

US 1 CORRIDOR PLANNING STUDY

Florida Department of Transportation
District 5
FM#: 436187-1-12-01



Future Conditions Summary
June 2015



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Introduction

1.1 Purpose of Technical Memorandum

The purpose of this technical memorandum is to develop the projected future traffic demand on US 1, and identify potential capacity deficiencies and additional needs for the corridor through 2040. This technical memorandum will include the methodology and forecast of future traffic conditions for US 1 from Laurel Place to Indian River Avenue. The results of this analysis will be used to define the corridor needs and develop potential improvement alternatives.

1.2 Project Background and Purpose

This project has been requested by the City of Titusville to coordinate the development of a future vision for the US 1 corridor that will establish a multimodal approach to providing for future transportation needs. US 1 has been the subject of various previous planning studies and improvement efforts. A number of development and planning goals have been identified and implemented in an effort to create a more walkable urban environment for the historic downtown Titusville business district. Figure 1 illustrates the Study Area.



Arthur Dunn
Airpark

406

Garden St.

1

END
PROJECT

Max Brewer, Memorial Pkwy.

Indian River

95

405

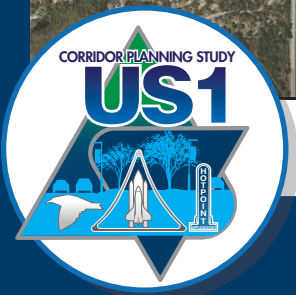
South St.

Hopkins Ave.
Washington Ave.

BEGIN
PROJECT

LEGEND

— Project Location



US 1 Corridor Planning Study

Laurel Place to Indian River Avenue



FIGURE 1
Study Area Location Map

2

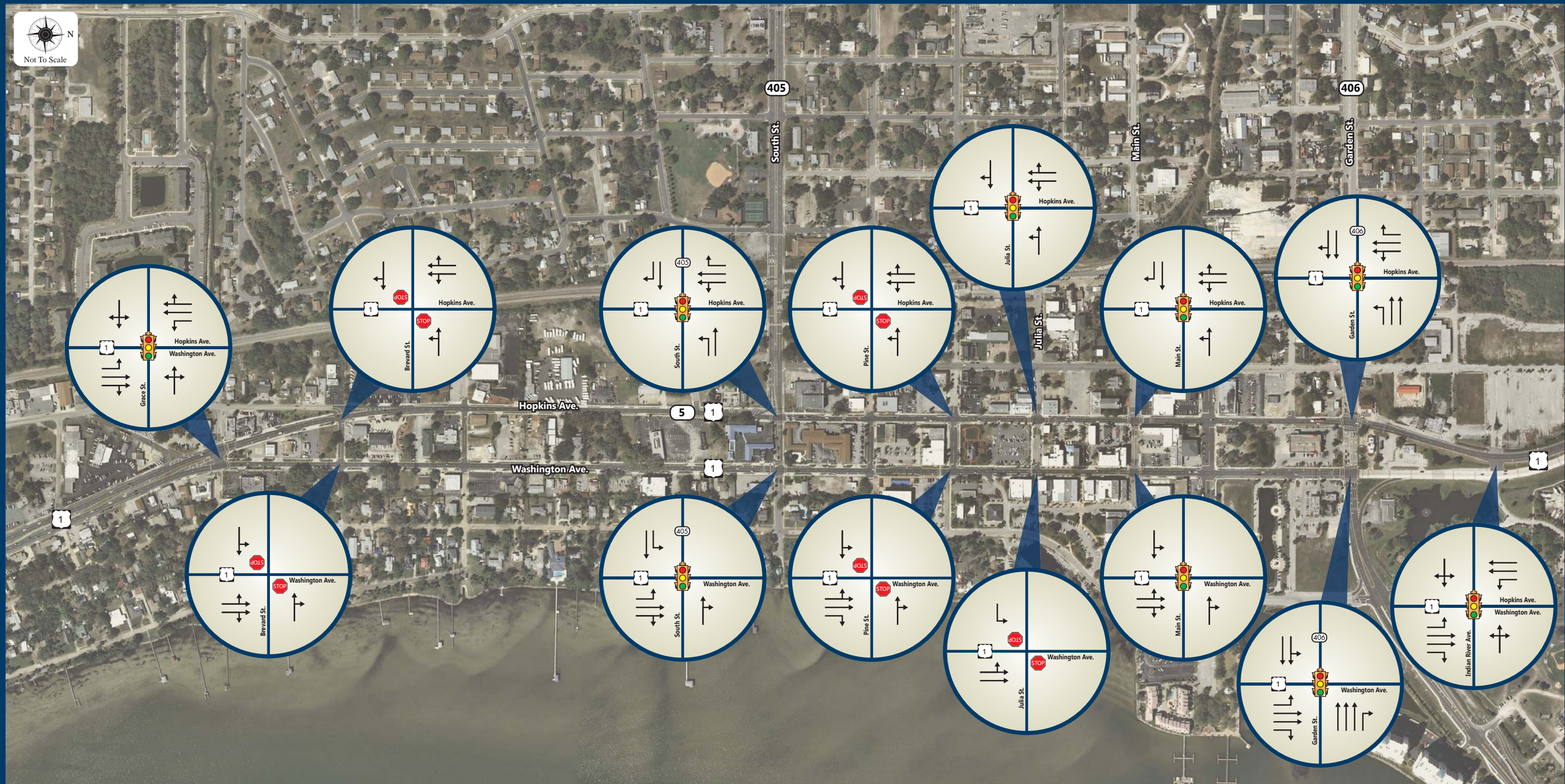
Existing Conditions

2.1 Roadway and Intersection Characteristics

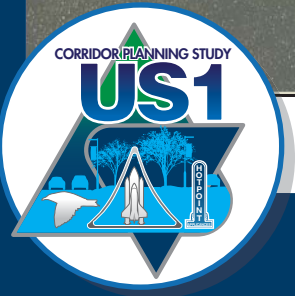
US 1 from Laurel Place to Indian River Avenue is classified as an “urban principal arterial other”. There are two predominate typical sections of the corridor; a four-lane bidirectional segment from Laurel Place to Grace Street; and a two-lane, one-way pair segment from Grace Street to Indian River Avenue. The posted speed limit varies along US 1; from south of the Study Area to north of Laurel Place the posted speed limit is 45 miles per hour (MPH), immediately north of Laurel Place to south of SR 405 it transitions to 40 MPH, from south of SR 405 to north of SR 406 the posted speed is 30 MPH, and transitions to 35 MPH south of Indian River Avenue.

Figure 2 provides the year 2015 intersection geometry for the following Study Area intersections:

- US 1/Grace Street (Signalized)
- US 1 Northbound/Brevard Street (Un-signalized)
- US 1 Southbound/Brevard Street (Un-signalized)
- US 1 Northbound/SR 405 (Signalized)
- US 1 Southbound/SR 405 (Signalized)
- US 1 Northbound/Pine Street (Un-signalized)
- US 1 Southbound/Pine Street (Un-signalized)
- US 1 Northbound/Julia Street (Un-signalized)
- US 1 Southbound/Julia Street (Signalized)
- US 1 Northbound/Main Street (Signalized)
- US 1 Southbound/Main Street (Signalized)
- US 1 Northbound/SR 406 (Signalized)
- US 1 Southbound/SR 406 (Signalized)
- US 1/Indian River Avenue (Un-signalized)



| LEGEND | |
|--------|------------------------------|
| | Signalized Intersection |
| | Stop-Controlled Intersection |
| | Intersection Lane Geometry |
| | On-Street Parking Areas |
| | Street Lighting |
| | Pedestrian Lighting |



US 1 Corridor Planning Study

Laurel Place to Indian River Avenue



FIGURE 2
Existing 2015 Intersection Geometry

2.2 2015 Existing Volumes

The 24-hour bi-directional volume tube counts were conducted in February 2015 at the following locations:

- South of Grace Street
- US 1 Northbound/south of South Street
- US 1 Southbound/south of South Street
- US 1 Northbound/south of SR 406
- US 1 Southbound/south of SR 406
- North of Indian River Avenue

Weekday turning movement counts were collected at the following intersections for the AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak hours:

- US 1/Grace Street
- US 1 Northbound/Brevard Street
- US 1 Southbound/Brevard Street
- US 1 Northbound/SR 405
- US 1 Southbound/SR 405
- US 1 Northbound/Pine Street
- US 1 Southbound/Pine Street
- US 1 Northbound/Julia Street
- US 1 Southbound/Julia Street
- US 1 Northbound/Main Street
- US 1 Southbound/Main Street
- US 1 Northbound/SR 406
- US 1 Southbound/SR 406
- US 1/Indian River Avenue

All traffic count data collected was adjusted utilized the latest (2013) FDOT axle (where applicable) and seasonal adjustment factors for Brevard County to provide 2015 annual average conditions.

