which Plan will illustrate how those rights of way will continue to serve traffic in the area, in terms of connectivity, particularly for bikes and pedestrians. That Boise State Circulation Plan is an integral part of this MOU and is incorporated herein by reference, and is attached as Attachment B.

2. Improvements to the Boise Avenue/Capitol Boulevard intersection redesign are project-dependent; until the “Capitol Village” site is substantially redeveloped, no planning timeline can be offered. Once a project is anticipated which would require a redesign of the intersection, a planning timeline associated with the redesign will be presented. A major capital project at the Capitol Village site in the next 10-15 years is possible but not yet planned, and without an identified project (and others higher on the priority list) a timeline is very uncertain.
3. Beacon Street redevelopment: Beacon improvements are outlined in the Vacation Agreement and Addendum between ACHD and Boise State. Boise State will construct improvements on Beacon Street as the frontage is developed, or Euclid Avenue to Denver Avenue by June 30, 2023 and Vermont Avenue to Euclid Avenue by June 30, 2028 - whichever comes first. A 16 foot wide public right-of-way easement has been dedicated to a) widen Beacon Street on the north side to accommodate on-street bike lanes, b) relocate the existing sidewalk on the north side of the Beacon to accommodate widening, c) widening and right-of-way dedication for a future left turn lane at South Denver Avenue. Oakland Avenue to Vermont Avenue has been completed.

4. Notwithstanding anything herein to the contrary, the parties shall be under no obligation to enter into any definitive agreements regarding the purposes described herein.

5. This MOU is intended to be a confirmation of interest between the parties in pursuing thoughtful, planned connectivity for the roadways to be vacated, but this MOU does not constitute a binding agreement between the parties hereto. Neither party intends, by setting forth in this Memorandum of Understanding the provisions of a possible transaction, to create for itself or any other person, any legally binding obligation of liability. No subsequent oral agreement or conduct of the parties, including partial performance, shall be deemed to impose such obligation or liability.

IN WITNESS WHEREOF, the Parties have entered into this Memorandum of Understanding as of [date of memorandum].

[Name of party 1]
By:

[Name of party 1’s agent]
[Title of party 1’s agent]
[Name of party 2]
By:

[Name of party 2’s agent]
[Title of party 2’s agent]
Memorandum of Understanding between Boise State University and the City of Boise City for the Enhancement of Pedestrian and Bicycle Circulation and Access in the South Campus Area

Exhibit A
Boise State University South Campus Transportation Study
Memorandum of Understanding between Boise State University and the City of Boise City for the Enhancement of Pedestrian and Bicycle Circulation and Access in the South Campus Area

Exhibit B

Boise State University South Campus Transportation Study
Boise State University Rezone Properties

1827 W. Yale CT

1801 W. Yale CT

1105 S. Manitou Ave

1101 S. Denver Ave

1116 W. Beacon ST.

1108 S. Grant Ave

Planning Division Project Report

File Number: CAR19-00021 & CPA19-00001
Applicant: Boise State University
Property Address: Multiple Parcels between University Drive, Beacon Drive, Broadway Avenue, and Capitol Boulevard

Public Hearing Date: January 6, 2020
Heard by: Planning and Zoning Commission

Analyst: Leon Letson, Senior Planner
Reviewed By: Céline Acord, Current Planning Manager

Public Notification
Neighborhood meeting conducted on: August 21, 2019
Radius notices mailed to properties within 300 feet on: December 20, 2019
Newspaper notification published on: December 21, 2019
Staff posted notice on site on: December 21, 2019

Table of Contents
1. Project Data and Facts ................................................................. 2
2. Land Use .................................................................................. 2
3. Development Code ................................................................. 3
4. Comprehensive Plan ............................................................... 4
5. Transportation Data ............................................................... 5
6. Analysis .................................................................................. 4
7. Approval Criteria .................................................................... 9
8. Recommended Conditions of Approval .................................. 11

Exhibits
Agency Comments
Public Comments
1. Project Data and Facts

<table>
<thead>
<tr>
<th>Project Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Owner</strong></td>
</tr>
<tr>
<td><strong>Representative</strong></td>
</tr>
<tr>
<td><strong>Location of Property</strong></td>
</tr>
<tr>
<td><strong>Size of Property</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Zoning (Current)</strong></td>
</tr>
<tr>
<td><strong>Zoning (Proposed)</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation (Current)</strong></td>
</tr>
<tr>
<td><strong>Land Use Designation (Proposed)</strong></td>
</tr>
<tr>
<td><strong>Planning Area</strong></td>
</tr>
<tr>
<td><strong>Neighborhood Assoc./Contact</strong></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
</tbody>
</table>

**Current Land Uses**

- Rezone: Single-Family Dwellings, Multi-Family Dwellings, and a Surface Parking Lot.
- Comprehensive Plan Amendment: BSU Campus, Single-Family Dwellings, Multi-Family Dwellings, Surface Parking Lots, and Vacant Land.

**Description of Applicant’s Request**

Rezone of 6 parcels totaling 1.58 acres from an R-2 (Medium Density Residential) zone to a U (University District) zone generally located south of University Drive, between Denver Avenue and Joyce Street, and a Comprehensive Plan Land Use Map Amendment to reflect the updated 2019 Campus Master Plan. Included is the addition of approximately 4.5 acres into the BSU Campus Master Plan boundary.

2. Land Use

**Description and Character of Surrounding Area**

Regarding the rezone, the subject properties are located adjacent to existing BSU uses, including student housing, academic buildings, and surface parking lots. From a larger perspective BSU’s campus is located south of Ann Morrison Park, east of the Lusk District, north of a residential neighborhood comprised of a mix of housing types, and west of the Broadway Avenue commercial corridor.
Adjacent Land Uses and Zoning
The BSU campus is surrounded by a broad range of land uses and zoning. To the north is predominately A-1 (Open Land Very Low Density) zoning and Ann Morrison Park; to the east is C-2D (General Commercial with Design Review) zoning and commercial uses along the Broadway corridor; to the south is predominately R-2D (Medium Density Residential with Design Review) zoning and low-to-medium density residential uses; and to the west is predominately C-2DC (General Commercial with Design Review and Capitol Boulevard) zoning and a mix of commercial and multi-family living uses.

