

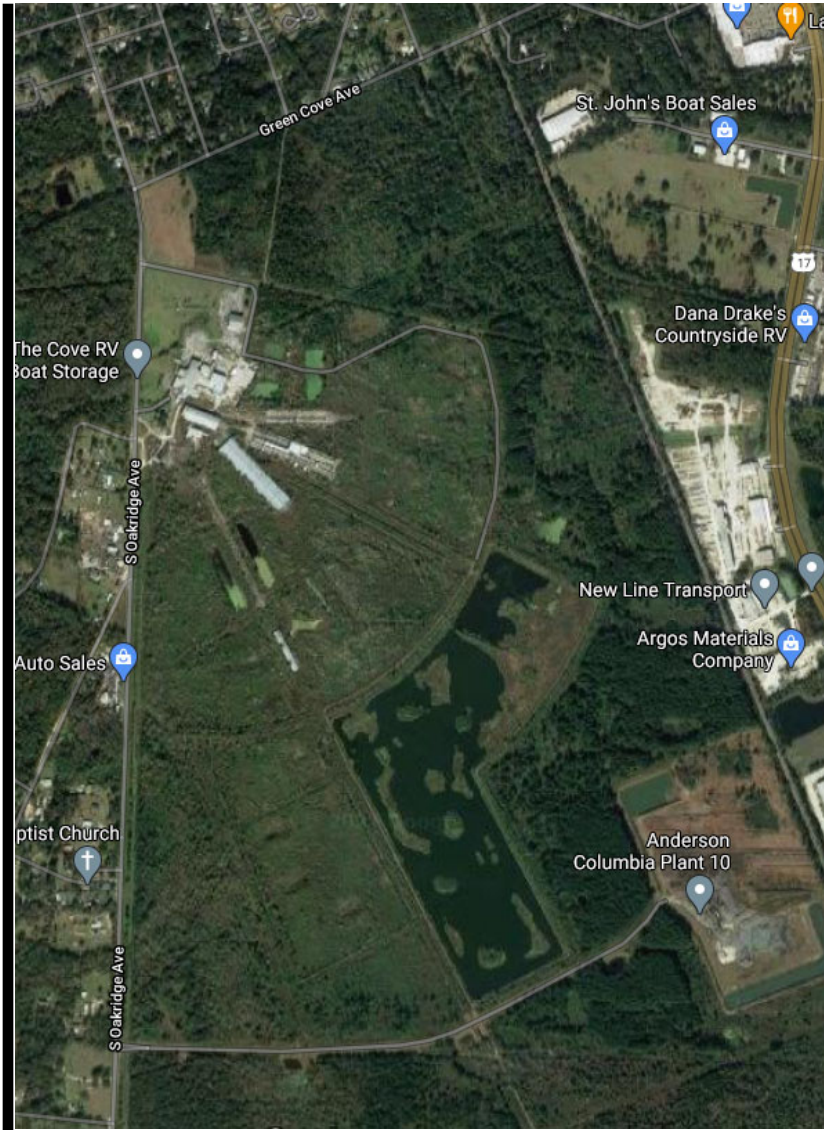
Prepared for:



&



City of
Green Cove Springs
FLORIDA



Ayrshire PUD

Traffic Impact Study

City of Green Cove Springs, Florida

Prepared By:



Chindalur Traffic Solutions, Inc.
8833 Perimeter Park Boulevard, Suite 103
Jacksonville, FL 32216
904.619.3368 | www.ctrfficsolutions.com

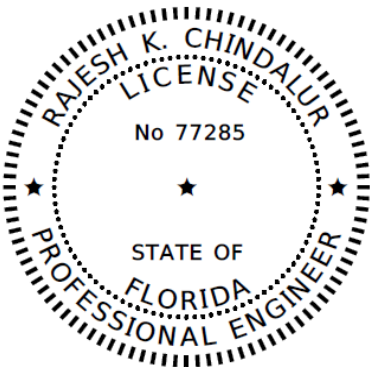
Project #: 1001-200-026
Date: Revised 02/28/2022

PROFESSIONAL ENGINEER CERTIFICATE

I, Rajesh Ramn K. Chindalur, PE #77285, certify that I currently hold an active license in the state of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

PROJECT:	Ayrshire PUD – Traffic Study
LOCATION:	City of Green Cove Springs, Florida
CLIENT:	DR. Horton, Inc.

I further certify that this plan, print, specification, or report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. Moreover, if offered by a corporation, partnership, or through a fictitious name, I certify that the company offering the engineering services, Chindalur Traffic Solutions, Inc., 8833 Perimeter Park Boulevard, Suite 103, Jacksonville, Florida 32216, holds an active certificate of authorization #30806 to provide engineering service.



*THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY*

Rajesh Ramn K Chindalur
2022.02.28 21:01:16 -05'00'

ON THE DATE ADJACENT TO THE SEAL.

*PRINTED COPIES OF THIS DOCUMENT ARE
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*CHINDALUR TRAFFIC SOLUTIONS, INC.
8833 PERIMETER PARK BOULEVARD, SUITE 103
JACKSONVILLE, FL 32216
CERTIFICATE OF AUTHORIZATION #30806
RAJESH RAMN K. CHINDALUR, P.E. NO. 77285*

*THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THIS DOCUMENT IN
ACCORDANCE WITH RULE 61G15-23.004, F.A.C.*

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Introduction

This traffic impact study (TIS) was performed in support of the proposed Ayrshire PUD rezoning application. The proposed development is anticipated to include a maximum of 2,100 residential dwelling units (1,470 single-family and 630 Multi-family Townhomes). Access to the proposed development is anticipated to be provided via three access points: (1) a roadway (bridge over the CSX railroad) connecting to US 17; (2) a new roadway access on CR 15A (Oak Ridge Avenue), and via (3) existing Jersey Avenue.

For the purpose of this traffic study, the analysis was performed under four (4) analysis phases:

- Year 2025 (Analysis Phase 01) assumed 231 single-family dwelling units with access via a roadway on Oak Ridge Avenue.
- Year 2027 (Analysis Phase 02) assumed 500 single-family dwelling units (cumulative) with access via a roadway on Oak Ridge Avenue and a four-lane bridge from the project northern entrance to US 17 across from Hall Park Road.
- Year 2030 (Analysis Phase 03) assumed 1,000 single-family dwelling units (cumulative).
- Year 2035 (Analysis Phase 04) assumed 2,100 residential dwelling units that includes 1,470 single-family and 630 Multi-family Townhomes (cumulative). A third project access via existing Jersey Avenue was also assumed for this analysis phase.

Figure 01 shows the project location. A copy of the Generalized Site Plan (GSP) provided by Dunn and Associates, Inc. is included as **Attachment A**. The methodology used in this study is consistent with the methodology discussed with the City’s Planning and Zoning Director on October 29th, 2020.

Trip Generation

Trip generation for the proposed project was estimated using the equation provided in the *Trip Generation Manual*, 11th Edition published by Institute of Transportation Engineers (ITE). The proposed development is anticipated to include a maximum of 2,100 residential dwelling units (1,470 single-family and 630 Multi-family Townhomes). However, for the purpose of this analysis, all 2,100 residential dwelling units were considered single-family detached units. **Table 01** summarizes the Daily, AM peak and PM peak hour trip generation for the proposed residential development under each of the development phases.

- Year 2025 (Analysis Phase 01) development is anticipated to generate 2,215 daily trips that include 162 AM peak and 222 PM peak trips.
- Year 2027 (Analysis Phase 02) development is anticipated to generate 4,436 daily trips (cumulative) that include 322 AM peak and 451 PM peak trips
- Year 2030 (Analysis Phase 03) development is anticipated to generate 8,393 daily trips (cumulative) that include 606 AM peak and 865 PM peak trips
- Year 2035 (Analysis Phase 04) development is anticipated to generate 16,609 daily trips (cumulative) that include 1,189 AM peak and 1,738 PM peak trips

Study Area, Existing Conditions and Data Collection

As discussed with the City’s Planning and Zoning Director and the City of Green Cove Springs traffic study guidelines, the study area includes the following intersections:

- SR 16 W at Oak Ridge Avenue
- SR 16 W / Ferris Ave. at US 17
- SR 16 E / Cooks Ln. at US 17
- Oak Ridge Avenue at Green Cove Avenue
- US 17 at Oak Ridge Avenue
- US 17 at Pearce Boulevard/Hall Park Road (Project Access Intersection)
- Oak Ridge Avenue at Pearce Boulevard (Project Access Intersection)
- Oak Ridge Avenue at Jersey Avenue (Project Access Intersection)

Figures 02 and **03** show the existing conditions at the above stated intersections. AM peak (7:00 AM to 9:00 AM) and PM peak (4:00 PM to 6:00 PM) period turning movement counts that includes autos, heavy vehicles, bicycles and pedestrians were obtained at the above stated intersections on April 22, 2021. These counts were further adjusted by applying a season factor of 0.94 to adjust for seasonal variations. The year 2019 season factor was used as the year 2020 season factors are anticipated to be not accurate due to the COVID 19 Pandemic. The season factors were obtained from the FDOT traffic counts online portal. **Attachment B** includes the traffic counts and season factors data. **Figure 04** includes AM peak and PM peak hour turning movements at the study intersections.

Future Background Traffic Volumes

Future year traffic projections were made by applying a growth factor to existing traffic volumes. The growth factor was estimated by performing trends analysis of the historical AADT of the roadway segments within the study area. The historical AADT was obtained from the FDOT traffic counts online portal. **Table 02** summarizes the growth rate calculations. An average growth rate of 3.754% per year was applied to the existing traffic volumes to determine year 2025 Phase 01 and year 2027 Phase 02 background traffic volumes. Additionally, a growth rate of 1.0% per year was further applied to year 2027 background traffic volumes to determine the year 2030 Phase 03 and year 2035 Phase 04 background traffic volumes.

- The future year 2025 traffic volumes at the study intersections were estimated by applying a growth factor of 1.16 (3.754% per year for 4 years) to the year 2021 traffic volumes.
- The future year 2027 traffic volumes at the study intersection were estimated by applying a growth factor of 1.25 (3.754% per year for 9 years) to the year 2021 traffic volumes.
- The future year 2030 traffic volumes at the study intersection were estimated by applying a growth factor of 1.29 (3.754% per year for 9 years and 1% per year for 2 years) to the year 2021 traffic volumes.
- The future year 2035 traffic volumes at the study intersection were estimated by applying a growth factor of 1.35 (3.754% per year for 9 years and 1% per year for 7 years) to the year 2021 traffic volumes.

Attachment C includes the historical AADT and Trends Analysis plots. **Figures 05, 06, 07** and **08** show year 2025, year 2027, year 2030 and year 2035 future conditions background traffic volumes at the study intersections respectively.

Planned and Programmed Improvements

All the planned and programmed improvements within the transportation study area identified from the FDOT Five (5) year work program, FDOT Long Range Plan and Clay County Capital Improvement Plan document were included in the model and the segment analysis. The following planned and programmed improvements were included in the analysis. Details of these projects are included in **Attachment D**.