2.3 Existing Operational Analysis

Existing 2015 operational analysis was conducted to determine the level-of-service (LOS) for the roadway segments and the Study Area intersections. Peak hour peak direction volumes along the different segments were compared against the latest Generalized Peak Hour Directional Service Volumes Tables from the 2012 FDOT Quality/Level of Service Handbook to obtain the arterial LOS. The LOS for the Study Area intersections were determined using the procedures as outlined in the Transportation Research Board's (TRB) – Highway Capacity Manual (HCM 2000) using Synchro Software (version 8.0).

2.3.1 Roadway Operational Analysis

According to FDOT, the study corridor is classified as an “urban principal arterial other” and has an adopted level of service “D”. The generalized peak hour directional service volumes for the LOS

letters “A” through “F” were obtained from Table 7 of the 2012 FDOT Quality/Level of Service Handbook and compared with volumes collected from the 24-Hour bi-directional tube counts. A summary of the LOS analysis for the study roadways is included in Table 1.

Table 1: 2015 Roadway Level of Service

| Roadway/Segment | Daily | | AM Peak | | PM Peak | |
|-------------------------------|--------|-----|------------|-----|------------|-----|
| | AADT | LOS | Volume | LOS | Volume | LOS |
| US 1 | | | | | | |
| Laurel Place to Grace Street | 21,991 | C | 888 (SB) | C | 935 (NB) | C |
| US 1 Southbound | | | | | | |
| Grace Street to SR 405 | 13,156 | C | 1,094 (SB) | C | 1,137 (SB) | C |
| SR 405 to SR 406 | 11,400 | C | 861 (SB) | C | 984 (SB) | D |
| SR 406 to Indian River Avenue | 8,687 | C | 700 (SB) | | 699 (SB) | C |
| US 1 Northbound | | | | | | |
| Grace Street to SR 405 | 13,030 | C | 995 (NB) | C | 1,127 (NB) | C |
| SR 405 to SR 406 | 11,476 | D | 884 (NB) | C | 1,053 (NB) | C |
| SR 406 to Indian River Avenue | 9,236 | D | 680 (NB) | C | 933 (NB) | D |

2012 FDOT Quality/Level of Service Handbook Tables

AADT = Data Collected * Seasonal Factor (0.92) * Axle Factor (0.99) (if need)

As shown in Table 1, the US 1 corridor currently operates within acceptable LOS standards. The existing arterial LOS conditions are illustrated in Figure 3

2.3.2 Intersection Operational Analysis

According to the HCM 2010, for signalized intersections, and average control delay per vehicle from 55 seconds up to 80 seconds is considered to be a LOS E condition. Beyond 80 seconds is considered to be a LOS F condition. A summary of the LOS analysis for the study intersections is included in Table 2.

Table 2: 2015 Intersection Level of Service

| Intersection | Control | AM Peak | | PM Peak | |
|--------------------------------|---------------|----------|-----|-----------|-----|
| | | Delay | LOS | Delay | LOS |
| US 1/Grace Street | Signalized | 6.0 | A | 5.6 | A |
| US 1 Northbound/Brevard Street | Un-signalized | 0.0/14.1 | A/B | 0.1/18.1 | A/C |
| US 1 Southbound/Brevard Street | Un-signalized | 0.4/18.3 | A/C | 0.1/40.9 | A/E |
| US 1 Northbound/ SR 405 | Signalized | 4.1 | A | 4.9 | A |
| US 1 Southbound/ SR 405 | Signalized | 6.7 | A | 8.6 | A |
| US 1 Northbound/Pine Street | Un-signalized | 0.5/18.3 | A/C | 0.3/24.4 | A/C |
| US 1 Southbound/Pine Street | Un-signalized | 0.3/14.3 | A/B | 0.1/16.0 | A/C |
| US 1 Northbound/Julia Street | Un-signalized | 0.4/12.0 | A/B | 0.1/14.1 | A/B |
| US 1 Southbound/Julia Street | Signalized | 2.0 | A | 2.7 | A |
| US 1 Northbound/Main Street | Signalized | 2.8 | A | 4.0 | A |
| US 1 Southbound/Main Street | Signalized | 3.6 | A | 5.6 | A |
| US 1 Northbound/SR 406 | Signalized | 8.6 | A | 9.7 | A |
| US 1 Southbound/SR 406 | Signalized | 10.4 | B | 12.0 | B |
| US 1/Indian River Avenue | Un-signalized | 8.4/13.7 | A/B | 11.9/22.4 | B/C |

** For un-signalized intersections mainline/side street delay and LOS was documented*

As seen in Table 2, all Study Area intersection and roadway segments currently operate under acceptable level of service conditions during the AM and PM peak hours with the exception of US 1 Southbound/Brevard Street. This intersection as a whole operates above the adopted level of service. The existing intersection operations are illustrated in Figure 4.