<table>
<thead>
<tr>
<th>History of Relevant Previous Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR15-00028 &amp; CPA15-00005</td>
</tr>
</tbody>
</table>

3. Development Code (Boise City Code Title 11)

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-03-04.3</td>
<td>Specific Procedures: Rezone</td>
</tr>
<tr>
<td>11-03-04.16</td>
<td>Specific Procedures: Comprehensive Plan Amendment</td>
</tr>
<tr>
<td>11-04-07.3</td>
<td>General Purpose of Special Purpose Districts: U District</td>
</tr>
</tbody>
</table>

4. Comprehensive Plan (Blueprint Boise)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Goals, Objectives &amp; Policies</th>
</tr>
</thead>
</table>
| Chapter 2 - Citywide Vision and Policies | Theme #1: Environmental Stewardship  
  • Principle ES1.4  
  Theme #2: A Predictable Development Pattern  
  • Principle PDP1.1  
  Theme #4: A Connected Community  
  • Principle CC2.1  
  • Principle CC7.1  
  • Principle CC7.2  
  • Principle CC8.1  
  Theme #5: A Community  
  • Goal CEA9  
  • Principle CEA9.1  
  • Principles CEA9.2 (a & b)  
  • Principle CEA 9.3 |
| Chapter 4 - Planning Area Policies | Downtown  
  • Principle DT-CEA2.4 (a&b)  
  Southeast  
  • Principle SE-NC2.4 |
5. Transportation Data

BSU’s proposal is currently under review by the Ada County Highway District (ACHD) and will be brought before their commission in early 2020. A Traffic Impact Study (TIS) conducted in 2018 to model the following scenarios was also submitted as part of their application:

1. New structured parking facility to assist with a future baseball field;
2. New surface parking lot to assist with a future baseball field; and
3. No additional parking provided with a future baseball field.

Based on this TIS, no major impacts to level of service (LOS) were identified on nearby streets or intersections. All three scenarios were modeled with BSU’s preferred circulation plan in place, which includes the vacation of a number of streets in the southeastern portion of campus (Figure 1).

![Figure 1]

The vacation of these streets has prompted the City of Boise to request a Memorandum of Understanding (MOU) detailing how the City of Boise and BSU can work together to ensure the connectivity of this area will be preserved and/or enhanced, particularly for pedestrians and bicyclists, as redevelopment occurs. Requesting this MOU is the result of a condition of approval of the 2015 BSU Campus Master Plan update, which required joint approval by the City of Boise and ACHD regarding BSU’s transportation plan prior to any changes to the street network in the area. This MOU is significant due to legislation adopted by the State of Idaho in 2014 that removed the requirement for highway districts to obtain city consent before vacating right-of-way. However, ACHD is required to consider the City’s comprehensive plan in locating rights-of-way per Idaho Code § 40-1415(4). As an alternative to this MOU, the Planning Team has considered the alternative...
of requiring public access easements where these streets exist today. Although this would provide more surety as to the future connectivity of this area of the City, BSU has requested a more conceptual commitment to connectivity be established with this MOU to allow flexibility regarding future building placement, etc.

6. Analysis

Boise State University (BSU) is requesting the rezone of 6 parcels totaling ±1.58 acres from an R-2 (Medium Density Residential) zone to a U (University District) zone generally located south of University Drive, between Denver Avenue and Joyce Street and a Comprehensive Plan Land Use Map Amendment to reflect the updated 2019 Campus Master Plan. Included is the addition of approximately 4.5 acres into the BSU Campus Master Plan boundary (Figure 2).

Master Plan Update

Although numerous short- and long-term projects are identified, including new student housing, academic buildings, and public space improvements, BSU’s request is primarily driven by its desire to develop a men’s NCAA baseball field, which requires significant...
modifications to roadway infrastructure in the southeast corner of campus (Figure 3). This would be an alternative, rather than a replacement, to the 500-seat field house for Olympic Sports and a major parking structure approved for this area with the 2015 Master Plan. Either of these projects will require subsequent review and approval by the City based on Section 11.06.01 of the Development Code which requires conditional use permit approval for all University uses within 50’ of the campus planning boundary. Outside of this area, BSU has not proposed any significant changes to projects approved with the 2015 Master Plan nor any additional goals or policies.

Some of the most substantial changes to the southeast corner of campus involve the closure of several streets north of Beacon Drive. In an effort to ensure connectivity is retained across campus and throughout the surrounding area, particularly for pedestrians and bicyclists, the City of Boise has requested a Memorandum of Understanding (MOU) with BSU. As previously noted, BSU’s requests to vacate these public streets is currently under review by ACHD and will be brought before their Commission in early 2020. The Planning Team has requested a final decision by City Council on the rezone, Comprehensive Plan amendment, and MOU be made prior to final decision by the ACHD Commission. Due to legislation adopted by the State of Idaho in 2014 that
removed the requirement for highway districts to obtain city consent before vacating right-of-way, this MOU is particularly important to the City of Boise and its interests in ensuring this area of the City remain livable and accessible for everyone regardless the mode of transportation. Additional aspects of the MOU include high-level timelines and redevelopment triggers that will bring the City of Boise and BSU together to discuss the following:

1. The redesign of Beacon Dr, between Boise Ave and Broadway Ave, specifically concerning streetscape, bicycle facilities, and pedestrian crossings.
2. The redesign of the Boise Avenue-Capitol Blvd intersection.

As previously mentioned, the Traffic Impact Study (TIS) developed by BSU concerning the proposed public street vacations, identified no major impacts to level of service (LOS) on nearby streets or intersections.

Rezone
To accommodate the rezone request from R-2 to U, as well as future rezones to U within the updated Campus Planning boundary, the applicant has requested to amend the Land Use Map to change 4.5 acres from “Compact” to “BSU Master Plan.” Within the “Compact” Land Use designation, the primary zones largely support lower density residential development. The requested land use designation of “BSU Master Plan” is necessary to establish the U zoning that will accommodate the future development of uses planned to serve the BSU campus. Changing the Land Use Map of the Comprehensive Plan can significantly change the character of the area. However, the subject property is within an area of the City where U zoning can be justified (Figure 4).
The subject properties are primarily located adjacent to existing BSU uses, including student housing, academic buildings, and surface parking lots. There are two exceptions: an 8-unit multi-family housing development and a duplex with frontage on Yale Ct that exist adjacent to single family homes fronting on Joyce St and Potter Dr. However, these properties also abut more intense uses to the east, including the BSU Honors College, a 5-story, 235-unit student dormitory (Figure 5).

The U zoning district is intended to allow for the consistent development of the BSU campus throughout its planned expansion area. The Development Code requires all uses within the U zone to be directly associated with the operation and maintenance of BSU and primarily serve students, faculty, employees, and alumni, or shall be intended to support and facilitate public attendance of educational, arts, sporting, or cultural events and offerings. Most university uses are allowed by right in the U zone, although structures exceeding maximum height limits require a conditional use permit; the height limit in the U zone is 75’ internal to campus and 45’ for structures within 50’ of the campus boundary. In addition Section 11.06.01 of the Development Code requires conditional use permit approval for any project within 50’ of the campus planning boundary.