- First Coast Expressway: I-10 to N. Of Argyle Forest Boulevard
- First Coast Expressway: N. of Argyle Forest Boulevard to Blanding Boulevard (SR 21)
- First Coast Expressway: Blanding Boulevard (SR 21) to North of SR 16
- First Coast Expressway: North of SR 16 to East of CR 209
- First Coast Expressway (New St. Johns River Bridge): SR 16 to CR 16A (St. Johns County) by year 2027
- First Coast Expressway (St. Johns County): CR 16A to I-95
- CR 209: Peters Creek Bridge to US 17 – Widen from 2 to 4 lanes by year 2024
- CR 209: Sandridge Road to Peters Creek Bridge – Widen from 2 to 3 lanes by year 2024
- Sandridge Road: Henley Road to CR 209 – Widen from 2 to 3 lanes by year 2024
- First Coast Connector: SR 23 to CR 315 and Maryland Avenue – New 2-lane Roadway by year 2024
- First Coast Connector: CR 315 and Maryland Avenue to US 17 – Widen from 2 to 4 lanes by year 2024

Trip Distribution and Assignment

Trip distribution for year 2025 (Analysis Phase 01) and year 2027 (Analysis Phase 02) development was determined based on existing traffic patterns (traffic entering and the exiting the City of Green Cove Springs). **Figures 09** and **10** show year 2025 and year 2027 project traffic distribution and peak hour traffic assignment at the study intersections. Following is a summary of the project traffic distribution under the year 2025 and year 2027 development conditions:

- 15% oriented to the west of SR 16 West
- 5% oriented to the south on US 17
- 35% oriented to the north on US 17
- 45% oriented to the east on SR 16E

Upon construction of the First Coast Expressway and other Clay County proposed roadway projects, the traffic patterns in the area are anticipated to change. Hence, trip distribution for year 2030 (Analysis Phase 03) and year 2035 (Analysis Phase 04) development conditions was obtained from the interim year 2030 model set of the Northeast Regional Planning Activity Based Model (NERPM_AB3v1) travel demand forecasting model, provided by the North Florida Transportation Planning Organization (NFTPO). **Figures 11** and **12** show year 2030 and year 2035 project traffic distribution and peak hour traffic assignment at the study intersections. Following is a summary of the project traffic distribution percentages in the vicinity of the proposed project under year 2030 and year 2035 development conditions:

- 35% to the north on US 17 towards Duval County
- 10% to the east on SR 16E (Shands Bridge) towards St. Johns County
- 10% to the west on SR 16W
- 5% to the west via US 17 South and First Coast Expressway to the west
- 35% to the east via US 17 South and First Coast Expressway towards St. Johns County
- 5% to the south on US17

Attachment E includes the travel demand model plots showing the project traffic distributions (unadjusted distributions). **Attachment F** includes a figure depicting the adjusted project traffic distribution percentages in the vicinity of the proposed development under each of the project development phases.

Build-Out Traffic Volumes

Build-out traffic volumes include the future background traffic volumes and the project traffic assignment under each phase for year 2025, 2027, 2030 and 2035 development conditions respectively. **Figures 13, 14, 15** and **16** show the year 2025, year 2027, year 2030 and year 2035 development conditions respectively.

Intersection Capacity Analysis

Intersection capacity analysis of the study intersections was performed during the AM peak and PM peak periods under the existing, future background and build-out conditions using Synchro 10 software. This software uses HCM 6 procedures and methodologies in calculating LOS and delay at signalized and un-signalized intersections. Existing signal timing and phasing information for the signalized study intersections were obtained from Florida Department of Transportation Traffic Operations Department. A copy of these signal timing and phasing details are included in **Attachment G**.

Existing Conditions: **Tables 03** and **04** summarizes the existing conditions intersection capacity analysis Delay and LOS summary during the AM peak and PM peak conditions. As shown in these tables, all the critical approaches at all the study intersections are currently operating at LOS E or better, except for SR 16W/Ferris Street at US 17 intersection. The northbound approach on US 17 is currently operating at LOS F during the PM peak hour.

Background Conditions: **Tables 04** through **11** summarize the future year 2025, year 2027, year 2030 and year 2035 background traffic conditions intersection capacity analysis Delay and LOS summary during the AM peak and PM peak conditions. As summarized in these tables, all the critical approaches at the study intersections are anticipated to operate at **LOS E** or **better**, except for the following:

Year 2025 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2025 AM peak
- The northbound approach on US 17 at SR 16W/Ferris Street intersection during year 2025 PM peak

Year 2027 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2027 AM peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2027 PM peak

Year 2030 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2030 PM peak
- The westbound and northbound approaches at US 17 and SR 16E/Cooks Lane intersection during year 2030 PM peak
- The westbound approach on Hall Park Road at US 17 during year 2030 AM peak

Note: Under the year 2030 background conditions, 50% of the traffic to and from SR 16E was re-assigned as southbound through and northbound through traffic at US 17 and SR 16E/Cooks Lane intersection.

Year 2035 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2035 AM peak
- The westbound approach on SR 16 at Oak Ridge Avenue during year 2035 PM peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2035 PM peak
- The westbound and northbound approaches at US 17 and SR 16E/Cooks Lane intersection during year 2035 PM peak
- The westbound approach on Hall Park Road at US 17 during year 2035 AM peak

Note: Under the year 2035 background conditions, 50% of the traffic to and from SR 16E was re-assigned as southbound through and northbound through traffic at US 17 and SR 16E/Cooks Lane intersection.

Build-Out Conditions: All the signal timing/phasing and splits were optimized under each of the four (4) project development build-out conditions. **Tables 12 through 19** summarize the future year 2025 Phase 01, year 2027 Phase 02, year 2030 Phase 03 and year 2035 Phase 04 development build-out traffic conditions intersection capacity analysis Delay and LOS summary during the AM peak and PM peak conditions. A four-lane bridge connecting the proposed development and US 17 will be built by year 2027 development conditions. Upon construction, the intersection of US 17 and Pearce Boulevard is anticipated to require a traffic signal. Since US 17 is a FDOT roadway, the intersection is subject to FDOT's Intersection Control Evaluation (ICE) review and approval process. The ICE process is anticipated to result in either a traditional traffic signal or a Signalized R-Cut or a Signalized Median U-turn intersection control. However, for the purpose of this analysis a traditional traffic signal is assumed under the year 2027 Phase 02, year 2030 Phase 03 and year 2035 Phase 04 development conditions.

As summarized in these tables, all the critical approaches at the study intersections are anticipated to operate at **LOS E** or **better** except for the following:

Year 2027 Phase 02 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak

Year 2030 Phase 03 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak
- The southbound approach on US 17 at SR 16W/Ferris Street intersection during year 2030 PM peak

Year 2035 Phase 04 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM Peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2035 PM peak

However, upon construction of the First Coast Expressway and other Clay County programmed roadway projects, traffic volumes at both SR 16 intersections on US 17 are anticipated to reduce and the Delay and LOS are anticipated to **improve**. Additionally, due to the change in traffic patterns, FDOT is anticipated to re-time the traffic signals at these two intersections which will result in **improved** operational conditions.

A copy of the HCM worksheets under the existing, future background and build-out conditions are included as **Attachment H**.

Access Intersections and Turn Lanes Evaluation

US 17 and Pearce Boulevard: As stated in the previous section a four-lane bridge connecting the proposed development and US 17 will be built by year 2027 development conditions. Upon construction, the intersection of US 17 and Pearce Boulevard is anticipated to require a traffic signal. Since US 17 is a FDOT roadway, the intersection is subject to FDOT's Intersection Control Evaluation (ICE) review and approval process. The ICE process is anticipated to result in either a traditional traffic signal or a Signalized R-Cut or a Signalized Median U-turn intersection control. However, for the purpose of this analysis a traditional traffic signal is assumed under the year 2027, 2030 and 2035 development conditions. As summarized in the above-mentioned tables, the intersection is anticipated to operate at LOS D or better under the build-out conditions of the proposed development. This intersection will be designed and constructed based on the outcome of the FDOT ICE analysis. In addition to the traffic signal, appropriate auxiliary turn lanes will be constructed on US 17 at Pearce Boulevard intersection.

Oak Ridge Avenue at Pearce Boulevard: **Figure 17** summarizes the southbound left turn lane evaluation on Oak Ridge Avenue at Pearce Boulevard intersection under the year 2035 build-out conditions of the proposed development. As shown in this figure, a southbound left turn lane on Oak Ridge Avenue at Pearce Boulevard is anticipated to be warranted under the build-out conditions of the proposed development. The required deceleration length for 50-mph design

speed is 290-feet (including 50-foot taper) for rural roadways. A storage length of 100-feet (4 vehicles) should be provided. Hence, a 390-feet (including 50-foot taper) southbound left turn lane is recommended on Oak Ridge Avenue at Pearce Boulevard. Separate left and right turn lanes (Westbound) are recommended on Pearce Boulevard at Oak Ridge Avenue intersection. A maximum queue of 50 feet is anticipated on Pearce Boulevard at Oak Ridge Avenue. Hence, the westbound left turn lane on Pearce Boulevard at Oak Ridge Avenue need to provide for at least 100 feet storage plus 50 feet taper.

Oak Ridge Avenue at Jersey Avenue: A 330-foot southbound left turn lane on Oak Ridge Avenue currently exists at Jersey Avenue. The 95th percentile queue length is anticipated to be no greater than 25 feet. Hence the existing southbound left turn lane is anticipated to be adequate.

Summary and Conclusions

This traffic impact study (TIS) was performed in support of the proposed Ayrshire PUD rezoning application. The proposed development is anticipated to include a maximum of 2,100 residential dwelling units (1,470 single-family and 630 Multi-family Townhomes). Access to the proposed development is anticipated to be provided via three access points: (1) a roadway (bridge over the CSX railroad) connecting to US 17; (2) a new roadway access on CR 15A (Oak Ridge Avenue), and via (3) existing Jersey Avenue. For this traffic study, the analysis was performed under four (4) analysis phases:

- Year 2025 (Analysis Phase 01) assumed 231 single-family dwelling units with access via a roadway on Oak Ridge Avenue.
- Year 2027 (Analysis Phase 02) assumed 500 single-family dwelling units (cumulative) with access via a roadway on Oak Ridge Avenue and a four-lane bridge from the project northern entrance to US 17 across from Hall Park Road.
- Year 2030 (Analysis Phase 03) assumed 1,000 single-family dwelling units (cumulative).
- Year 2035 (Analysis Phase 04) assumed 2,100 residential dwelling units that includes 1,470 single-family and 630 Multi-family Townhomes (cumulative). A third project access via existing Jersey Avenue was also assumed for this analysis phase.

- Year 2025 (Analysis Phase 01) development is anticipated to generate 2,215 daily trips that include 162 AM peak and 222 PM peak trips.
- Year 2027 (Analysis Phase 02) development is anticipated to generate 4,436 daily trips (cumulative) that include 322 AM peak and 451 PM peak trips
- Year 2030 (Analysis Phase 03) development is anticipated to generate 8,393 daily trips (cumulative) that include 606 AM peak and 865 PM peak trips
- Year 2035 (Analysis Phase 04) development is anticipated to generate 16,609 daily trips (cumulative) that include 1,189 AM peak and 1,738 PM peak trips

AM peak (7:00 AM to 9:00 AM) and PM peak (4:00 PM to 6:00 PM) period turning movement counts that includes autos, heavy vehicles, bicycles and pedestrians were obtained at the above stated intersections on April 22, 2021. These counts were further adjusted by applying a season factor of 0.94 to adjust for seasonal variations. The year 2019 season factor was used as the year 2020 season factors are anticipated to be not accurate due to the COVID 19 Pandemic.