US 1 Corridor Planning Study
Laurel Place to Indian River Avenue

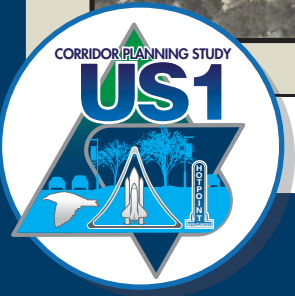
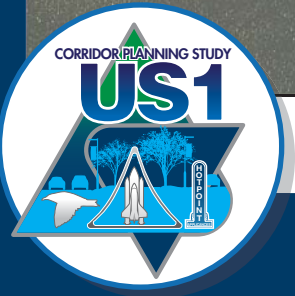
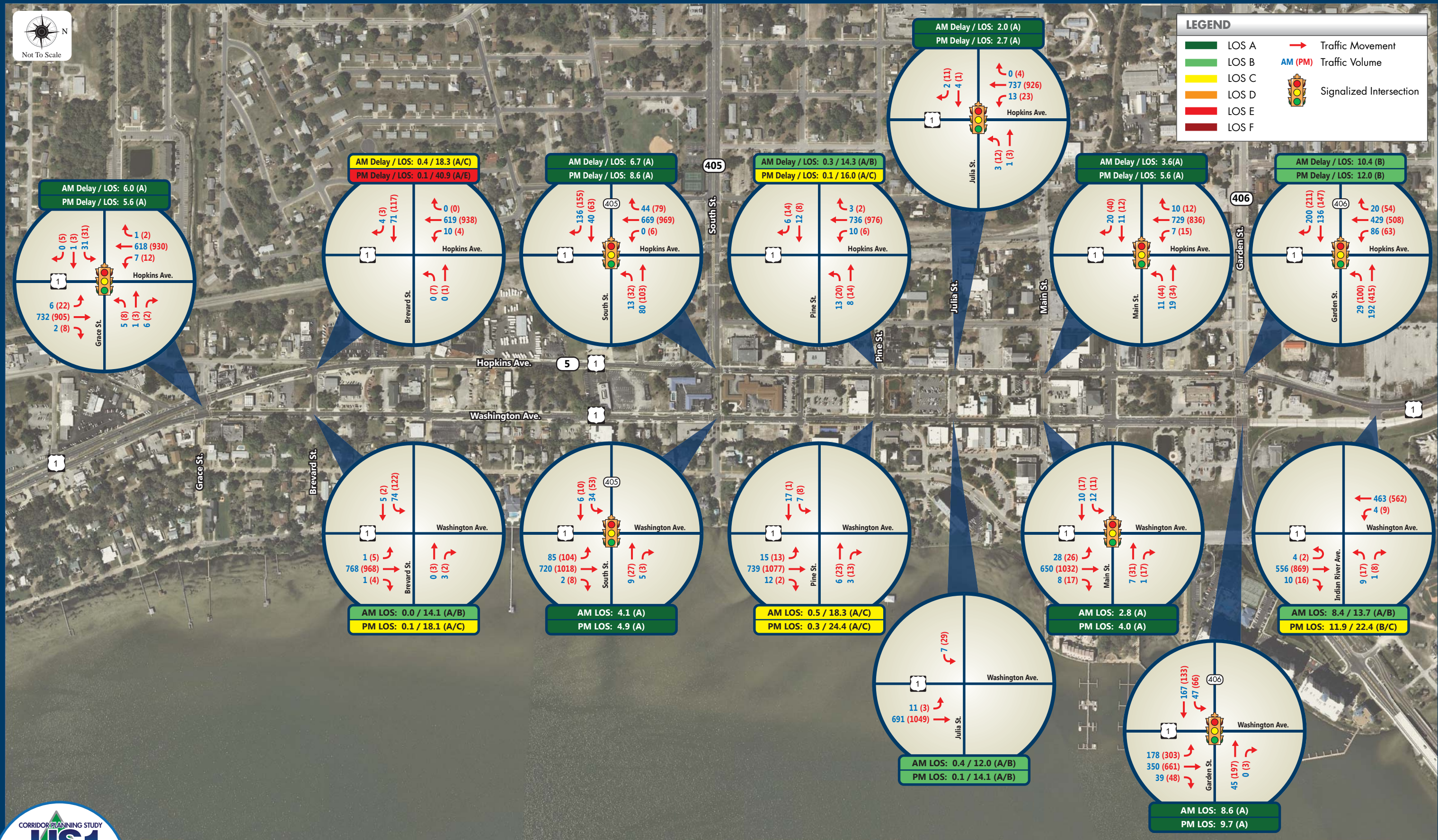


FIGURE 3
Existing 2015 Roadway Volumes & Operations



LEGEND

- LOS A (Green)
- LOS B (Light Green)
- LOS C (Yellow)
- LOS D (Orange)
- LOS E (Red)
- LOS F (Dark Red)
- Traffic Movement (Red arrow)
- Traffic Volume (AM (PM)) (Blue arrow)
- Signalized Intersection (Traffic light icon)



US 1 Corridor Planning Study

Laurel Place to Indian River Avenue



FIGURE 4
Existing 2015 Intersection Volumes & Operations

3

2040 Future Conditions

3.1 Future Land Use

The Future Land Uses (FLUs) assigned to the Study Area, Figure 5, are generally consistent with the existing land uses along, and adjacent to the corridor.

The entirety of the land adjacent to the study corridor is designated as Downtown Mixed-Use. The City of Titusville specifies that the Downtown Mixed-Use FLU is permitted to have a maximum density of 20 dwelling units per acre and a maximum intensity of 5.0 Floor Area Ratio (FAR). The FAR is the ratio of a buildings total floor area (Gross Floor Area) to the size of the parcel that it is built on, and is generated by dividing the building area by the parcel area. The Downtown Mixed-Use FLU was established by the City of Titusville to “pursue the renewal of Downtown Titusville as the center of professional, governmental, financial and unique retail and redevelop blighted areas.” The Downtown Mixed-Use FLU is intended to enhance the visual attractiveness of downtown, utilize the waterfront, encourage and promote pedestrian spaces, and emphasize development and redevelopment east of US 1 that uses the waterfront as an amenity.

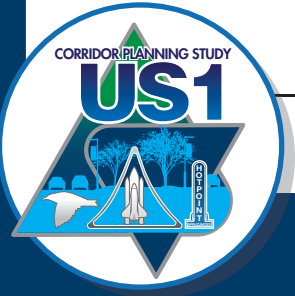
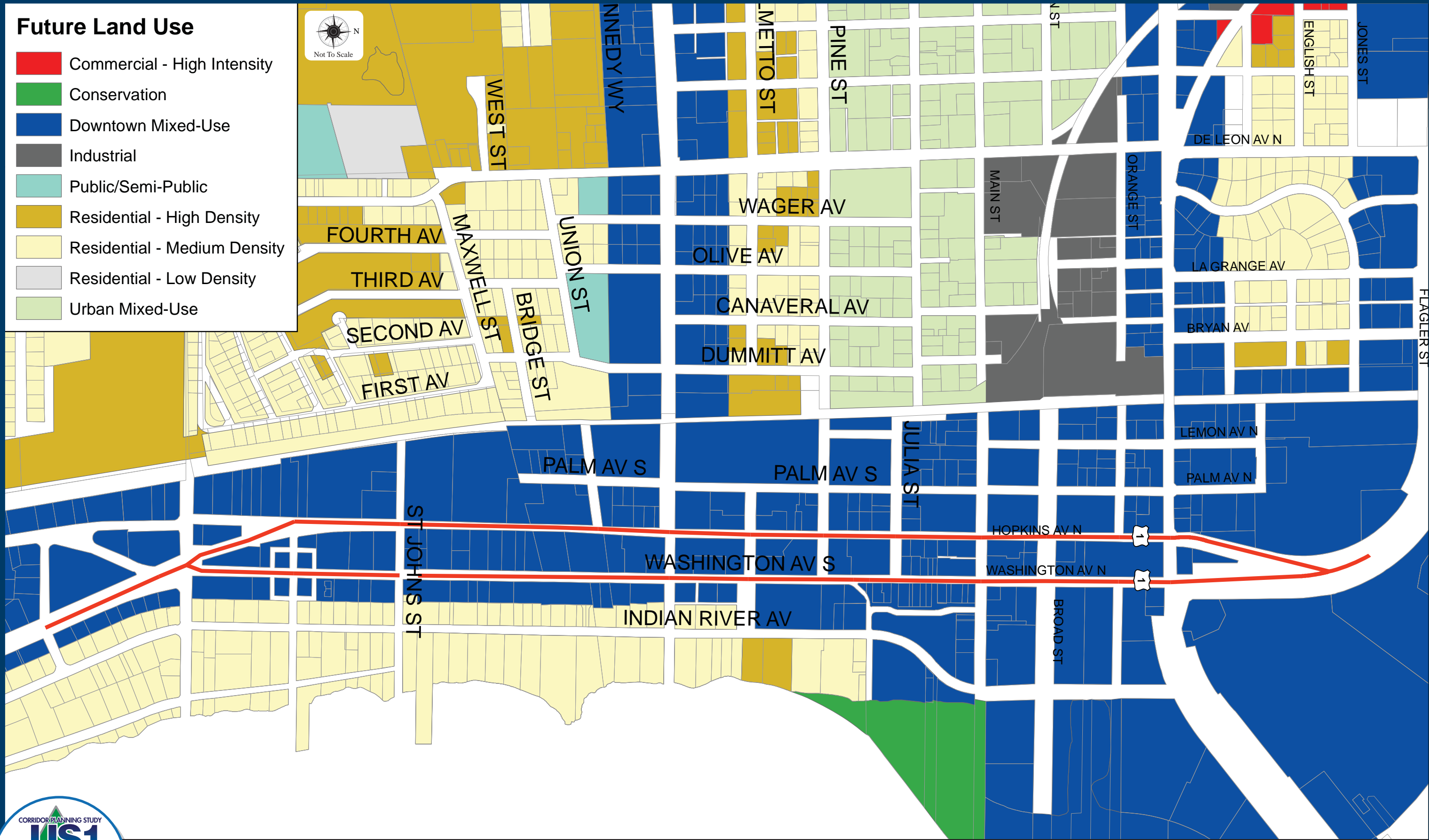
Along the study corridor, the Downtown Mixed-Use district extends to Indian River Avenue east of US 1. Further east, between Indian River Avenue and the Indian River, the majority of the land is designated as Residential Medium. Medium density residential lands are permitted for a maximum density of 10 dwelling units per acre, and are intended to consider existing and proposed land uses during development to ensure compatibility with surrounding uses.