As indicated below, the Planning Team finds the applications to be consistent with the standards for approval. Approval of the 2019 BSU Master Plan will include adopting it by reference in Blueprint Boise and amending the Land Use Map to reflect the expanded area as “BSU Master Plan.”
7. Approval Criteria

**Comprehensive Plan Amendment (11-03-04.16 (B7))**

Any recommendation of the PZC shall be in writing and shall specify that the Comprehensive Plan Amendment meet the following criteria:

A. **Is required for the public convenience or necessity, or for the general welfare of the community;**

Amending Blueprint Boise to adopt the 2019 BSU Master Plan is required for the public convenience and general welfare of the community as it provides clarity regarding the future development of BSU’s campus and its compatibility with surrounding neighborhoods. This is further supported by an associated Memorandum of Understanding (MOU) to be executed between the City of Boise and BSU, which will detail how the connectivity of this area will be preserved and/or enhanced, particularly for pedestrians and bicyclists, as this area redevelops. The requested land use designation of “BSU Master Plan” is necessary to establish the U zoning requested that will accommodate the future development of uses planned to serve the BSU campus.

B. **Is necessary to address changes in conditions within the community that have occurred since the Boise City Comprehensive Plan was adopted or is necessary to correct one or more goal, objective, or policy that exists in the plan;**

BSU’s proposed update to its Master Plan is necessary to guide future growth in response to projected increases in student enrollment and evolving campus needs. BSU’s request is primarily driven by its desire to develop a men’s NCAA baseball field, which requires significant modifications to roadway infrastructure in the southeast corner of campus. This is an alternative, rather than a replacement, to the 500-seat field house for Olympic Sports and a major parking structure approved for this area with the 2015 Master Plan. Although either of these uses will require subsequent conditional use permit approval, including them in BSU’s Master Plan is essential to keeping the surrounding neighborhood and broader community informed of potential changes to this area of the City.

C. **Is in compliance with and will further the goals, objectives, and policies of the Boise City Comprehensive Plan;**

As confirmed by the City’s review, the updated Master Plan is consistent with and will further the goals, objectives, and policies of Blueprint Boise. Theme #1, Chapter 2 focuses on the environmental stewardship of the City. Principle ES1.4 promotes compact, walkable development patterns that support transit and discourage development patterns that rely solely on single-occupancy vehicles. Theme #2 encourages a predictable development pattern. Principle PDP1.1 identifies areas like the Downtown, of which BSU’s campus is a part, as priorities for infill development. The
updated Master Plan and associated Memorandum of Agreement is also consistent with Theme #4 in Chapter 2 to the extent it identifies the importance of connectivity (Principles CC2.1 and CC8.1) and addresses pedestrian and bicycle facilities throughout campus as directed by Goals CC7.1 and CC1&2. Theme #5 in Chapter 2 of Blueprint Boise addresses the culture, education, arts, and history within Boise. Goal CEA9 directs the City to plan cooperatively with BSU on future expansion opportunities. The process and analysis the City has utilized processing this proposed amendment is supported by this Goal. Policies CEA9.2 (a&b) specifically address plan consistence and ensures that new campus construction is compatible with surrounding areas. Policy CEA9.3 encourages discussion and planning between BSU and the surrounding neighborhoods to ensure that future development along the campus perimeter provides an appropriate transition of land uses, development scale, density, and design to adjacent uses. The 2015 BSU Master Plan and this proposed update are the result of years of ongoing discussions between BSU, the City of Boise, and the adjacent neighborhood. This update is also supported by multiple Planning Area policies associated with the Downtown and Southeast Boise that encourage strengthening relationships between BSU and the Downtown (Principles DT-CEA2.4 (a&b)) as well as preserving existing single-family neighborhoods where possible (Principle SE-NC2.4).

D. **Will not create inconsistencies between the goals, objectives, and policies within or between any chapter of the Boise City Comprehensive Plan:**

This is a minor update of the more comprehensive Master Plan adopted in 2015. Outside of the request to develop a men's NCAA baseball field in the southeast corner of campus as an alternative, rather than a replacement, to the 500-seat field house for Olympic Sports and a major parking structure previously approved with the 2015 Master Plan, BSU has not proposed any substantial changes to projects, nor any additional goals or policies.

E. **Will not place an undue burden on transportation or other public facilities in the planning area, and does not adversely impact the delivery of services by any political subdivision providing services.**

With the Memorandum of Understanding (MOU) to be executed between the City of Boise and BSU detailing how the connectivity of the southeast area of campus will be preserved and/or enhanced, particularly for pedestrians and bicyclists, as this area redevelops, the updated Master Plan will not place an undue burden on transportation or other public facilities in the area. The Traffic Impact Study (TIS) developed by BSU concerning the proposed public street vacations identified no major impacts to level of service (LOS) on nearby streets or intersections. In addition, no political subdivision has identified adverse impact to their abilities to deliver services in the area as a result of the updated Master Plan.
Rezone (11-03-04.03 (B7))
Any recommendation of the PZC shall be in writing and shall specify that the rezone meets the following criteria:

i. **Comply with and conform to the Comprehensive Plan**

The project is in compliance with Blueprint Boise. The majority of the properties to be rezoned are currently designated “BSU Master Plan” on the Land Use Map. If the associated amendment is approved, all parcels will be designated “BSU Master Plan,” which supports the rezone from R-2 (Medium Density Residential) to U (University). Policies CEA9.2 (a&b) specifically address plan consistence and ensures that new campus construction is compatible with surrounding areas. Policy CEA9.3 directs future development along the campus perimeter to provide an appropriate transition of land uses, development scale, density, and design to adjacent uses. Principle SE-NC2.4 supports preserving existing single-family neighborhoods where possible.

ii. **Is in the best interests of the public convenience and general welfare**.

Rezoning the properties to U will be in the best interest of the public convenience and general welfare as the properties are owned by BSU and will be utilized as part of the BSU campus. Establishing U zoning for these properties will accommodate the future development of uses planned to serve the BSU campus while also providing predictability to the surrounding neighborhood.

iii. **Maintain and preserve compatibility of surrounding zoning and development**.

The project is compatible with surrounding zoning and development as the majority of the other properties in the vicinity are currently zoned U and used by BSU. The U zoning district is intended to allow for the consistent development of the BSU campus throughout its planned expansion area. The Development Code requires all uses within the U zone to be directly associated with the operation and maintenance of BSU and primarily serve students, faculty, employees, and alumni, or shall be intended to support and facilitate public attendance of educational, arts, sporting, or cultural events and offerings. In addition, University uses within 50’ of the campus planning boundary require conditional use permit approval, which will allow the City to further consider project design, compatibility with adjacent uses, and potential impacts to the neighborhood.