An average growth rate of 3.754% per year was applied to the existing traffic volumes to determine year 2025 Phase 01 and year 2027 Phase 02 background traffic volumes. Additionally, a growth rate of 1.0% per year was further applied to year 2027 background traffic volumes to determine the year 2030 Phase 03 and year 2035 Phase 04 background traffic volumes.

Trip distribution for year 2025 (Analysis Phase 01) and year 2027 (Analysis Phase 02) development was determined based on existing traffic patterns (traffic entering and the exiting the City of Green Cove Springs). Following is a summary of the project traffic distribution under the year 2025 and year 2027 development conditions:

- 15% oriented to the west of SR 16 West
- 15% oriented to the south on US 17
- 35% oriented to the north on US 17
- 35% oriented to the east on SR 16E

Upon construction of the First Coast Expressway and other Clay County proposed roadway projects, the traffic patterns in the area are anticipated to change. Hence, trip distribution for year 2030 (Analysis Phase 03) and year 2035 (Analysis Phase 04) development conditions was obtained from the interim year 2030 model set of the Northeast Regional Planning Activity Based Model (NERPM_AB3v1) travel demand forecasting model. Following is a summary of the project traffic distribution percentages in the vicinity of the proposed project under year 2030 and year 2035 development conditions:

- 35% to the north on US 17 towards Duval County
- 10% to the east on SR 16E (Shands Bridge) towards St. Johns County
- 10% to the west on SR 16W
- 5% to the west via US 17 South and First Coast Expressway to the west
- 35% to the east via US 17 South and First Coast Expressway towards St. Johns County
- 5% to the south on US17

Build-out traffic volumes include the future background traffic volumes and the project traffic assignment under each of the year 2025, year 2027, year 2030 and year 2035 development conditions.

A 330-foot southbound left turn lane on Oak Ridge Avenue currently exists at Jersey Avenue. The 95th percentile queue length is anticipated to be no greater than 25 feet. Hence the existing southbound left turn lane is anticipated to be adequate.

A southbound left turn lane on Oak Ridge Avenue at Pearce Boulevard is anticipated to be warranted under the build-out conditions of the proposed development. The required deceleration length for 50-mph design speed is 290-feet (including 50-foot taper) for rural roadways. A storage length of 100-feet (4 vehicles) should be provided. A 390-foot (including 50-foot taper) southbound left turn lane is recommended on Oak Ridge Avenue at Pearce Boulevard.

All the critical approaches at all the study intersections are currently operating at LOS E or better except for the northbound approach on US 17 at SR 16W/Ferris Street intersection. The northbound approach on US 17 is currently operating at LOS F during the PM peak hour.

All the critical approaches at the study intersections are anticipated to operate at LOS E or better under the future background conditions except for the following:

Year 2025 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2025 AM peak

- The northbound approach on US 17 at SR 16W/Ferris Street intersection during year 2025 PM peak

Year 2027 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2027 AM peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2027 PM peak

Year 2030 Background Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2030 PM peak
- The westbound and northbound approaches at US 17 and SR 16E/Cooks Lane intersection during year 2030 PM peak
- The westbound approach on Hall Park Road at US 17 during year 2030 AM peak

All the signal timing/phasing and splits were optimized under each of the four (4) project development build-out conditions. All the critical approaches at the study intersections are anticipated to operate at LOS E or better except for the following:

Year 2027 Phase 02 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak

Year 2030 Phase 03 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM peak
- The southbound approach on US 17 at SR 16W/Ferris Street intersection during year 2030 PM peak

Year 2035 Phase 04 Build-Out Conditions:

- The eastbound approach on SR 16 at Oak Ridge Avenue during year 2030 AM Peak
- The northbound and southbound approaches on US 17 at SR 16W/Ferris Street intersection during year 2035 PM peak

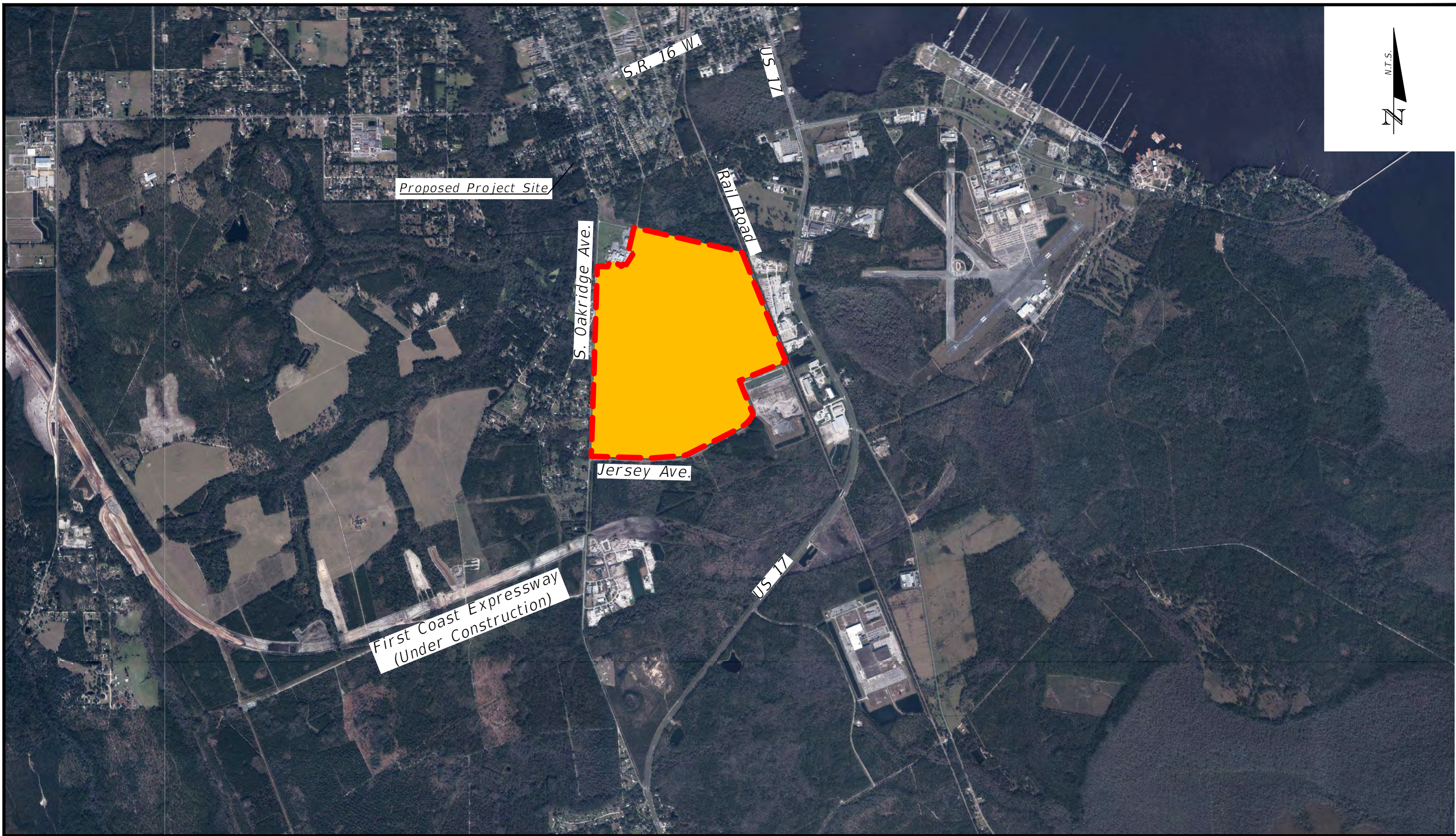
However, upon construction of the First Coast Expressway and other Clay County programmed roadway projects, traffic volumes at both SR 16 intersections on US 17 are anticipated to reduce and the Delay and LOS are anticipated to improve. Additionally, due to the change in traffic patterns, FDOT is anticipated to re-time the traffic signals at these two intersections which will result in improved operational conditions.

A four-lane bridge/roadway (Pearce Boulevard) connecting the proposed development and US 17 will be built by build-out conditions of the Phase 02 development. Upon construction, the intersection of US 17 and Pearce Boulevard is anticipated to require a traffic signal. Since US 17 is a FDOT roadway, the intersection is subject to FDOT's Intersection Control Evaluation (ICE) review and approval process. The ICE process is anticipated to result in either a traditional traffic signal or

Signalized R-Cut or Signalized Median U-turns intersection control. However, for the purpose of this analysis a traditional traffic signal is assumed under the Phase 02, Phase 03 and Phase 04 development conditions.

A southbound left turn lane on Oak Ridge Avenue at Pearce Boulevard is anticipated to be warranted under the build-out conditions of the proposed development. The required deceleration length for 50-mph design speed is 290-feet (including 50-foot taper) for rural roadways. A storage length of 100-feet (4 vehicles) should be provided. Hence, a 390-feet (including 50-foot taper) southbound left turn lane is recommended on Oak Ridge Avenue at Pearce Boulevard. Separate left and right turn lanes (Westbound) are recommended on Pearce Boulevard at Oak Ridge Avenue intersection. A maximum queue of 50 feet is anticipated on Pearce Boulevard at Oak Ridge Avenue. Hence, the westbound left turn lane on Pearce Boulevard at Oak Ridge Avenue need to provide for at least 100 feet storage plus 50 feet taper.

A 330-foot southbound left turn lane on Oak Ridge Avenue currently exists at Jersey Avenue. The 95th percentile queue length is anticipated to be no greater than 25 feet. Hence the existing southbound left turn lane is anticipated to be adequate.



Proposed Project Site

S.R. 16 W.

US 17

Rail Road

S. Oakridge Ave.

Jersey Ave.