3.2 Planned Improvements

The only planned improvement within the Study Area is the Downtown Connector Trail, illustrated in Figure 6. It’s currently in the Preliminary Design & Engineering (PD&E) phase. When completed, this trail will connect to the East Central Florida Regional Rail Trail to the northwest and future planned segments of the Space Coast Loop Trail to the east. No other planned roadway improvement projects were identified within the Study Area, therefor, the existing intersection and lane geometry identified in Figure 2 were utilized for the 2040 future conditions analysis. Figure 6 illustrates future planned improvements within the Study Area.

Future Land Use

- Commercial - High Intensity
- Conservation
- Downtown Mixed-Use
- Industrial
- Public/Semi-Public
- Residential - High Density
- Residential - Medium Density
- Residential - Low Density
- Urban Mixed-Use

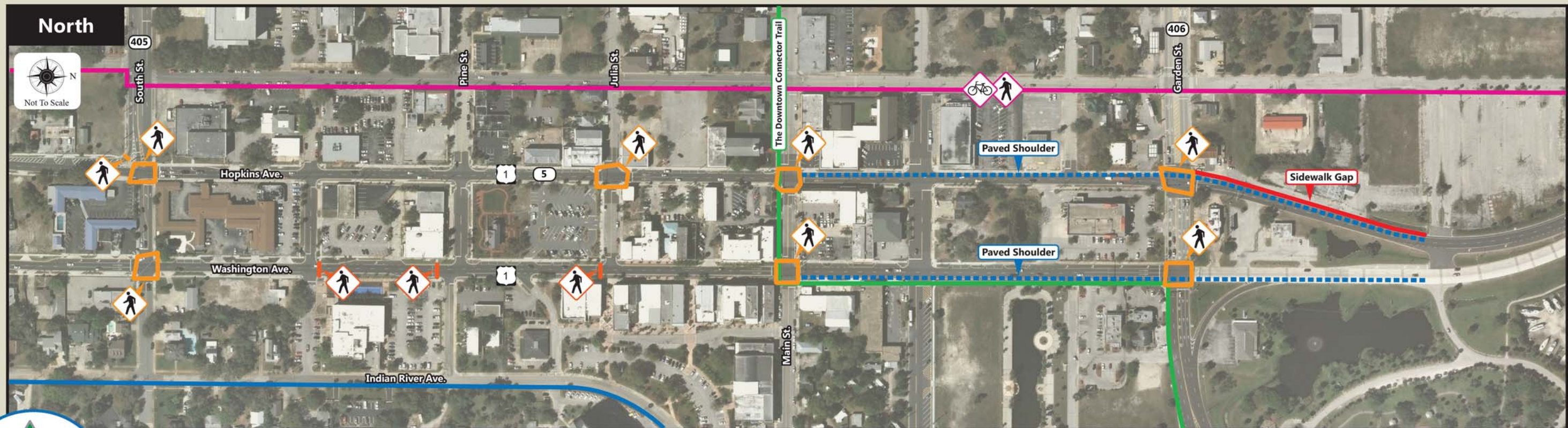
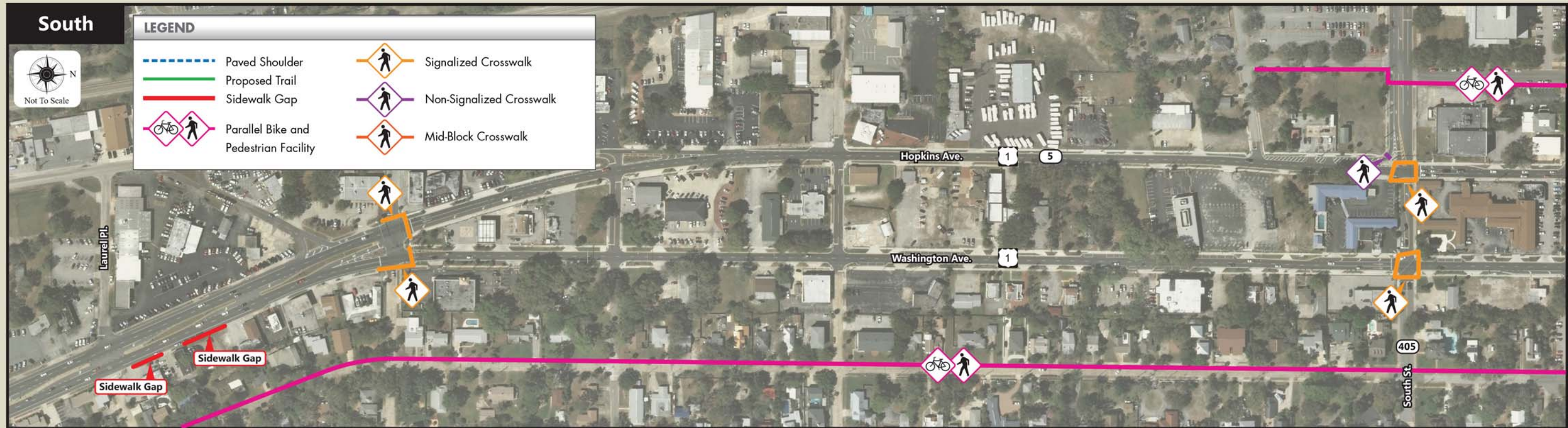


US 1 Corridor Planning Study

Laurel Place to Indian River Avenue



FIGURE 5
Future Land Use Map



US 1 Corridor Planning Study
Laurel Place to Indian River Avenue



FIGURE 6
Existing and Proposed Trails,
Existing Bicycle & Pedestrian Facilities

3.3 Growth Projections and Assumptions

In order to determine an acceptable growth rate for the US 1 Study Area, traffic projections from various available sources were considered. This included the latest year Central Florida Regional Planning Model, Version 5.1 (CFRPM 5.1) released in 2012, FDOT historical Annual Average Dailey Traffic (AADT) growth trends, and Brevard County population projections from the Bureau of Economic and Business Research (BEBR). Table 3 below presents the comparison of resulting growth rates.

Table 3: Growth Rate Comparison

| Growth Method | Growth Rate |
|---------------------------------|--------------------|
| Historic Trends Analysis | -3.40% |
| Model Growth Analysis | 1.37% |
| BEBR Growth Analysis | |
| Brevard County Medium | 0.85% |
| Brevard County High | 1.54% |
| Average Growth Rate | 1.46% |

The historic growth trends were not applied due to the negative value as illustrated in Table 3. The model growth analysis identified a growth rate of 1.37% and applied to the 2015 existing volumes to develop the 2040 future traffic. It was observed that the model growth analysis fit between the BEBR medium and high growth rates, therefore the 1.37% annual growth rate was utilized for the analysis. Figure 7 and Figure 8 illustrate the projected 2040 traffic volumes.

3.4 2040 Future Operational Analysis

Future 2040 operational analysis was conducted to determine the level-of-service (LOS) for the roadway segments and the Study Area intersections. The same methodology used for determining 2015 Existing LOS was applied to the 2040 Future scenario.

3.4.1 2040 Projected Roadway Operations

According to FDOT, the study corridor is classified as an “urban principal arterial other” and has an adopted LOS “D”. The generalized peak hour directional service volumes for the LOS letters “A” through “F” were obtained from Table 7 of the 2012 FDOT Quality/Level of Service Handbook and compared with projected 2040 volumes calculated using the 2015 existing volumes with the previously-identified 1.37% annual growth factor applied. The 2040 projected roadway operations are provided in Table 4 and Figure 7 for daily, AM peak hour, and PM peak hour.