9. Recommended Conditions of Approval

Site Specific

1. Compliance with plans and specifications submitted to and on file in the Planning and Development Services Department dated received August 27, 2019, and the
Memorandum of Agreement dated received December 20, 2019 except as expressly modified by the following conditions:

2. The Memorandum of Understanding (MOU) to be executed between the City of Boise and BSU shall be recorded prior to reading of the ordinance adopting the 2019 BSU Campus Master Plan into Blueprint Boise, amending the Land Use Map, and establishing the requested U zoning.

Agency Requirements

3. Comply with the requirements of the Boise Fire Department as outlined in comments dated November 4, 2019.

Standard Conditions of Approval

4. This approval does not exempt the applicant from compliance with all local, state, and federal regulations where applicable by law or judicial decision.
November 4, 2019

CAR19-00021

Leon Letson
PDS – Current Planning

Re: CPA Application: CPA19-00001; XREF CAR19-000211

Dear Leon,

This is a request to amend BSU’s 2015 Master Plan with an updated 2019 Campus Master Plan.

The Boise Fire Department has no objections to the proposed changes to the Master Plan with the following comments.

Comments:
1. Changes to the current streets within the Master Plan area should take into account Fire Department access requirements of Chapter 5 and Appendix D of the Idaho Fire Code.

Regards,

Ron Johnson
Division Chief – Assistant Fire Marshal
Boise Fire Department
December 26, 2019

Boise Planning and Zoning Commission
150 North Capitol Boulevard
Boise, Idaho 83702

Members of the Commission,

The Board of the SouthEast Neighborhood Association (SENA) has voted to oppose the rezoning of the two westernmost parcels in Boise State University’s rezone request. These two parcels sit adjacent to existing single-family homes and would represent yet another “bite” out of a threatened neighborhood, creating uncertainty for nearby homeowners and other residents.

Recently constructed university facilities—the soccer field and Honors College dorms located in this western expansion area—have had negative impacts such as increased traffic, noise and loss of privacy for nearby residents.

Based on the historical experience of neighbors, rezoning these parcels could not meet the necessary finding “Maintains and preserves compatibility of surrounding zoning and development.”

SENA does not object to the rezoning of the four parcels near Beacon Street. Expansion in this area has been experienced by neighbors for many years. Boise State has steadily expanded there and today occupies almost all property with university buildings or parking lots.

On the other hand, the western area where the subject parcels sit still consists mostly of smaller scale single-family homes, duplexes and apartments. Although Boise State has received permission from the State Board of Education to expand into this area in the long term, the university has recently committed to taking a measured approach to such expansion by working with neighbors to develop a plan to accommodate Boise State facilities while preserving viable residential areas.

SENA’s understanding is that the two western parcels are to be redeveloped as student housing. While housing for students exists in and around campus, other areas already identified in the updated Master Plan, such as the site immediately north of Sawtooth Hall and on the northeast corner of Beacon and Oakland, would have less negative impact on existing neighbors. These locations are either internal to campus or separated from neighborhoods by a wide arterial street.

SENA respectfully asks that you deny the rezone of the two westernmost parcels in order to provide more stability to neighbors who have experienced drastic and negative change while they work with Boise State on a plan for the university to function in a way that meets the needs of both residents and the university.

Finally, local media recently reported the City’s plan to incorporate protections for the College Subdivision and neighborhoods south of Boise State. This Idaho Statesman article summarizes early stages of the city council’s workgroup effort: [https://www.idahostatesman.com/article236789303.html](https://www.idahostatesman.com/article236789303.html). Since then, in December, the City’s workgroup includes two City Council members and a wider range of stakeholders for neighborhoods near Boise State, tasked by the City Council to come up with a new plan for the area. SENA considers it wise to minimize rezoning while this workgroup proceeds during the coming months.

Thank you for your consideration.
December 26, 2019

Boise Planning and Zoning Commission
150 North Capitol Boulevard
Boise, Idaho 83702

Dear Commissioners,

I am writing to oppose the inclusion in the Boise State University Master Plan update of a baseball stadium to be located on Beacon Street between Euclid and Denver Avenues. This will unquestionably result in increased noise to neighbors living south of Beacon Street, further reducing the livability of a neighborhood already heavily impacted by events at Albertsons Stadium.

Its proposed location at a campus boundary would require a conditional use permit, but it is hard to imagine a manner in which such a stadium could be conditioned so that it would not result in adverse impact to residents.

As a neighbor who lives two blocks from Beacon Street, I can attest to the intrusiveness of amplified football announcers and music from stadium events. The Garth Brooks concert this summer was three solid days of music so loud it could be heard clearly inside my house a quarter mile away!

Our family is not looking forward to the construction of another stadium even closer to our home, with not only a more frequent playing schedule than football, but noise from outdoor practice to boot.

If experience is any guide, Boise State will look to expand the use of the stadium beyond that by its own baseball team to include games with other local teams and musical concerts, decreasing even more the peacefulness of our neighborhood.

Other venues exist in Boise for the university’s baseball team to practice and compete. Hawks Stadium and Fort Boise have facilities that would easily accommodate Boise State’s needs. Neighbors have been told that scheduling could not be worked out with Boise Schools for the use of Fort Boise and that a bus trip from BSU to Hawks Stadium would take too long for student ballplayers. These seem like rather minor obstacles for the team to overcome compared to the permanent loss of livability for hundreds of neighbors who live adjacent to the university.

At some point, as a publicly-owned institution, Boise State University needs to sublimate its own program goals to the well-being of the greater community in which it operates.
Instead of a baseball stadium, the university could build much-needed student housing or other academic and athletic buildings that would be less intrusive for the residential neighborhood south of Beacon.

If a stadium is approved as part of the Master Plan, I would strongly urge the university to consider reversing the location of the adjacent parking garage with that of the stadium so that the parking structure could serve as a sound barrier between the stadium to the north and the neighborhood south of Beacon.

Thank you for your consideration.

Sincerely,
Fred Fritchman
1321 Denver Avenue
December 27, 2019

Boise Planning and Zoning Commission
150 North Capitol Boulevard
Boise, Idaho 83702

ATTN: Leon Letson RE: CPA19-00001, BSU baseball stadium Master Plan Update

Dear Commissioners,

I write both as a BSU professor since 1981 and as a BSU neighbor since 1982 – long enough to have lived in a neighborhood whose evolutions were not threatened by any subsequent thought that the city or university would capture neighborhoods south of BSU. For both academic and residential reasons, I oppose the construction of a baseball stadium as part of BSU’s Master Plan update, an ill-conceived effort to transform BSU’s footprint into even more sport entertainment.