First Coast Expressway
(Under Construction)

US 17



Chindalur Traffic Solutions, Inc.
8833 Perimeter Park Boulevard,
Suite 103
Jacksonville, FL 32216
Phone: (904) 619-3368
www.ctrafficsolutions.com

Figure 01 - Project Location

Ayrshire CPA - Traffic Study
Clay County, Florida



S.R. 16 W. at S. Oakridge Avenue



S.R. 16 W. and Ferris Street at US 17



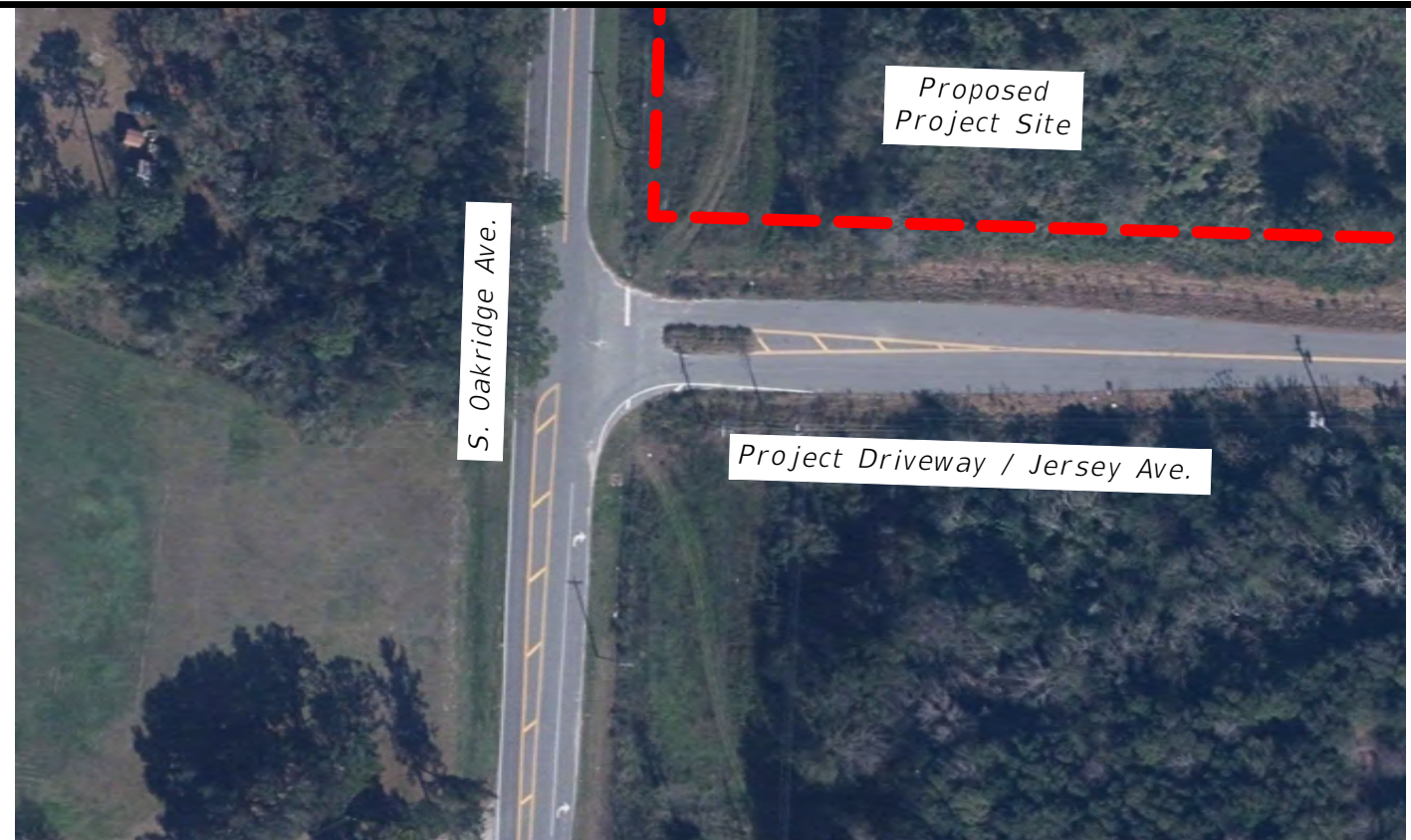
S. Oakridge Avenue at Green Cove Avenue



US 17 at Cooks Lane and S.R. 16 E. / Leonard C. Taylor Pkwy.



S. Oakridge Avenue at Project Driveway



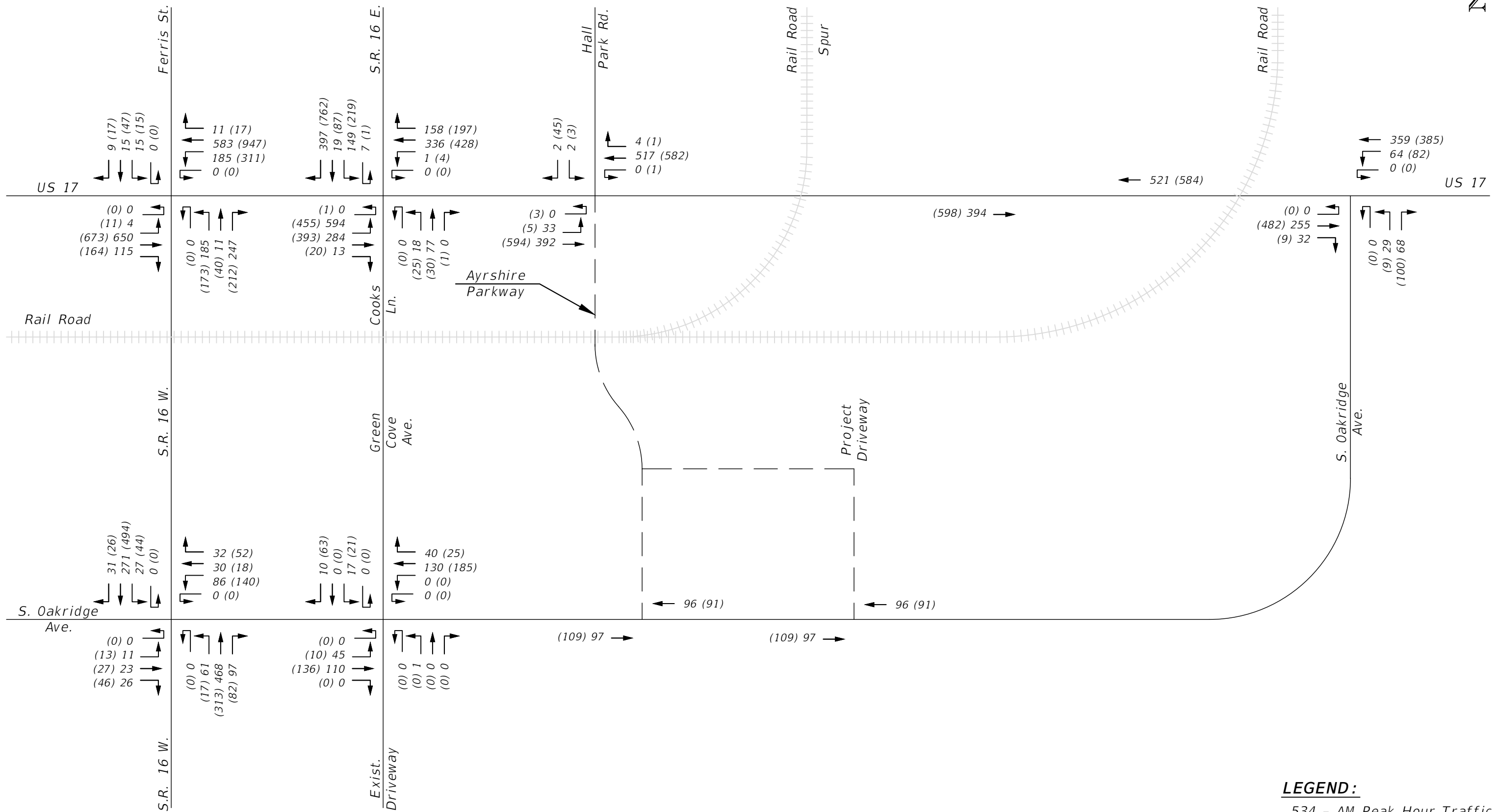
S. Oakridge Avenue at Project Driveway / Jersey Avenue



S. Oakridge Avenue at US 17



US 17 at Hall Park Road



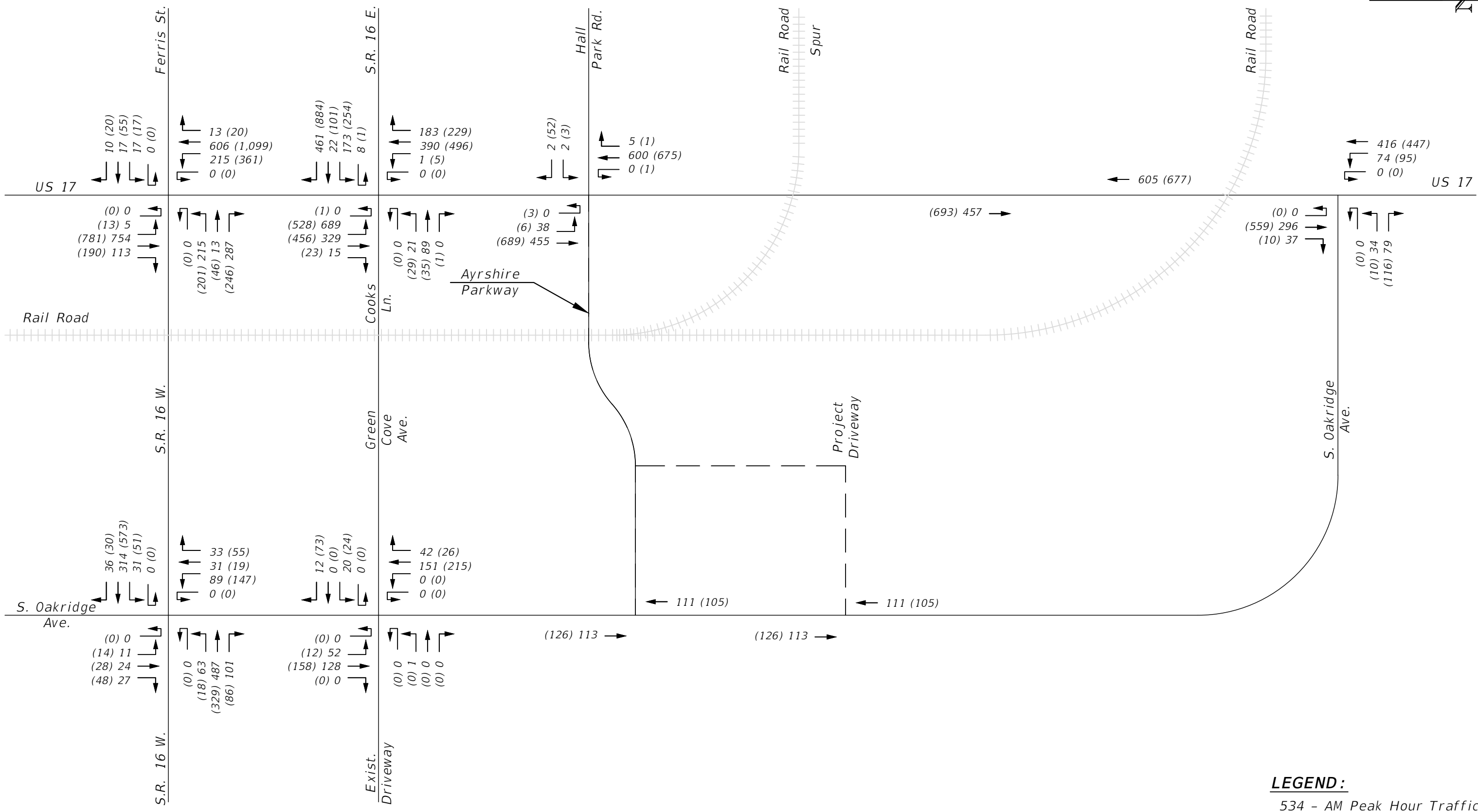
LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