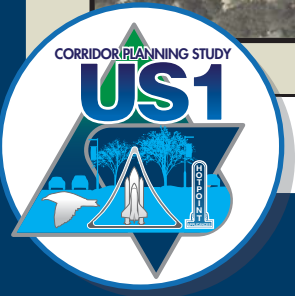
Table 4: 2040 Projected Roadway Level of Service

| Roadway/Segment | Daily | | AM Peak | | PM Peak | |
|----------------------------------|--------|-----|---------|-----|---------|-----|
| | AADT | LOS | Volume | LOS | Volume | LOS |
| US 1 (2-Way Section) | | | | | | |
| Laurel Place to Grace Street | 31,000 | C | 1,200 | C | 1,300 | C |
| US 1 Southbound (One Way) | | | | | | |
| Grace Street to SR 405 | 18,000 | C | 1,500 | C | 1,600 | C |
| SR 405 to SR 406 | 16,000 | C | 1,200 | D | 1,400 | D |
| SR 406 to Indian River Avenue | 12,000 | D | 980 | D | 980 | D |
| US 1 Northbound (One Way) | | | | | | |
| Grace Street to SR 405 | 18,000 | C | 1,400 | C | 1,60 | C |
| SR 405 to SR 406 | 16,000 | D | 1,200 | C | 1,500 | C |
| SR 406 to Indian River Avenue | 13,000 | D | 960 | D | 1,300 | D |

2012 FDOT Quality/Level of Service Handbook Tables

*AADT = Data Collected * Seasonal Factor (0.92) * Axle Factor (0.99) (if need)*

As shown in Table 4, the US 1 corridor currently operates within acceptable LOS standards.



US 1 Corridor Planning Study
Laurel Place to Indian River Avenue



FIGURE 7
Future 2040 Projected
Roadway Volumes & Operations

3.4.2 2040 Projected Intersection Operations

According to the HCM 2010, for signalized intersections, and average control delay per vehicle from 55 seconds up to 80 seconds is considered to be a LOS E condition. Beyond 80 seconds is considered to be a LOS F condition. A summary of the 2040 projected intersection operations for all Study Intersections is provided in Table 5 for the AM and PM peak hours. The signal timings were optimized under the assumption that signal timings will be regularly maintained through 2040. Analysis output sheets for the roadway operations are attached.

Table 5: 2040 Projected Intersection Level of Service

| Intersection | Control | AM Peak | | PM Peak | |
|--------------------------------|---------------|----------|-----|-----------|-----|
| | | Delay | LOS | Delay | LOS |
| US 1/Grace Street | Signalized | 10.5 | B | 9.9 | A |
| US 1 Northbound/Brevard Street | Un-signalized | 0.0/19.6 | A/B | 0.1/44.6 | A/E |
| US 1 Southbound/Brevard Street | Un-signalized | 0.1/30.3 | A/D | 0.1/236.7 | A/F |
| US 1 Northbound/ SR 405 | Signalized | 4.7 | A | 6.1 | A |
| US 1 Southbound/ SR 405 | Signalized | 6.0 | A | 10.5 | B |
| US 1 Northbound/Pine Street | Un-signalized | 0.5/26.3 | A/D | 0.4/88.1 | A/F |
| US 1 Southbound/Pine Street | Un-signalized | 0.1/18.2 | A/C | 0.1/22.5 | A/C |
| US 1 Northbound/Julia Street | Un-signalized | 0.4/13.8 | A/B | 0.1/18.9 | A/C |
| US 1 Southbound/Julia Street | Signalized | 3.2 | A | 3.1 | A |
| US 1 Northbound/Main Street | Signalized | 4.1 | A | 6.0 | A |
| US 1 Southbound/Main Street | Signalized | 5.4 | A | 7.6 | A |
| US 1 Northbound/SR 406 | Signalized | 8.6 | A | 11.4 | B |
| US 1 Southbound/SR 406 | Signalized | 15.5 | B | 14.7 | B |
| US 1/Indian River Avenue | Un-signalized | 9.6/15.5 | A/C | 0.2/19.5 | A/C |

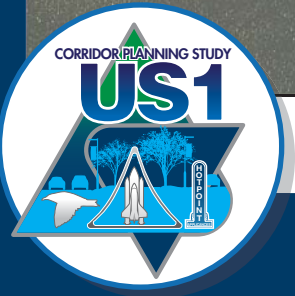
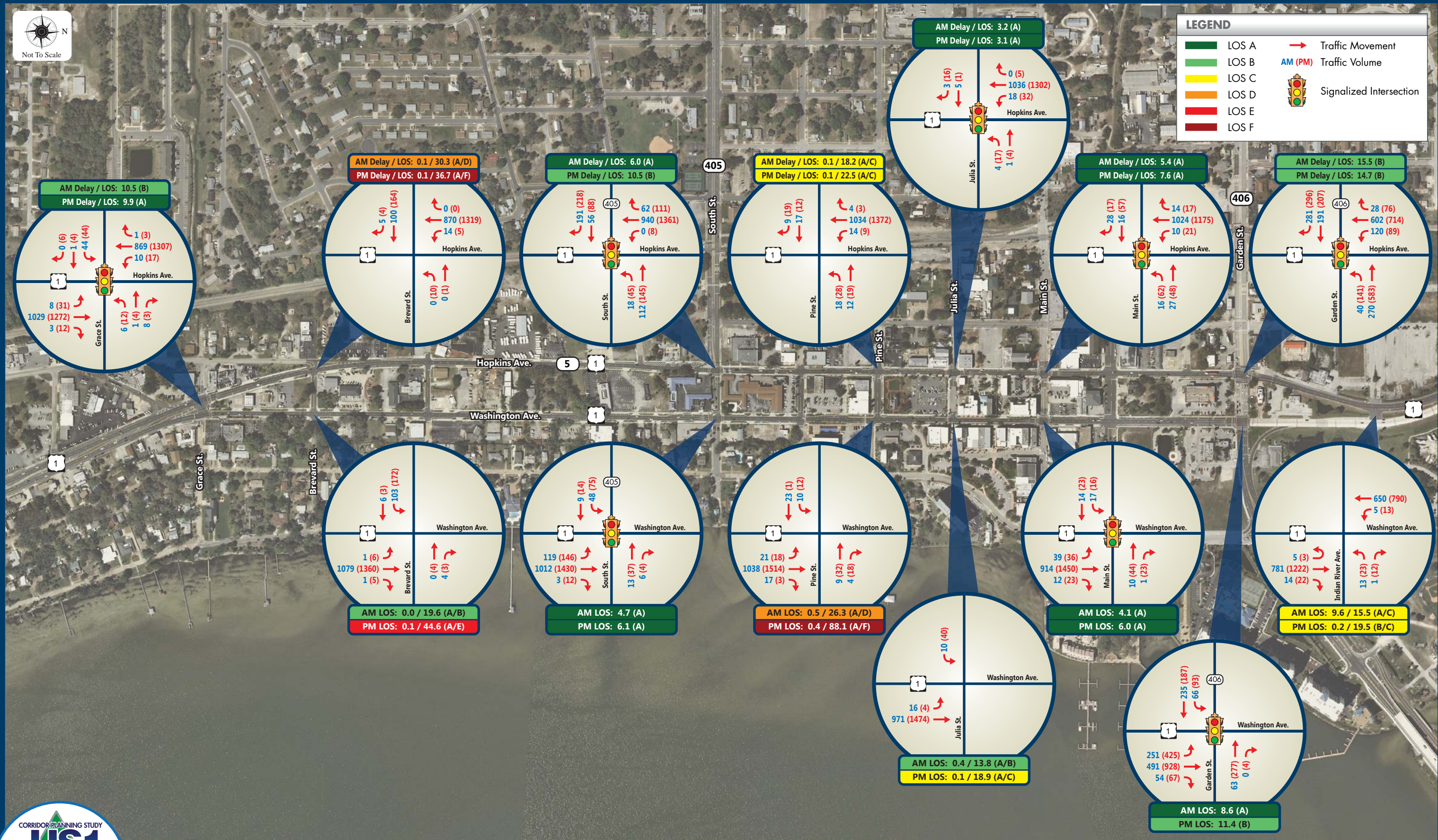
** For un-signalized intersections mainline/side street delay and LOS was documented*

As presented in Table 5 above, all of the signalized Study Area intersections are anticipated to operate at acceptable LOS levels in 2040. Unsignalized Study Area intersections are all anticipated to have mainline street operations the meeting LOS standards. The 2040 project intersection operations are presented in Figure 8 for the AM and PM peak hours. Synchro reports are attached.