Academically, such projects misdirect a university’s mission in an effort to reverse stagnating and declining student enrollments.¹ Contrary to the argument that academic programs are enhanced – especially economically – they cost the university by taking up physical space that can go to on-campus dorms instead of a culture of edutainment and fandom. Whichever sports program we consider, we should not be taken in by the claim of academic benefit or financial self-sufficiency: “All those big television contracts might make you believe that college sports pour money back into campus, or are at least self-sufficient. Nothing could be further from the truth.”² Expect even less for the academy from baseball. “Only a handful of baseball programs generate enough revenue to offset expenses,” because state budget cuts and athletic associations forced some universities to cut programs due to travel expenses, facilities’ maintenance/enhancements: While “basketball, hockey, lacrosse, skiing, and soccer emerged as ‘sports of emphasis,’ baseball and softball struck out.”³ Lest we think these issues if not full-blown trends will abate with a campus-situated baseball stadium, the “2019/2020 STUDENT TUITION AND FEE HEARING” at BSU shows a video of increased student fee requests including from athletics.⁴ Here we learn again that athletics does not pay for itself, but must draw from students and Idaho taxpayers who should expect the funds to support truly academic faculty, staff, and programs. Nationwide in 2015, “only 24 of 230 Division I public schools generated sufficient revenues to cover the total costs of their athletic programs,” each “a member

³ Brad Wolverton May 15, 2009 https://www.chronicle.com/article/As-Cutbacks-Hit-College/44325
⁴ https://www.boisestate.edu/vpfa/fy20-student-tuition-and-fee-hearing/
of one of the ‘Power Five’ conferences (the Atlantic Coast Conference, the Big Ten, the Big Twelve, the Pacific Twelve, and the Southeastern Conference); … a more recent piece in the *Chronicle of Higher Education* says that only six of 201 Division I schools cover total athletic costs.”

As an academic, such reports are familiar. They remain contested claims by all interested parties while the nature of what a university is hangs in the balance.

Speaking as a nearby resident, the benefits of another sports stadium in our neighborhood do not outweigh the rights of neighbors to a peaceful environment. The project is frivolous and invasive. Locating a baseball stadium on Beacon Street between Euclid and Denver Avenues effectively seals the deal to wipe out livability in adjacent neighborhoods through the usual and, for our neighborhood, already undue noise, traffic, and safety: Albertsons Stadium and a soccer field already have severely compromised the peace of nearby neighborhoods. No need – academically or community-wide – really exists for a baseball stadium where proposed, and perhaps not at all.

Instead of getting into the minutiae of lot lines etc., we should understand that no revision to the uses of the property can mitigate the devastation such a project inflicts on neighbors. Amplification, practice sessions, open fields and rented stadium events penetrate the peace of homes for blocks around. And they serve no real academic purpose.

Boise State has a questionable history when it comes to claims of limiting impacts. Count on BSU, if given the green light by P&Z, to do much more than disrupt livability with its baseball team: we’ll see other games with other local teams, more music concerts when other sites are more appropriate – in short, a future of constant assaults on the peacefulness of neighborhoods.

There are still other places in Boise for the university’s baseball team to practice and compete: Hawks Stadium, Fort Boise, perhaps even a venue foregone by a private developer after the passage of Boise City’s Proposition 2, are equally plausible sites. While BSU claims a variety of “inconveniences” to “the team,” including short trips across town, neighbors see a thin excuse to permanently kill livability for hundreds of neighbors who have long lived adjacent to the university.

In general, this plan is no contribution to the community, as some claim. Perhaps it is for those baseball fans (who really knows how many or how few?) who are able and happy to live elsewhere while treating our neighborhoods as entertainment parking places. For the non-south-Boise resident, it is probably easier to think merely and only about an entertainment venue as the way to see it as a “community contribution.” But that is wearing blinders that keep neighbors and neighborhoods as means to entertainment ends instead of the contribution our neighborhoods are to life in Boise. The real contribution of a university to the community is not men’s NCAA sports, but the viability and workability of its academic programs. As a publicly owned institution, Boise State University and the City need to remember what a university is for.

---

5 [https://fee.org/articles/hiding-the-high-price-of-college-sports/](https://fee.org/articles/hiding-the-high-price-of-college-sports/)
In this emerging cascade of BSU requests to add student housing, reduce traffic flow on University Drive, widen Beacon Street, close off existing streets, and to build a sports complex, the site for the baseball field should at least be used for any necessary new housing and genuinely academic needs. By adding housing and academic buildings within already-owned state property, BSU’s needs would be better met with better funding than sport venues can supply while rendering the university a much less intrusive presence for the residential neighborhoods bordering BSU.

The City of Boise needs to keep such intrusive (re)zoning plans from further encroaching on the promises of Blueprint Boise. It needs to insure that promises of livability are not overridden by expansionist interests when the needs for such expansions are, at a minimum, questionable.

Sincerely,

Ed McLuskie
TO: Leon Letson

LLetson@cityofboise.org

RE: Application Nos. CAR19-00021, CPA19-00001

DATE: December 23, 2019

Members of the Commission,

I’m writing you today with many objections to rezone requests on this occasion of applications CAR19-00021, CPA19-00001. Recently, residents in this area’s neighborhoods were discouraged, as BSU tore down affordable housing (Idaho Statesman, “Neighbors oppose plan to tear down four houses owned by Boise State,” Oct 12, 2018). BSU’s revised plan and others in the wings insist on scrapping off existing affordable apartments (1.58 acres) in the College Subdivision, requiring a rezone of 1801 Yale Court to expand a BSU “U zone.” Please don’t allow them to rezone or demolish the existing apartments at 1801 Yale Court.

BSU’s application (#CAR19-00021, via Christy Jordan and the Land Group) threatens neighbors and the neighborhood characteristics promised by the City of Boise in Blueprint Boise. This application requests the neighborhood’s loss of 1.58 acres to build another tower of student housing and surface parking abutting the Honors College on University Drive. The proposed student housing tower -- #9 (one of three) on BSU’s amended 2019 map -- is bordered by properties that are not owned by BSU and are not zoned “U”; those who live on adjacent Potter Drive already suffer the plight that this rezone request only makes worse for Boise citizens: to be surrounded and overshadowed even more by structures that are incompatible with the neighborhood’s precious, remaining character and livability. Such multi-story student housing structures (three distinct #9’s on 2019 revised master plan also destroy tree-laden neighborhoods that afford all citizens easy, flat sidewalks to wander the greenbelt, downtown, libraries, museums, a zoo, grocery stores and cafes. This tiny area of Southeast Boise is at risk to be sacrificed for an already oversized student population that has many private options for student housing already. Other sites on campus – north of Sawtooth Hall, for example, even the planned baseball park area – are more suitable because they are within the campus boundary. The long-term damage to existing neighborhoods is not at all required especially at a time when claimed needs for student housing are open to question; demographic changes and online education make claims of an inevitable student presence in this and other neighborhoods less and less a requirement. It is time for a pause on BSU land grabs; it is time for independent studies of real community needs. Any rezone or variance to the existing College Subdivision would greatly impact this area’s livability, character and native wildlife.