Figure 04 - Year 2021 AM and PM Peak Hour Traffic Volumes

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 City of Green Cove Springs, Florida

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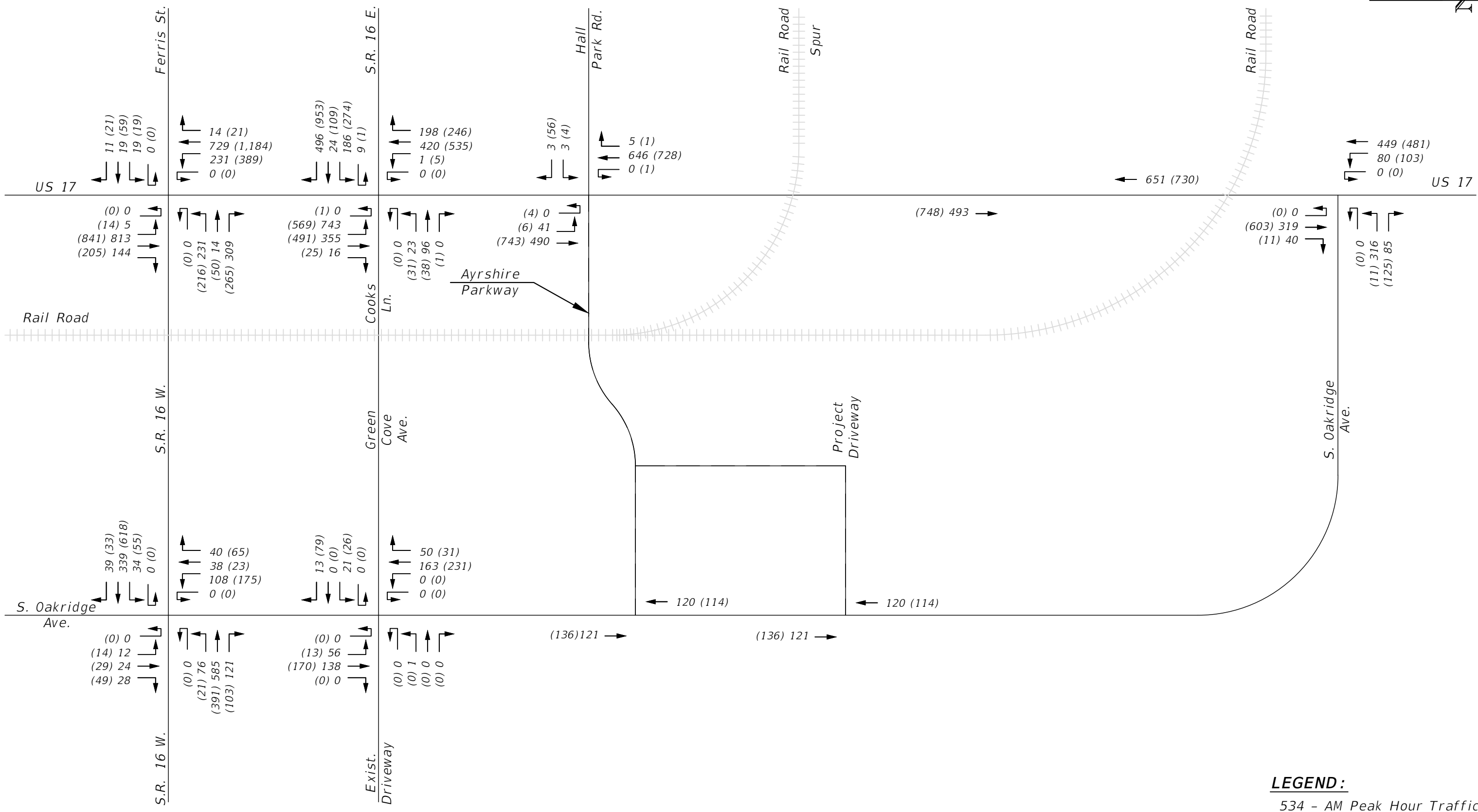


LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

Figure 05 - Year 2025 AM and PM Peak Hour (Analysis Phase 01) Background Traffic Volumes

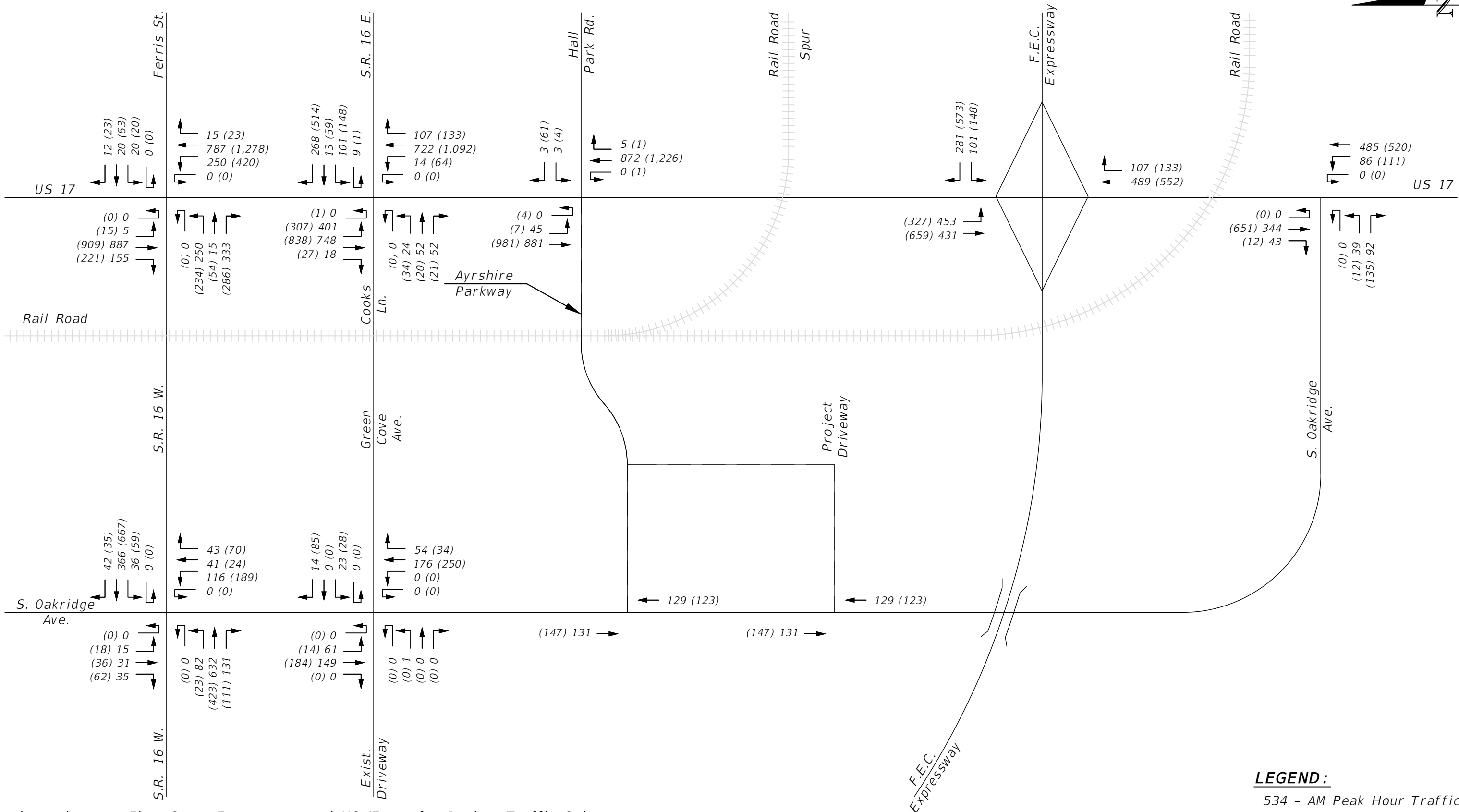
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LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

Figure 06 - Year 2027 AM and PM Peak Hour (Analysis Phase 02) Background Traffic Volumes



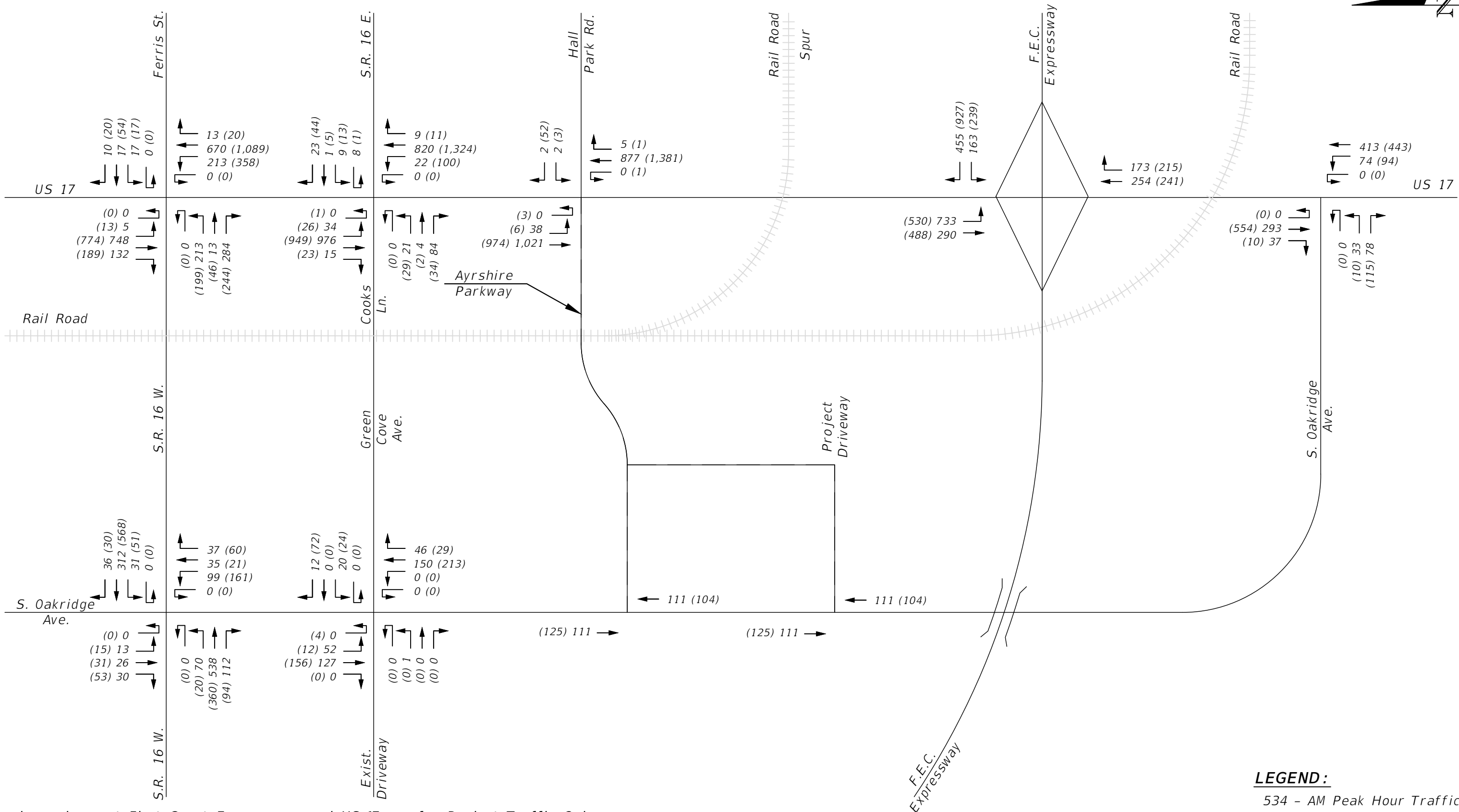
Numbers shown at First Coast Expressway and US 17 are for Project Traffic Only.

LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

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Figure 07 - Year 2030 AM and PM Peak Hour (Analysis Phase 03) Background Traffic Volumes

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 City of Green Cove Springs, Florida



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LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

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Figure 08 - Year 2035 AM and PM Peak Hour (Analysis Phase 04) Background Traffic Volumes

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 City of Green Cove Springs, Florida

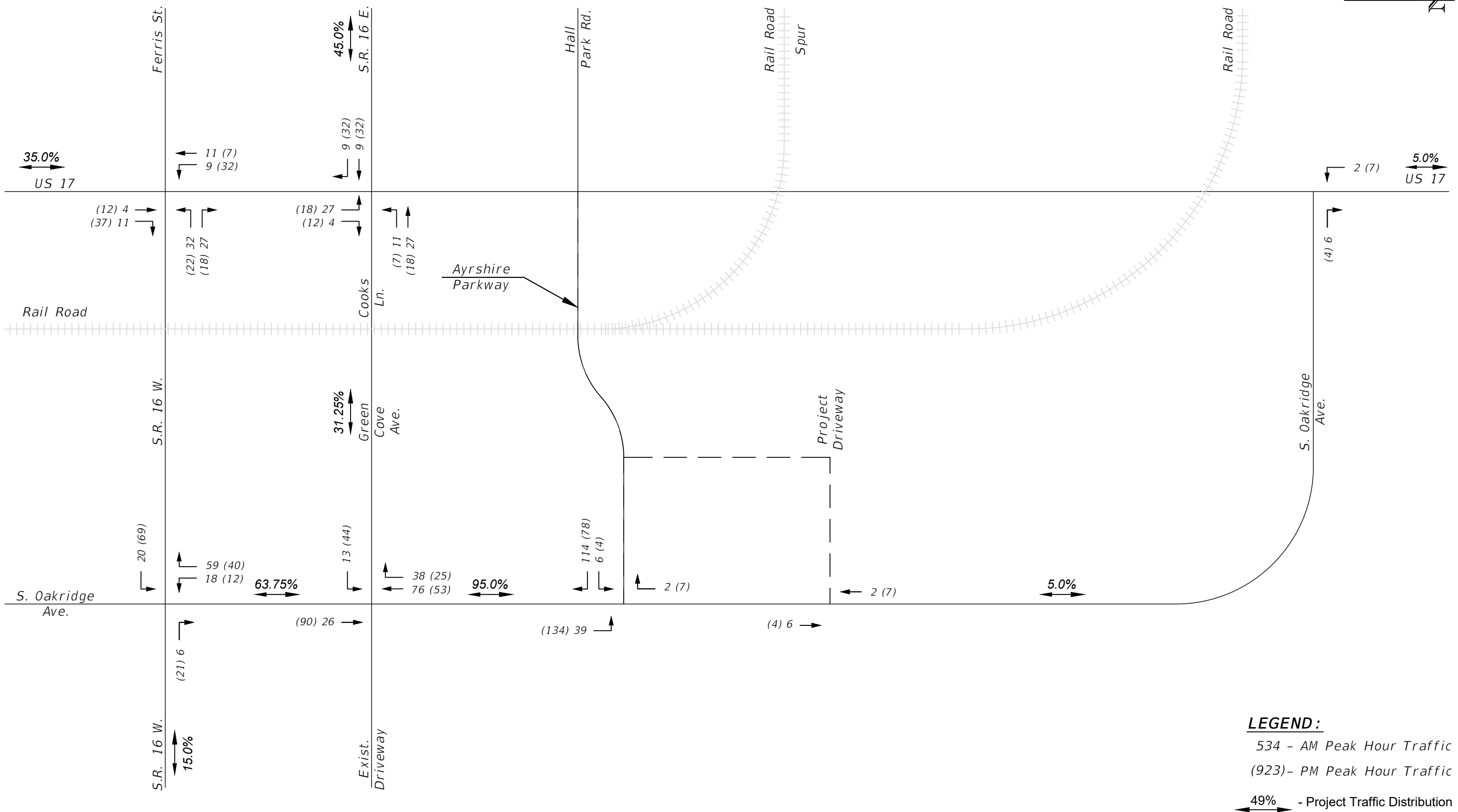
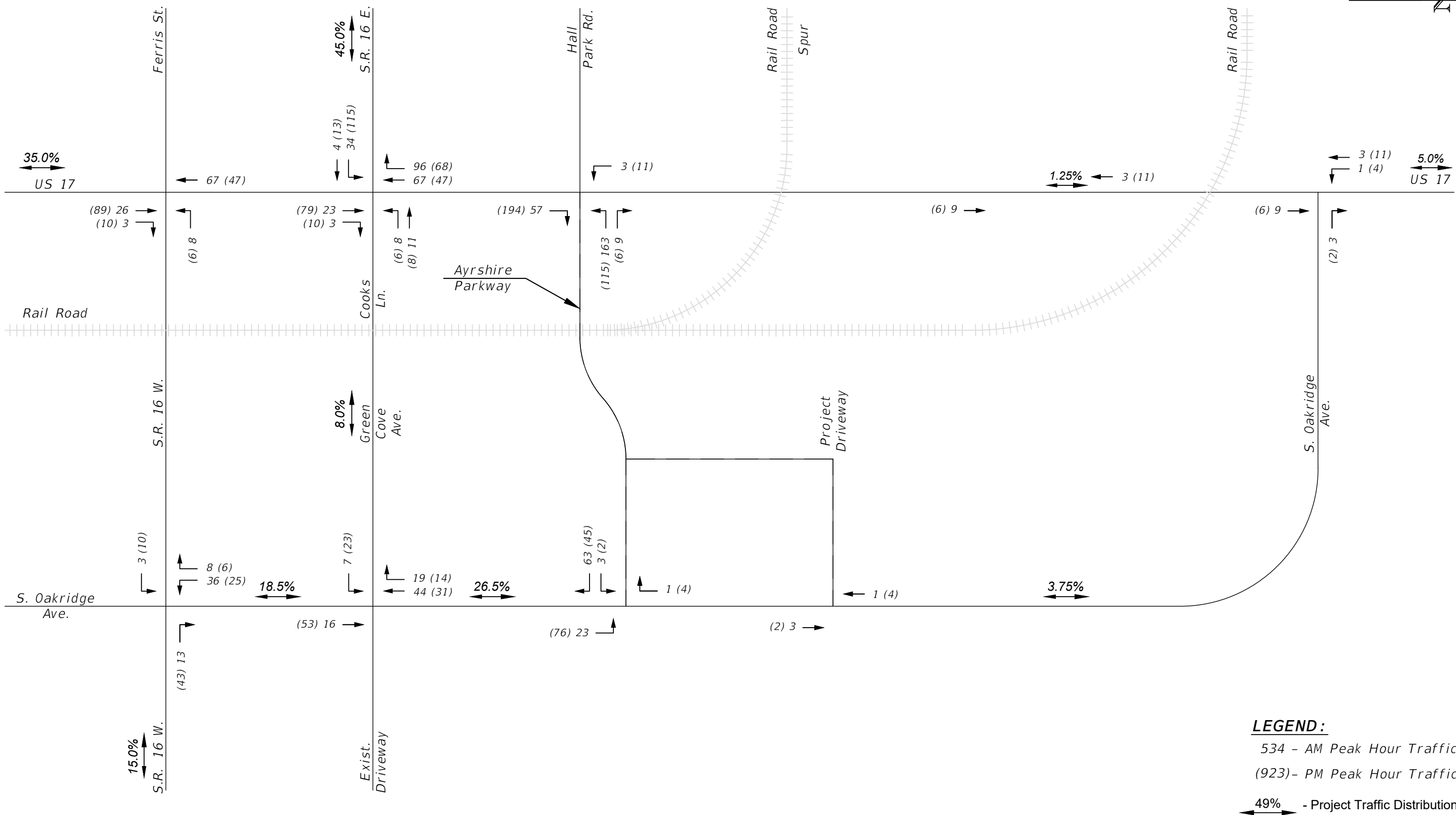
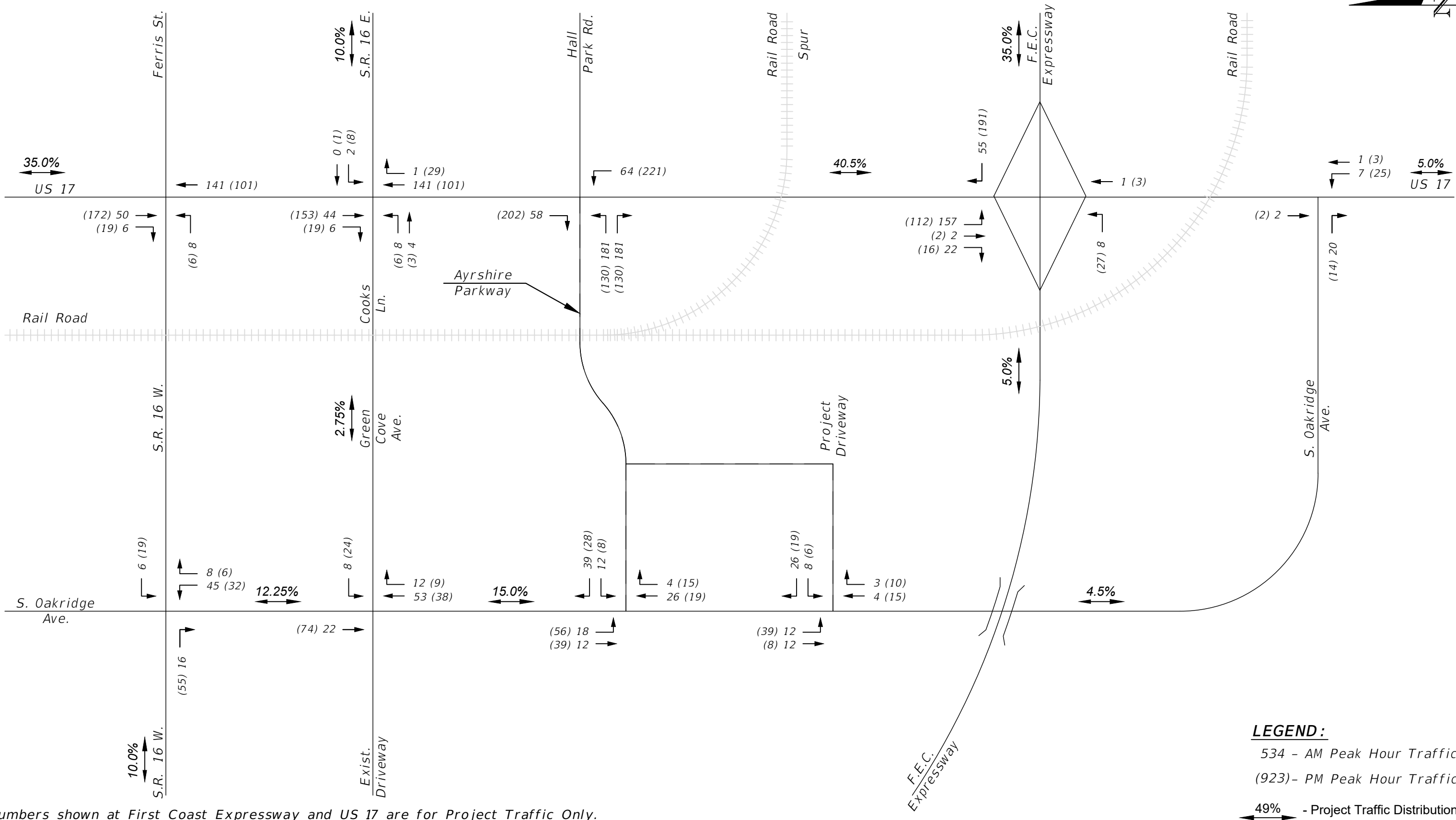