LEGEND

- LOS A (Green)
- LOS B (Light Green)
- LOS C (Yellow)
- LOS D (Orange)
- LOS E (Red)
- LOS F (Dark Red)
- Traffic Movement (Red arrow)
- Traffic Volume (AM (PM)) (Blue/Red numbers)
- Signalized Intersection (Traffic light icon)



US 1 Corridor Planning Study

Laurel Place to Indian River Avenue



FIGURE 8
Existing 2040 Projected
Intersection Volumes & Operations

4

Summary

Based on analysis performed to determine the 2040 projected volumes and operations of US 1 within the Study Area, there are no anticipated roadway capacity or intersection operational issues. Potential improvement alternatives will consider multimodal improvements such as bicycle and pedestrian facilities to complement the planned Downtown Connector Trail and the existing facilities on the Max Brewer Bridge. There may be opportunities to improve transit stop locations and enhance pedestrian and bicycle mobility between the one-way pairs throughout the Study Area.

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 0.2 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 0 | 0 | 13 | 0 | 1 | 5 | 781 | 14 | 5 | 0 | 650 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 140 | - | 0 | 475 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 2 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 4 |
| Mvmt Flow | 0 | 0 | 0 | 14 | 0 | 1 | 5 | 849 | 15 | 5 | 0 | 707 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|----------------------|--------|------|------|--------|---|---|--------|---|---|
| Conflicting Flow All | 860 | 871 | 424 | 0 | 0 | 0 | 849 | 0 | 0 |
| Stage 1 | 860 | 860 | - | - | - | - | - | - | - |
| Stage 2 | 0 | 11 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | - | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | - | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 295 | 288 | 579 | - | - | - | 785 | - | - |
| Stage 1 | 375 | 371 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 293 | 0 | 579 | - | - | - | 785 | - | - |
| Mov Cap-2 Maneuver | 349 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 375 | 0 | - | - | - | - | - | - | - |
| Stage 2 | - | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 15.5 | | 0.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | WBLn1 | SBL | SBT | SBR |
|-----------------------|-----|-----|-----|-------|-------|-----|-----|
| Capacity (veh/h) | - | - | - | 359 | 785 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.042 | 0.007 | - | - |
| HCM Control Delay (s) | - | - | - | 15.5 | 9.6 | - | - |
| HCM Lane LOS | - | - | - | C | A | - | - |
| HCM 95th %tile Q(veh) | - | - | - | 0.1 | 0 | - | - |

Intersection

Int Delay, s/veh 0

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 10 | 0 | 16 | 971 | 0 | 0 |
| Conflicting Peds, #/hr | 2 | 0 | 6 | 0 | 0 | 8 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 12 | 2 | 2 | 4 | 2 | 2 |
| Mvmt Flow | 11 | 0 | 17 | 1055 | 0 | 0 |

Major/Minor

| | Minor2 | Major1 | | |
|----------------------|--------|--------|---|---|
| Conflicting Flow All | 565 | 8 | 2 | 0 |
| Stage 1 | 2 | - | - | - |
| Stage 2 | 563 | - | - | - |
| Critical Hdwy | 7.74 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - |
| Critical Hdwy Stg 2 | 6.74 | - | - | - |
| Follow-up Hdwy | 3.62 | - | - | - |
| Pot Cap-1 Maneuver | 387 | - | - | - |
| Stage 1 | - | - | - | - |
| Stage 2 | 454 | - | - | - |
| Platoon blocked, % | | | | - |
| Mov Cap-1 Maneuver | 386 | - | - | - |
| Mov Cap-2 Maneuver | 386 | - | - | - |
| Stage 1 | - | - | - | - |
| Stage 2 | 453 | - | - | - |

Approach

EB NB
HCM Control Delay, s
HCM LOS -

Minor Lane/Major Mvmt

| | NBL | NBT | EBLn1 |
|-----------------------|-----|-----|-------|
| Capacity (veh/h) | - | - | - |
| HCM Lane V/C Ratio | - | - | - |
| HCM Control Delay (s) | - | - | - |
| HCM Lane LOS | - | - | - |
| HCM 95th %tile Q(veh) | - | - | - |

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 17 | 9 | 18 | 12 | 0 | 0 | 0 | 0 | 14 | 1034 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 11 | 2 | 2 | 2 | 2 | 9 | 2 | 2 |
| Mvmt Flow | 0 | 18 | 10 | 20 | 13 | 0 | 0 | 0 | 0 | 15 | 1124 | 4 |

| Major/Minor | Minor2 | | | Minor1 | | | Major2 | | |
|----------------------|--------|------|------|--------|------|---|--------|---|---|
| Conflicting Flow All | 1168 | 1161 | 565 | 606 | 1163 | 2 | 2 | 0 | 0 |
| Stage 1 | 1159 | 1159 | - | 2 | 2 | - | - | - | - |
| Stage 2 | 9 | 2 | - | 604 | 1161 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | 6.84 | 6.72 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | 5.84 | 5.72 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.11 | - | - | - | - |
| Pot Cap-1 Maneuver | 186 | 194 | 468 | 429 | 181 | - | - | - | - |
| Stage 1 | 261 | 268 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | 508 | 250 | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 185 | 0 | 467 | 428 | 0 | - | - | - | - |
| Mov Cap-2 Maneuver | 185 | 0 | - | 428 | 0 | - | - | - | - |
| Stage 1 | 261 | 0 | - | - | 0 | - | - | - | - |
| Stage 2 | - | 0 | - | 508 | 0 | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.2 | - | - |
| HCM LOS | B | - | - |

| Minor Lane/Major Mvmt | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|------------|-----|-----|-----|
| Capacity (veh/h) | 467 | - | - | - |
| HCM Lane V/C Ratio | 0.061 | - | - | - |
| HCM Control Delay (s) | 13.2 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - |

Intersection

Int Delay, s/veh 0.1

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 10 | 23 | 0 | 0 | 9 | 4 | 21 | 1038 | 17 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | 100 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 38 | 2 | 2 | 2 | 14 | 2 | 2 | 3 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 25 | 0 | 0 | 10 | 4 | 23 | 1128 | 18 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | |
|----------------------|--------|------|---|--------|------|------|--------|---|---|
| Conflicting Flow All | 619 | 1178 | 4 | 1191 | 1178 | 565 | 2 | 0 | 0 |
| Stage 1 | 2 | 2 | - | 1176 | 1176 | - | - | - | - |
| Stage 2 | 617 | 1176 | - | 15 | 2 | - | - | - | - |
| Critical Hdwy | 7.56 | 6.54 | - | 6.84 | 6.78 | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | 5.84 | 5.78 | - | - | - | - |
| Critical Hdwy Stg 2 | 6.56 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.88 | 4.02 | - | 3.52 | 4.14 | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 347 | 189 | - | 180 | 173 | 468 | - | - | - |
| Stage 1 | - | - | - | 255 | 240 | - | - | - | - |
| Stage 2 | 413 | 263 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | - | - | - |
| Mov Cap-1 Maneuver | 346 | 0 | - | 179 | 0 | 467 | - | - | - |
| Mov Cap-2 Maneuver | 346 | 0 | - | 179 | 0 | - | - | - | - |
| Stage 1 | - | 0 | - | 255 | 0 | - | - | - | - |
| Stage 2 | 412 | 0 | - | - | 0 | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|------|----|
| HCM Control Delay, s | | 12.9 | |
| HCM LOS | - | B | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 |
|-----------------------|-----|-----|-----|-------|-------|
| Capacity (veh/h) | - | - | - | - | 467 |
| HCM Lane V/C Ratio | - | - | - | - | 0.03 |
| HCM Control Delay (s) | - | - | - | - | 12.9 |
| HCM Lane LOS | - | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | - | 0.1 |