All of the current and future bed-projects bring additional vehicles that heat, congest, travel and park on surrounding neighborhoods streets and illegally on front yards and over sidewalks. The surrounding neighborhoods already include a combination of single, multi-family residences and a number of huge, high-density, rent-by-the-bed options from private developers: the Lusk district, the Identity Project’s 295 bedrooms, rented by the bed (undisclosed bed count) and, going forward, the Shoreline urban renewal, adding tremendously to this area’s occupancy count. Additionally, BSU’s near-future plans include three high density student housing projects.
Residents near the campus area have experienced variances to standing building codes and live among the increased HIGH density for R-2, R-3, R-O zones.

Any “U” zone (university zone) has no limit for BSU student housing. New reports on April 7, 2016, described the “Honors College Project” with 300 beds, but what really happened, by 2019, was more than a doubling of beds to over 600 beds – contrary to the number quoted while city permits were sought.

With a past full of constant high-density & profiteering in our area, neighbors ask that you maintain zoning ordinances to promote honest environmentally friendly livability instead of another questionable plan for BSU’s three high-density student bed-projects. Our City can take action to support current occupants of this area with the protective language in Blueprint Boise (SE-NC 2.4). Don’t support another state or partnership development project that eviscerates our city’s Comprehensive Plan.

The city needs to demonstrate its efforts on behalf of design mechanisms that offer all citizens -- not only students -- a shared future around Boise River’s public space. Current building codes and the city’s abilities to act on them can and must deny a rezone and U zone expansion to save existing, affordable housing and green space that cleans and cools our city’s air.

The area (Southeast) was set up for redevelopment to change it to a multi-family student housing, this was called the BSU Neighborhood Plan and was set in 1991. In 1999, they did another plan to revise the area and called it the Boise Comprehensive Plan, this modification was set out to protect the area of the neighborhood to keep the character of the homes that were well-maintained and owner-occupied neighborhoods. Throughout the first few years of the 2000’s neighborhood committee was created, a vision was drafted and presented at a neighborhood meeting and feedback was requested. Right after the presentation at the neighborhood meeting, it was presented to Lance Evans the head of the Boise Neighborhood Planner. Lance Evans encouraged the plan. Throughout the next couple of years, the plan took effect. — Mark Paljetak, April 10, 2018, posted in Idaho, Idaho History, Idaho Real Estate

Such residential protections must be called out now by city officials. For this small area of our city near a state university (BSU) and so close to the Boise River, a variety of demolition projects have been submitted or are soon to be submitted to the City of Boise. No rezoning, variances to existing zoning, or conditional use permits should be issued to add rent by the bed properties or expand the U zone. Far too many myopic plans have demolished homes, displaced people, and forever removed natural habitat. The boarding houses of the 1990’s have morphed into multi-stories of bed-projects of the past years. Yet developers – state and private -- continue to make the same proposals that erode and devalue the neighborhood’s quality of life.

Rezoning into a “U” zone is a way to remove required public hearings that have real consequences on behalf of neighborhoods. I learned this when attended the November 4, 2019 P
& Z meeting. There, the request for a new Fish and Game Building caused a revelation for the commission, which learned that land owned by the State of Idaho does not have to comply with a long list of rules that are mandatory for private owners of real estate in Idaho. State-owned land doesn’t have to comply with any of the preservation or historic overlay rules or noise ordinances that protect neighborhoods in all of Boise. That includes BSU “U-zoned” land. The only way to ensure that Boise citizens can have a meaningful, honest, and consequential public hearing is by using the city’s ability to deny future rezoning and freeze U-zone’s footprint.

Presently, there is a saturation of high-density, new and existing apartments on both sides of the Boise River. In a mile radius of The Cabin, what is the count of owned or leased bedrooms and rent-by-the bed situations? What will the additional bed-count be from the Shoreline urban renewal project? If we don’t know the true bed count that is in flux -- with occupants moving in and out -- how can an authentic strategic housing plan be developed and adhered too? Don’t allow a stealth rezone that demolishes more existing affordable housing in the College Subdivision.

Since the cash from bed-rental projects is so huge, universities and developers are competing to not be the “older” project hanging out a “vacancy” sign in the window. New beds with a waitlist are a tool to maintain constant full-time-occupancy at a premium price-point per bed. Bed projects continue to squeeze out the character of surrounding established neighborhoods with the clear intent to rent beds solely for the bankroll of the universities, out-of-state investors, and local speculators.

---

Boise State also needs to stop plans to dismantle public arterial roadways while attempting to rezone College Subdivision property. A July 2019, ACHD award of approval to reduce traffic on University Drive occurred without public input. It is labeled a “traffic lane reallocation” (lane reduction). At 12:30 and 17:35 minutes into the ACHD video on this plan,\(^2\) there is unity between BSU & ACHD to not include citizens in this drastic change to a public arterial road for Southeast Boise, negatively impacting the neighborhood. Please watch the entire video, if you wish to learn more about a proposal that did not invite the public’s view. Neighborhoods bordering BSU have community value. The video shows complete dismissal of concern for the impact the U zone places on surrounding neighborhood roadways. As a native resident and homeowner close to Juanita and University Drive, I took particular interest in this video of BSU’s testimony to design and finance public roadway changes to their institution’s preferences. This video discusses the traffic-lanes reduction on University Drive which directly impacts my area’s neighborhoods in everyday commutes, and would push far more traveling traffic onto Chrisway, Juanita, etc. This move is a divisive disregard for livability in our homes.

August 21, 2019, I attended a BSU and Land Group public meeting about a revised campus master plan. First up, the Land Group offered one large area map showing a new street coming off Capitol Blvd. and going through our existing College Subdivision, requiring even more existing homes to be demolished for BSU’s footprint to grow. No conversational regard was given to guests who questioned the designs impacting their individual homes. Some guests of this meeting have lived in their current homes for decades, but it mattered not to the presenters. To lose a home is a life changing event for most people. One’s home is an identity and surrounded by sentimental events of time present, past and future.

BSU staff shared a large map master plan and the motor traffic lane reallocation to single lanes of motor traffic flowing at University Drive/Lincoln. Revised campus master plan contains three separate #9’s for bed-projects, all located within a block of yet another new plan to remove arterial traffic flow of University Drive. In short order, BSU wants to build destination points while simultaneously restricting the traffic flow on the current public arterial, University Drive. Those are contradictory actions. University Drive should not be altered for a reduction of traffic when the university solicits increased population flows in the thousands for additional numerous events. Alternatives to lane reductions need to be considered – for example, bike lines on the campus itself, even a sky bridge across University Drive. Meanwhile, the future of student enrollment remains questionable into the next decade.\(^3\)

This past August meeting never disclosed the overall size of BSU’s current footprint: the acres that BSU uses off Warm Springs (old East Junior High), buildings in downtown Boise, and Park Center properties. These sites need to be accounted for and better utilized for future student-beds and academic campus expansion. Today with the inclusion of these nearby BSU properties, a truly integrated city campus design existing that immediately provide students with greenbelt access and good-to-go mass transit connections on existing core roadways.