Figure 09 - Year 2025 AM and PM Peak Hour (Analysis Phase 01) Project Traffic Distribution and Assignment



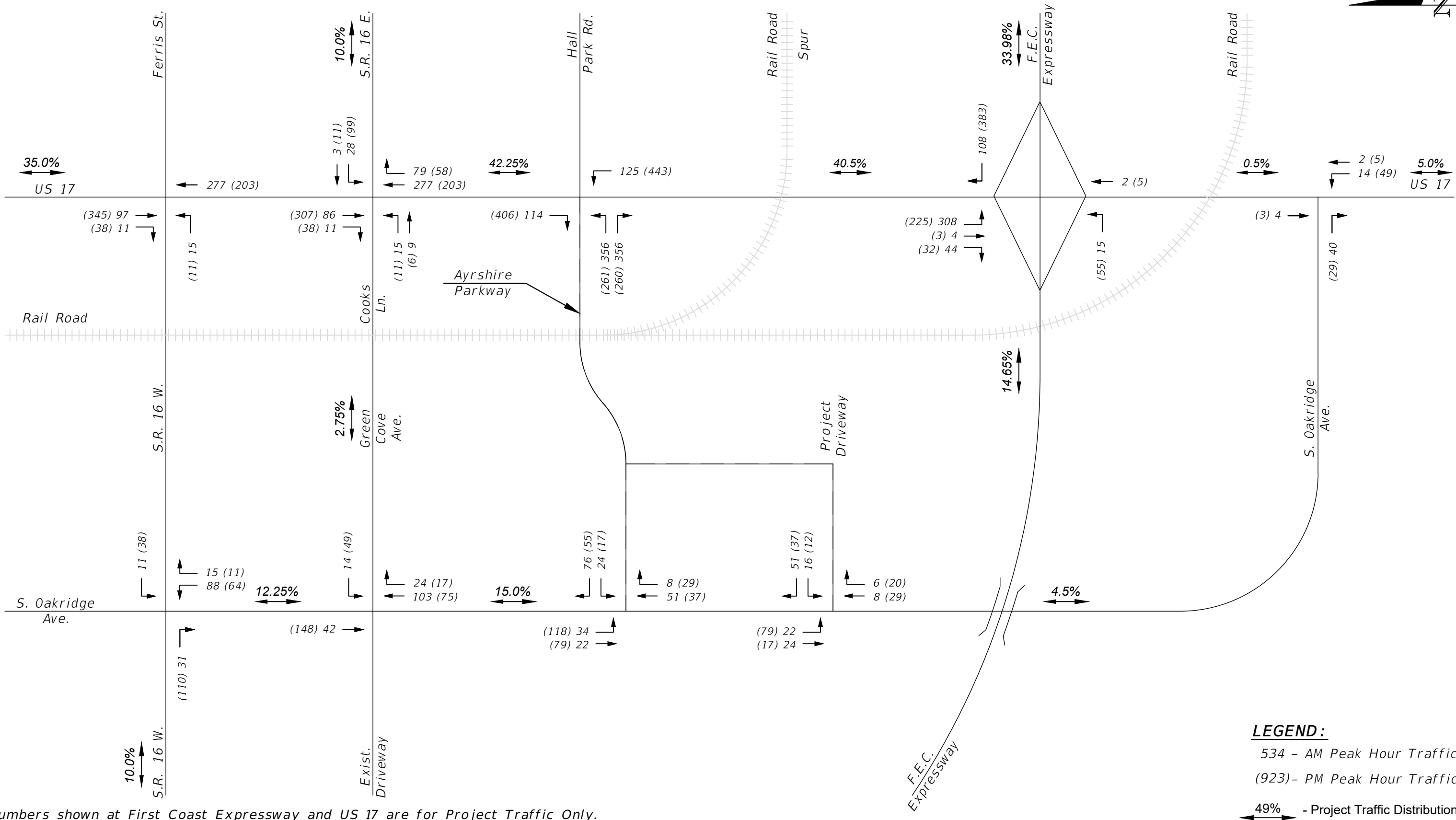
LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic
 49% - Project Traffic Distribution

Figure 10 - Year 2027 AM and PM Peak Hour (Analysis Phase 02) Project Traffic Distribution and Assignment



Numbers shown at First Coast Expressway and US 17 are for Project Traffic Only.

Figure 11 - Year 2030 AM and PM Peak Hour (Analysis Phase 03) Project Traffic Distribution and Assignment

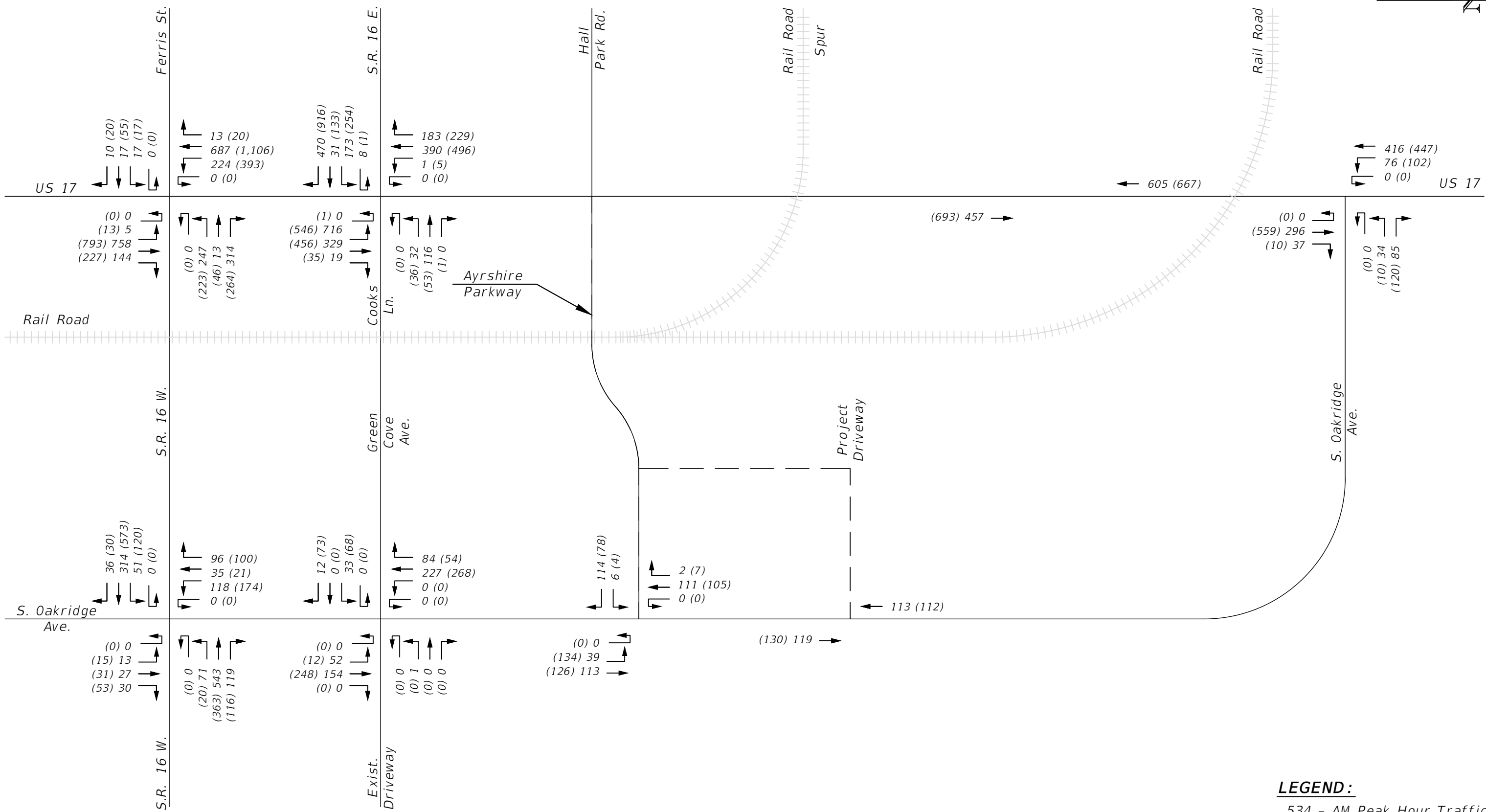


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Figure 12 - Year 2035 AM and PM Peak Hour (Analysis Phase 04) Project Traffic Distribution and Assignment