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 1.4 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 100 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 870 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 109 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 946 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major2 | | |
|----------------------|--------|------|------|--------|------|---|--------|---|---|
| Conflicting Flow All | 976 | 976 | 472 | 558 | 976 | 0 | 0 | 0 | 0 |
| Stage 1 | 976 | 976 | - | 0 | 0 | - | - | - | - |
| Stage 2 | 0 | 0 | - | 558 | 976 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | 6.84 | 6.54 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | 5.84 | 5.54 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | - | - | - | - |
| Pot Cap-1 Maneuver | 248 | 250 | 538 | 460 | 250 | - | - | - | - |
| Stage 1 | 326 | 327 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | 537 | 327 | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 248 | 0 | 538 | 460 | 0 | - | - | - | - |
| Mov Cap-2 Maneuver | 248 | 0 | - | 460 | 0 | - | - | - | - |
| Stage 1 | 326 | 0 | - | - | 0 | - | - | - | - |
| Stage 2 | - | 0 | - | 537 | 0 | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.5 | 0 | |
| HCM LOS | B | A | |

| Minor Lane/Major Mvmt | EBLn1 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 538 | - | - | - | - |
| HCM Lane V/C Ratio | 0.212 | - | - | - | - |
| HCM Control Delay (s) | 13.5 | 0 | - | - | - |
| HCM Lane LOS | B | A | - | - | - |
| HCM 95th %tile Q(veh) | 0.8 | - | - | - | - |

| Intersection | | | | | | | | | | | | |
|------------------|---|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 0 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 103 | 6 | 0 | 0 | 0 | 4 | 1 | 1079 | 1 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 112 | 7 | 0 | 0 | 0 | 4 | 1 | 1173 | 1 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | | Major1 | | | |
|----------------------|--------|------|--------|------|------|--------|---|---|---|
| Conflicting Flow All | 591 | 1178 | 1 | 1181 | 1178 | 587 | 1 | 0 | 0 |
| Stage 1 | 1 | 1 | - | 1177 | 1177 | - | - | - | - |
| Stage 2 | 590 | 1177 | - | 4 | 1 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | - | 6.84 | 6.54 | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | 5.84 | 5.54 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | - | 3.52 | 4.02 | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 438 | 189 | - | 183 | 189 | 453 | - | - | - |
| Stage 1 | - | - | - | 255 | 263 | - | - | - | - |
| Stage 2 | 517 | 263 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | - | - | - |
| Mov Cap-1 Maneuver | 437 | 0 | - | 183 | 0 | 453 | - | - | - |
| Mov Cap-2 Maneuver | 437 | 0 | - | 183 | 0 | - | - | - | - |
| Stage 1 | - | 0 | - | 255 | 0 | - | - | - | - |
| Stage 2 | 517 | 0 | - | - | 0 | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | | 13 | |
| HCM LOS | - | B | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |
|-----------------------|-----|-----|-----|------------|
| Capacity (veh/h) | - | - | - | 453 |
| HCM Lane V/C Ratio | - | - | - | 0.01 |
| HCM Control Delay (s) | - | - | - | 13 |
| HCM Lane LOS | - | - | - | B |
| HCM 95th %tile Q(veh) | - | - | - | 0 |

Intersection

Int Delay, s/veh 0.5

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 0 | 0 | 23 | 0 | 12 | 3 | 1222 | 22 | 13 | 0 | 790 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 140 | - | 0 | 475 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 2 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 33 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 25 | 0 | 13 | 3 | 1328 | 24 | 14 | 0 | 859 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|----------------------|--------|------|------|--------|---|---|--------|---|---|
| Conflicting Flow All | 1336 | 1364 | 665 | 0 | 0 | 0 | 1329 | 0 | 0 |
| Stage 1 | 1336 | 1336 | - | - | - | - | - | - | - |
| Stage 2 | 0 | 28 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | - | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | - | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 145 | 146 | 403 | - | - | - | 515 | - | - |
| Stage 1 | 210 | 221 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 141 | 0 | 403 | - | - | - | 515 | - | - |
| Mov Cap-2 Maneuver | 180 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 210 | 0 | - | - | - | - | - | - | - |
| Stage 2 | - | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 24.5 | | 0.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | WBLn1 | SBL | SBT | SBR |
|-----------------------|-----|-----|-----|-------|-------|-----|-----|
| Capacity (veh/h) | - | - | - | 222 | 515 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.171 | 0.027 | - | - |
| HCM Control Delay (s) | - | - | - | 24.5 | 12.2 | - | - |
| HCM Lane LOS | - | - | - | C | B | - | - |
| HCM 95th %tile Q(veh) | - | - | - | 0.6 | 0.1 | - | - |

Intersection

Int Delay, s/veh 0

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 40 | 0 | 4 | 1474 | 0 | 0 |
| Conflicting Peds, #/hr | 16 | 0 | 13 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 3 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 43 | 0 | 4 | 1602 | 0 | 0 |

Major/Minor

| | Minor2 | Major1 |
|----------------------|--------|--------|
| Conflicting Flow All | 826 | 29 |
| Stage 1 | 16 | - |
| Stage 2 | 810 | - |
| Critical Hdwy | 7.56 | - |
| Critical Hdwy Stg 1 | - | - |
| Critical Hdwy Stg 2 | 6.56 | - |
| Follow-up Hdwy | 3.53 | - |
| Pot Cap-1 Maneuver | 263 | - |
| Stage 1 | - | - |
| Stage 2 | 338 | - |
| Platoon blocked, % | | - |
| Mov Cap-1 Maneuver | 256 | - |
| Mov Cap-2 Maneuver | 256 | - |
| Stage 1 | - | - |
| Stage 2 | 333 | - |

Approach

EB NB
HCM Control Delay, s
HCM LOS -

Minor Lane/Major Mvmt

| | NBL | NBT | EBLn1 |
|-----------------------|-----|-----|-------|
| Capacity (veh/h) | - | - | - |
| HCM Lane V/C Ratio | - | - | - |
| HCM Control Delay (s) | - | - | - |
| HCM Lane LOS | - | - | - |
| HCM 95th %tile Q(veh) | - | - | - |

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 12 | 19 | 28 | 19 | 0 | 0 | 0 | 0 | 9 | 1372 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 13 | 21 | 30 | 21 | 0 | 0 | 0 | 0 | 10 | 1491 | 3 |

| Major/Minor | Minor2 | | | Minor1 | | | Major2 | | |
|----------------------|--------|------|------|--------|------|---|--------|---|---|
| Conflicting Flow All | 1537 | 1527 | 753 | 786 | 1528 | 7 | 7 | 0 | 0 |
| Stage 1 | 1520 | 1520 | - | 7 | 7 | - | - | - | - |
| Stage 2 | 17 | 7 | - | 779 | 1521 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | 6.84 | 6.64 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | 5.84 | 5.64 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.07 | - | - | - | - |
| Pot Cap-1 Maneuver | 107 | 116 | 352 | 329 | 111 | - | - | - | - |
| Stage 1 | 167 | 179 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | 413 | 171 | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 106 | 0 | 350 | 327 | 0 | - | - | - | - |
| Mov Cap-2 Maneuver | 106 | 0 | - | 327 | 0 | - | - | - | - |
| Stage 1 | 166 | 0 | - | - | 0 | - | - | - | - |
| Stage 2 | - | 0 | - | 413 | 0 | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 16.4 | - | - |
| HCM LOS | C | - | - |

| Minor Lane/Major Mvmt | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|------------|-----|-----|-----|
| Capacity (veh/h) | 350 | - | - | - |
| HCM Lane V/C Ratio | 0.096 | - | - | - |
| HCM Control Delay (s) | 16.4 | - | - | - |
| HCM Lane LOS | C | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - |

Intersection

Int Delay, s/veh 0.6

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 12 | 1 | 0 | 0 | 32 | 18 | 18 | 1514 | 3 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 8 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | 100 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 1 | 0 | 0 | 35 | 20 | 20 | 1646 | 3 | 0 | 0 | 0 |

Major/Minor

| | Minor2 | | Minor1 | | | Major1 | | | |
|----------------------|--------|------|--------|------|------|--------|---|---|---|
| Conflicting Flow All | 895 | 1701 | 9 | 1702 | 1701 | 830 | 8 | 0 | 0 |
| Stage 1 | 8 | 8 | - | 1693 | 1693 | - | - | - | - |
| Stage 2 | 887 | 1693 | - | 9 | 8 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | - | 6.84 | 6.58 | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | 5.84 | 5.58 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | - | 3.52 | 4.04 | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 280 | 91 | - | 83 | 89 | 313 | - | - | - |
| Stage 1 | - | - | - | 134 | 144 | - | - | - | - |
| Stage 2 | 363 | 147 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | - | - | - |
| Mov Cap-1 Maneuver | 276 | 0 | - | 82 | 0 | 311 | - | - | - |
| Mov Cap-2 Maneuver | 276 | 0 | - | 82 | 0 | - | - | - | - |
| Stage 1 | - | 0 | - | 133 | 0 | - | - | - | - |
| Stage 2 | 361 | 0 | - | - | 0 | - | - | - | - |

Approach

| | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | | 19 | |
| HCM LOS | - | C | |

Minor Lane/Major Mvmt

| | NBL | NBT | NBR | EBLn1WBLn1 |
|-----------------------|-----|-----|-----|------------|
| Capacity (veh/h) | - | - | - | 311 |
| HCM Lane V/C Ratio | - | - | - | 0.175 |
| HCM Control Delay (s) | - | - | - | 19 |
| HCM Lane LOS | - | - | - | C |
| HCM 95th %tile Q(veh) | - | - | - | 0.6 |

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 2.6 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 164 | 4 | 10 | 1 | 0 | 0 | 0 | 0 | 5 | 1319 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 178 | 4 | 11 | 1 | 0 | 0 | 0 | 0 | 5 | 1434 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major2 | | |
|----------------------|--------|-------|------|--------|------|---|--------|---|---|
| Conflicting Flow All | 1446 | 1445 | 716 | 817 | 1445 | 0 | 0 | 0 | 0 |
| Stage 1 | 1445 | 1445 | - | 0 | 0 | - | - | - | - |
| Stage 2 | 1 | 0 | - | 817 | 1445 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | 6.94 | 6.84 | 6.54 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | 5.84 | 5.54 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | - | - | - | - |
| Pot Cap-1 Maneuver | 122 | ~ 131 | 373 | 314 | 131 | - | - | - | - |
| Stage 1 | 183 | 195 | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | 395 | 195 | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 122 | 0 | 373 | 314 | 0 | - | - | - | - |
| Mov Cap-2 Maneuver | 122 | 0 | - | 314 | 0 | - | - | - | - |
| Stage 1 | 183 | 0 | - | - | 0 | - | - | - | - |
| Stage 2 | - | 0 | - | 395 | 0 | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 23.6 | - | - |
| HCM LOS | C | - | - |

| Minor Lane/Major Mvmt | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|------------|-----|-----|-----|
| Capacity (veh/h) | 373 | - | - | - |
| HCM Lane V/C Ratio | 0.49 | - | - | - |
| HCM Control Delay (s) | 23.6 | - | - | - |
| HCM Lane LOS | C | - | - | - |
| HCM 95th %tile Q(veh) | 2.6 | - | - | - |

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 0.1 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 172 | 3 | 0 | 0 | 4 | 3 | 6 | 1360 | 5 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 187 | 3 | 0 | 0 | 4 | 3 | 7 | 1478 | 5 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | | Major1 | | | |
|----------------------|--------|------|--------|------|------|--------|---|---|---|
| Conflicting Flow All | 760 | 1503 | 3 | 1502 | 1500 | 744 | 3 | 0 | 0 |
| Stage 1 | 3 | 3 | - | 1497 | 1497 | - | - | - | - |
| Stage 2 | 757 | 1500 | - | 5 | 3 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.54 | - | 6.84 | 6.54 | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | 5.84 | 5.54 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | - | 3.52 | 4.02 | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 342 | 120 | - | 112 | 121 | 357 | - | - | - |
| Stage 1 | - | - | - | 172 | 184 | - | - | - | - |
| Stage 2 | 424 | 184 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | - | - | - |
| Mov Cap-1 Maneuver | 340 | 0 | - | 112 | 0 | 356 | - | - | - |
| Mov Cap-2 Maneuver | 340 | 0 | - | 112 | 0 | - | - | - | - |
| Stage 1 | - | 0 | - | 172 | 0 | - | - | - | - |
| Stage 2 | 423 | 0 | - | - | 0 | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|------|----|
| HCM Control Delay, s | | 15.3 | |
| HCM LOS | - | C | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |
|-----------------------|-----|-----|-----|------------|
| Capacity (veh/h) | - | - | - | 356 |
| HCM Lane V/C Ratio | - | - | - | 0.021 |
| HCM Control Delay (s) | - | - | - | 15.3 |
| HCM Lane LOS | - | - | - | C |
| HCM 95th %tile Q(veh) | - | - | - | 0.1 |

| Intersection | | | | | | | | | | | | |
|------------------|-----|--|--|--|--|--|--|--|--|--|--|--|
| Int Delay, s/veh | 3.1 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 37 | 266 | 5 | 0 | 235 | 16 | 37 | 17 | 6 | 23 | 3 | 69 |
| 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 |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | 100 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 2 | 4 | 2 | 2 | 2 | 8 | 2 | 2 | 2 | 6 | 2 | 2 |
| Mvmt Flow | 39 | 277 | 5 | 0 | 245 | 17 | 39 | 18 | 6 | 24 | 3 | 72 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 261 | 0 | 0 | 282 | 0 | 0 | 481 | 618 | 141 | 477 | 612 | 131 |
| Stage 1 | - | - | - | - | - | - | 357 | 357 | - | 253 | 253 | - |
| Stage 2 | - | - | - | - | - | - | 124 | 261 | - | 224 | 359 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.62 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.62 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.62 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.56 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 1300 | - | - | 1277 | - | - | 468 | 403 | 881 | 462 | 407 | 894 |
| Stage 1 | - | - | - | - | - | - | 633 | 627 | - | 718 | 696 | - |
| Stage 2 | - | - | - | - | - | - | 867 | 691 | - | 747 | 626 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1300 | - | - | 1277 | - | - | 418 | 391 | 881 | 433 | 395 | 894 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 418 | 391 | - | 433 | 395 | - |
| Stage 1 | - | - | - | - | - | - | 614 | 608 | - | 696 | 696 | - |
| Stage 2 | - | - | - | - | - | - | 794 | 691 | - | 698 | 607 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|------|------|
| HCM Control Delay, s | 0.9 | 0 | 14.7 | 11.1 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h) | 432 | 1300 | - | - | 1277 | - | - | 689 |
| HCM Lane V/C Ratio | 0.145 | 0.03 | - | - | - | - | - | 0.144 |
| HCM Control Delay (s) | 14.7 | 7.9 | - | - | 0 | - | - | 11.1 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.5 | 0.1 | - | - | 0 | - | - | 0.5 |