\(^3\) [https://www.npr.org/2019/12/16/787909495/fewer-students-are-going-to-college-heres-why-that-matters.](https://www.npr.org/2019/12/16/787909495/fewer-students-are-going-to-college-heres-why-that-matters.) 6-minute NPR audio, December, 2019: [https://drive.google.com/file/d/1Yi_JCGosL7LcLzLiEuzx9Fg6trKs44MX/view.](https://drive.google.com/file/d/1Yi_JCGosL7LcLzLiEuzx9Fg6trKs44MX/view.)
BSU’s recently revised campus master plan meeting (August 21, 2019) is in the Master Plan Amendment. It shows an NCAA baseball stadium that expands the University beyond the BSU boundary into our Southeast Neighborhood Association’s Area One. A BSU parking garage and baseball field’s footprint is planned to cover E. University Drive across to Beacon Ave. – a purely entertainment feature said to draw in more motor traffic from every direction of the Treasure Valley. These desires by BSU to change existing arterial roadway for traffic in my area will further reduce existing neighborhood livability in our city’s last subdivision of single-family homes this close to our beautiful Boise River and downtown. We’ve always planned to live and work in this neighborhood, having purchased our home well before anyone considered our neighborhood to be in any expansion zones claimed by BSU or the City of Boise.

December 19, 2019, BSU planners attended SENA meeting at Bown Library. A Boise State South Campus Transportation Study dated October 8, 2018, page 10, Project #22452, titled 04 Proposed Street Modifications, Kittelson & Associates, Inc. was shared with the group and shows more road closures plus changes in motor traffic flow from Lincoln Street east to the BSU’s proposed men’s NCAA baseball stadium on Beacon Ave. and recessed parking garage. This page 10 map reveals multiple road changes, new information that had not been shared on August 21, 2019. Instead, many neighbors learn about these road changes from BSU during the last month of 2019, just a week away from the city’s deadline write response to this growing collection large scale set of requested changes in roads and buildouts. Public hearing at P & Z is set for January 6, 2020.

Consequently, I do not support the construction of a BSU baseball field to be built on Beacon Ave. The area will be log-jammed as public queues to access events at this already traffic tight site of the mega Albertson’s super store. Enticing more motor traffic to this high-density area of Broadway Blvd. so close to the Boise River. The sporting events venue, will require intrusive outdoor audio system for play-by-play commentary, crowd noise, traffic, will continue to diminish our area’s air quality, drive out more bald eagles, birds of prey, herons and wildlife along the greenbelt, and further invade to erase the historic South Boise neighborhood’s character and livability. Additionally, BSU plans to widen Beacon Ave. by 16’ feet to service their buildouts. The roads Protest, Beacon, Lincoln, Boise Ave., and the current University Drive arterial ramps up traffic flow, for students and citizens. The Honors College is marketed as housing the brightest students on campus. BSU wants roadway changes due to student’s j-walking and personal absorptions in screen-distraction around the Honors College. It’s an elementary life-skill for the residing student population to comply and cross University Drive legally, given all the signals and crosswalks that have been installed for their safety. BSU’s ACHD request for lane reduction west on University Drive traveling to Lincoln Street should not be permitted to be changed due to all buildouts BSU desires in “near-term priority 1-10 years” on their revised campus master plan unveiled August 21, 2019. BSU’s proposed future footprint will draw more traffic to this area, not less. Currently BSU has acres and acres of already vacant U-zoned land that they could better utilize as a good neighbor in Boise City’s core.

Finally, we should value what we have. Here’s a third-party quality of life report on our area of Boise, from Niche.com, June of 2019:
Overall Niche Grade 1. Public Schools A- 2. Crime & Safety NG 3. Housing B+ 4. Nightlife A 5. Good for Families A 6. Diversity A- #11 in Best Neighborhoods to Live in Boise A+ Southeast Boise is a neighborhood in Boise, Idaho with a population of 42,094. Living in Southeast Boise offers residents a dense suburban feel and most residents own their homes. In Southeast Boise there are a lot of bars, restaurants, coffee shops, and parks. Many young professionals live in Southeast Boise and residents tend to lean conservative. The public schools in Southeast Boise are highly rated. **Real Estate Rent 40% vs. Own 60%** Median Home Value $227,671 National $184,700 Median Rent $1,000 National $949 **Area Feel -- Dense Suburban**. Based on the housing stock, population density, and the proximity of amenities of the area.

How will our area around Protest Road to the Boise River “score” when all the bed-wishes are granted? Out-of-state developers send their profits back to their out-of-state homes, not ours. “Forgone Spending,” according to the APA Code of Ethics, insures another huge jump in density and traffic for a very small space close to the Boise River. Our neighborhoods already have given the developers all of the Lusk Street area for bed rentals. By the 1990’s Southeast gave acres of affordable housing from Oakland east to Broadway, between Beacon and University Drive. BSU has U-zone student housing at Towers Hall, Chaffee Hall, Driscoll Hall, University Park, Keiser Hall, University Suites, Morrison Hall, University Square, Taylor Hall, Lincoln Townhomes, University Heights, University Manor, University Village, and, most recently, the Honors College and Sawtooth Hall. We are inundated with multi-story beds for rent at our high-density grid of Boise City.

BSU’s 2019 campus revision continues to neglect to document the true size of their footprint with downtown, Park Center property and Warm Springs sports fields. Now we’re challenged by three more, separate multi-story bed buildings and a baseball field. The Identity Project was granted against neighbors’ wishes. I truly hope you will reflect on our neighborhood’s concern, because there are numerous qualities of life issues for all walks of life and ages called out here that deserve preservation, not erasure. Let’s figure out how to save 1801 Yale Court as existing affordable housing in the year 2020.

Truly,

Ariel McLuskie
1919 Verna Lane
Boise, ID 83706
Mark J. Lavin  
PI & Development Director  
150 N. Capital Blvd.  
Boise, Idaho 83702
AFFIDAVIT

Jolene M. Lehmann Estate  
P. O. Box 1915, Boise, Idaho 83701

Reuben Lehmann  
Personal Authorized Representative

DATE: December 16, 2019

TO: Boise City Mayor, Council, Boise Planning and Zoning and Development Service, BSU President and Director, Campus Planning, Alumni President, University Manager and President for Academic Affairs, State Board of Education Director, Superintendent of Public Inst., Senate and House Committee Chairman of Education and Secretary of State.

RE: BSU Master Plan: BSU’s planning process to modify future visionary blueprints to locate buildings, roads and other physical aspects of the Master Plan that would interfere with Lehmann Family’s inherent unalienable property rights.

I Reuben Lehmann as Authorized Representative for my private Family’s non-corporate unsettled Indefensible estate properties of our sister Jolene M. Lehmann acquired back to the 1990’s, most of which are located at the end of West Verna Lane, West Potter Drive. 1900 block and end of West Yale Court. (See map of properties attachment.)

In my opinion the issue before us is corporate jurisdiction with regard to We the People's inherent vested unalienable rights. All other issues are of no avail if jurisdiction is not resolved.

My Brother Gene and I appeared at the Boise State Master Plan Amendment meeting on Wednesday, August 21, 2019: 6:00pm – 8:00pm.

I notified the Coordinators of the Capital Planning for the BSU Master Plan by certified mail September 8, 2014 with regard to my family’s position on the so called “Master Plan”. I was never contacted or received any rebuttal.

MY QUESTION TO THE RESPONSIBLE PARTY OF THE BOISE STATE UNIVERSITY “MASTER PLAN” IS:

How did this planned invasion of the private Lehmann family’s property rights within the BSU “Master Plan” get publicly displayed on Sunday, October 16, 2005 in the front page of The Idaho Statesman, prima facie, evidencing the Lehmann family had sold or moved out of their private property, when they had never been contacted for their input and position? At the same time, stating their plan to change roads which would bring in eminent domain claims for public roads to force property sales by assuming condemnation of properties. An authority BSU does not have. Then, as an additional shot in the back to We the People of Idaho, they intend to give away Idaho property (Honors College in the Idaho Statesman Thursday January 7, 2016 – Lehmann’s affidavit in response 01/16/2016) to an out of State Corporation for profit, Tax exempt and competition to any landlord in Boise.

Is this really about expanding the University’s Corporate influence using media like the Statesman and the Boise City Council as the tools to manipulate the free market?

Not to forget their attempt to bring in ACHD as a strong arm in this conspiracy, through “eminent domain” and their intent to give away Idaho property to cut of State Corporations as competition to long standing Boise Services.

I offer quality housing facilities to BSU students and have been for 26 years, in order to provide a level of privacy not afforded in the dormitories. Which is not to necessarily diminish that option – however it does and has provided an alternate choice for the students as my 100 % occupancy rate clearly indicates. Many of the students remain in these rentals for 2 to 3 years. So much for inherent rights of We the people and due process – 5th Amendment.
My family is concerned about the future of the property within the Private Family’s unsettled Indefeasible Estate of Jolene Lehmann located near BSU campus. Therefore I Demand any maps for the future expansion plans of the BSU campus that may interfere with my family’s unalienable property rights. If I do not receive any maps for the future expansion plans of the BSU campus that will interfere with my family’s unalienable property rights within 30 days from the date of this affidavit. I will assume that BSU has no expansion plans that will interfere with my family’s indefeasible vested unalienable property rights, or I will assume you have no verified evidence of jurisdiction over me and my private Family. This should be enough time for the live agent to perform the duties trusted to him by the organic Constitution he swore an oath to uphold. If and when your live agent response to this affidavit he/she must certified their signature in an affidavit under penalty of perjury-Federal Rules of Civil Procedure 28 § 1746.

Reuben Lehmann’s statements in this affidavit are true and correct to the best of his knowledge and belief.

Sincerely,
December 16, 2019

All rights reserved, not limited to the 9th Amendment.

FRCP 28 § 1746 (t)

ATTACHMENT: Map of properties within my Private Families Estate.

State of Idaho
County of Ada

DATED this 16th day of December, 2019, before me the undersigned Notary Public, personally appeared Reuben Lehmann, known to be the person whose name is subscribed to the foregoing instrument, as a personal authorized representative of the Estate of Jolene M. Lehmann, and acknowledged to me that he executed the same as such authorized representative.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year in this acknowledgment first above written.

Notary Public
My Commission Expires

This is an attempt to preserve justice pursuant to inherent Unalienable (un a lën’e b’l) rights.

Any information obtained will be used for that purpose.

NOTICE TO PRINCIPAL IS NOTICE TO AGENT; NOTICE TO AGENT IS NOTICE TO PRINCIPAL
This non-fiction non-corporate autonomous private Lehmann Family estate's private property is not for sale, non-negotiable.
AFFIDAVIT OF SERVICE LIST

For

DEMAND CERTIFICATION TO VERIFY JURISDICTION ON BSU MASTER PLAN.

NOTICE by Lehmann with due respect and Certified Mailing this date (All Rights reserved).

A true, correct and complete copy has been served.

CERTIFIED MAIL: # 7018 1130 0002 1150 5252 day delivery
Secretary of State Lawerence Denney, Capital Building, Room E205, 700 W. Jefferson
Street, P. C. Box 83720, Boise, Idaho 83720-0080

CERTIFIED MAIL: # 7018 1130 0002 1148 8708 day delivery
BSU President – Marlene Tromp, 1910 University Drive, Boise, Idaho 83725

BSU: 1910 and 1173 University Drive, Boise, Idaho 83725 – [1st Class Mail]
Director of Government and Community Relations – Roger Brown
Campus Planning – Christy Jordon
Alumni President – Kaleb Smith
Vice Provost for Academic Planning – Zeynep Hansen

CITY HALL: 150 N. Capital Blvd. Boise, Idaho 83702 – [1st Class Mail]
Mayor – David Bister
Council President – Lauren Mclean
Planning and Development Service Director – Mark J. Lavin

STATE EDUCATION: 700 W. Jefferson Street, P. O. Box 83720, Boise, Idaho 83720-0080
Board of Education Director – Matt Freeman – [1st Class Mail]
Board of Education President – Linda Clark
Superintendent of Public Instruction – Sherri Ybarra

STATE REPRESENTATIVES: 700 W. Jefferson St., P. O. Box 83720, Boise, Idaho 83720-0080
Senate Committee Chairman of Education – Dean Mortimer – [1st Class Mail]
House Committee Chairman of Education – Lance Clow

WITNESS TO SIGNING AND MAILING this day December 16, 2019.

[Signature]
Witness

[Signature] All Rights Reserved

**** PROOF OF SERVICE ****

This is an attempt to preserve justice pursuant to inherent Unalienable (un à lèn’s b’il) rights.

Any information obtained will be used for that purpose.

NOTICE TO PRINCIPAL IS NOTICE TO AGENT; NOTICE TO AGENT IS NOTICE TO PRINCIPAL.