Ayrshire CPA - Traffic Study
 City of Green Cove Springs, Florida

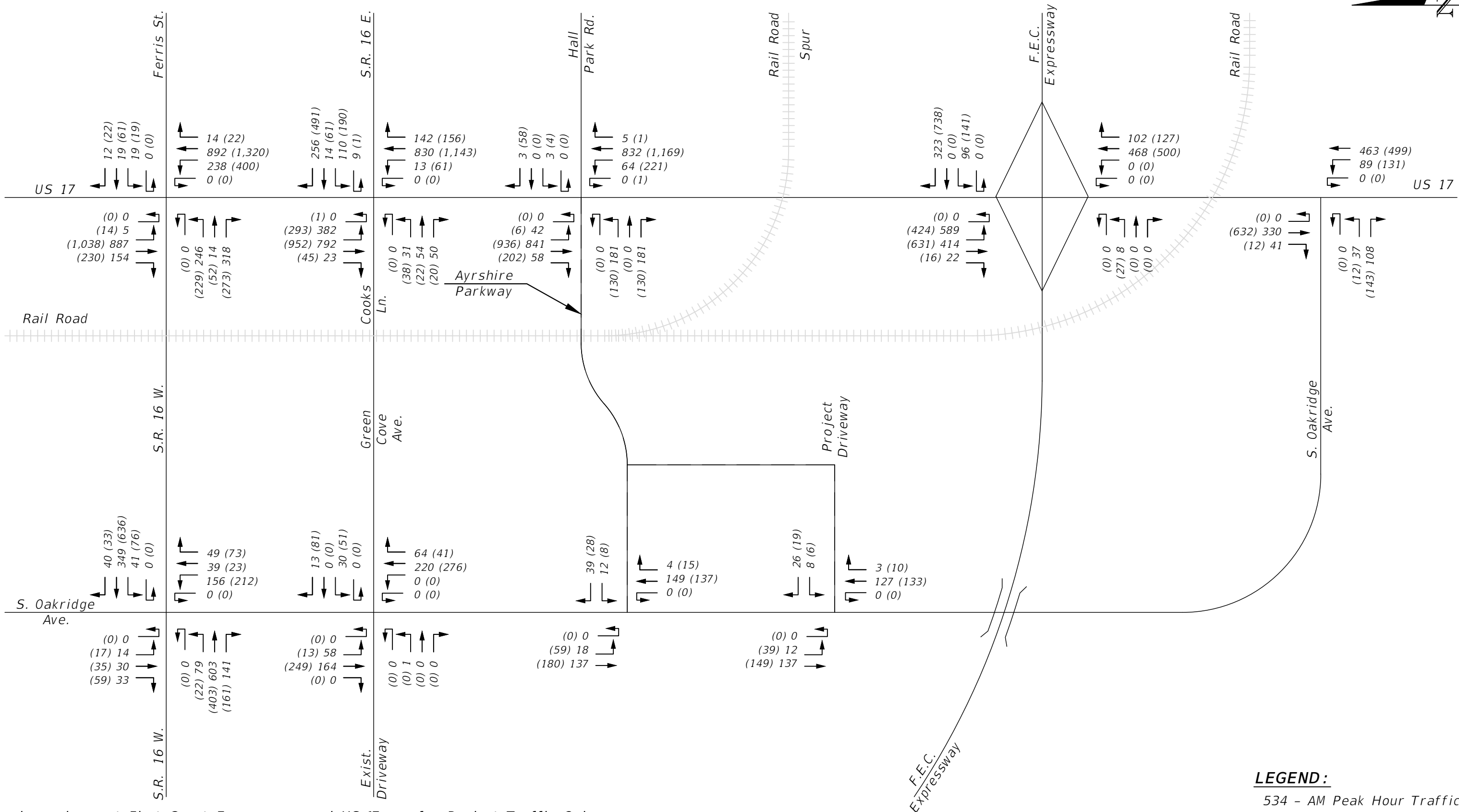


LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

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Figure 13 - Year 2025 AM and PM Peak Hour (Analysis Phase 01) Build-Out Traffic Volumes

Ayrshire CPA - Traffic Study
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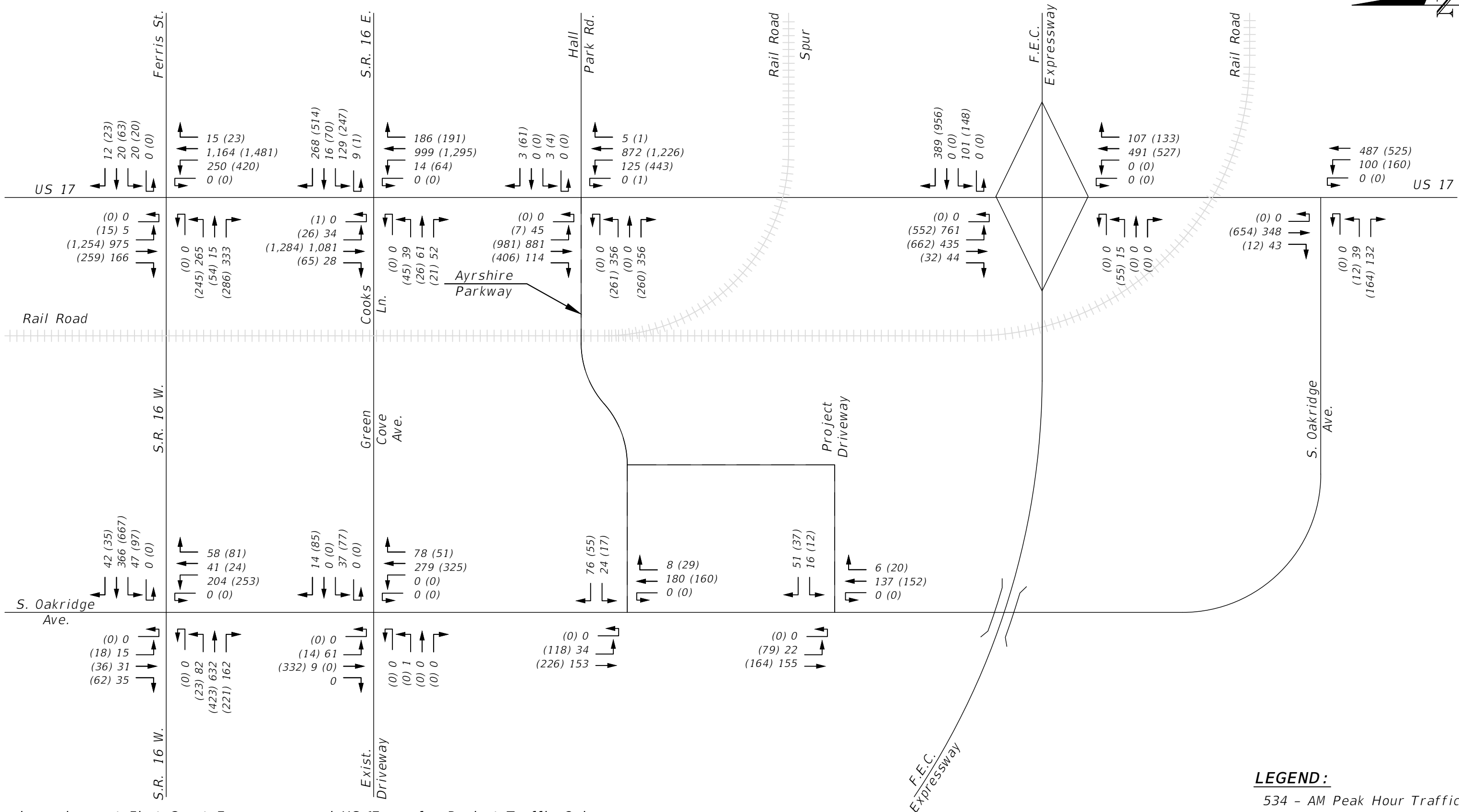
Numbers shown at First Coast Expressway and US 17 are for Project Traffic Only.

LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

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Figure 15 - Year 2030 AM and PM Peak Hour (Analysis Phase 03) Build-Out Traffic Volumes

Ayrshire CPA - Traffic Study
 City of Green Cove Springs, Florida



Numbers shown at First Coast Expressway and US 17 are for Project Traffic Only.

LEGEND:
 534 - AM Peak Hour Traffic
 (923)- PM Peak Hour Traffic

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Figure 16 - Year 2035 AM and PM Peak Hour (Analysis Phase 04) Build-Out Traffic Volumes

Ayrshire CPA - Traffic Study
 City of Green Cove Springs, Florida

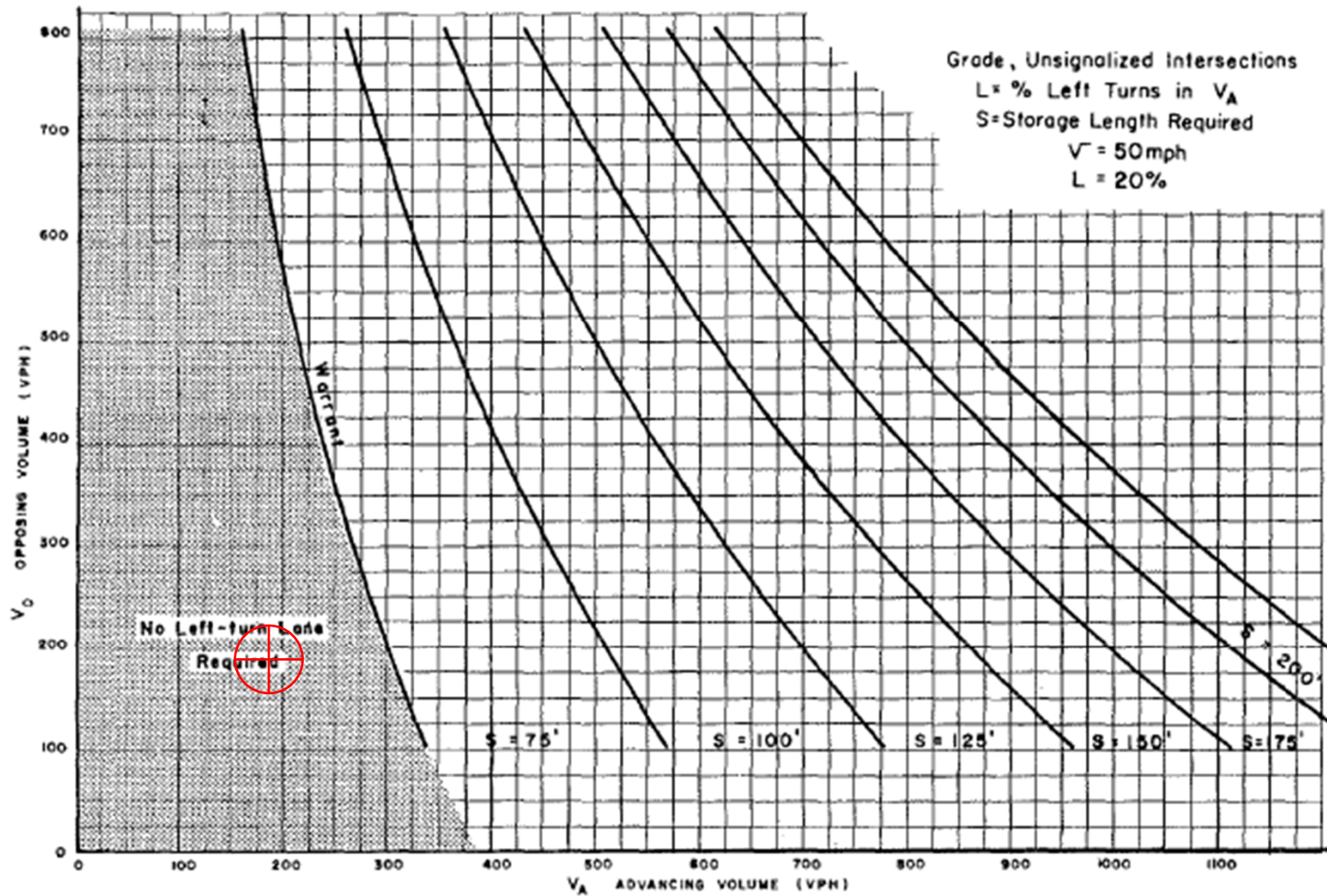


Figure 11. Warrant for left-turn storage lanes on two-lane highways.

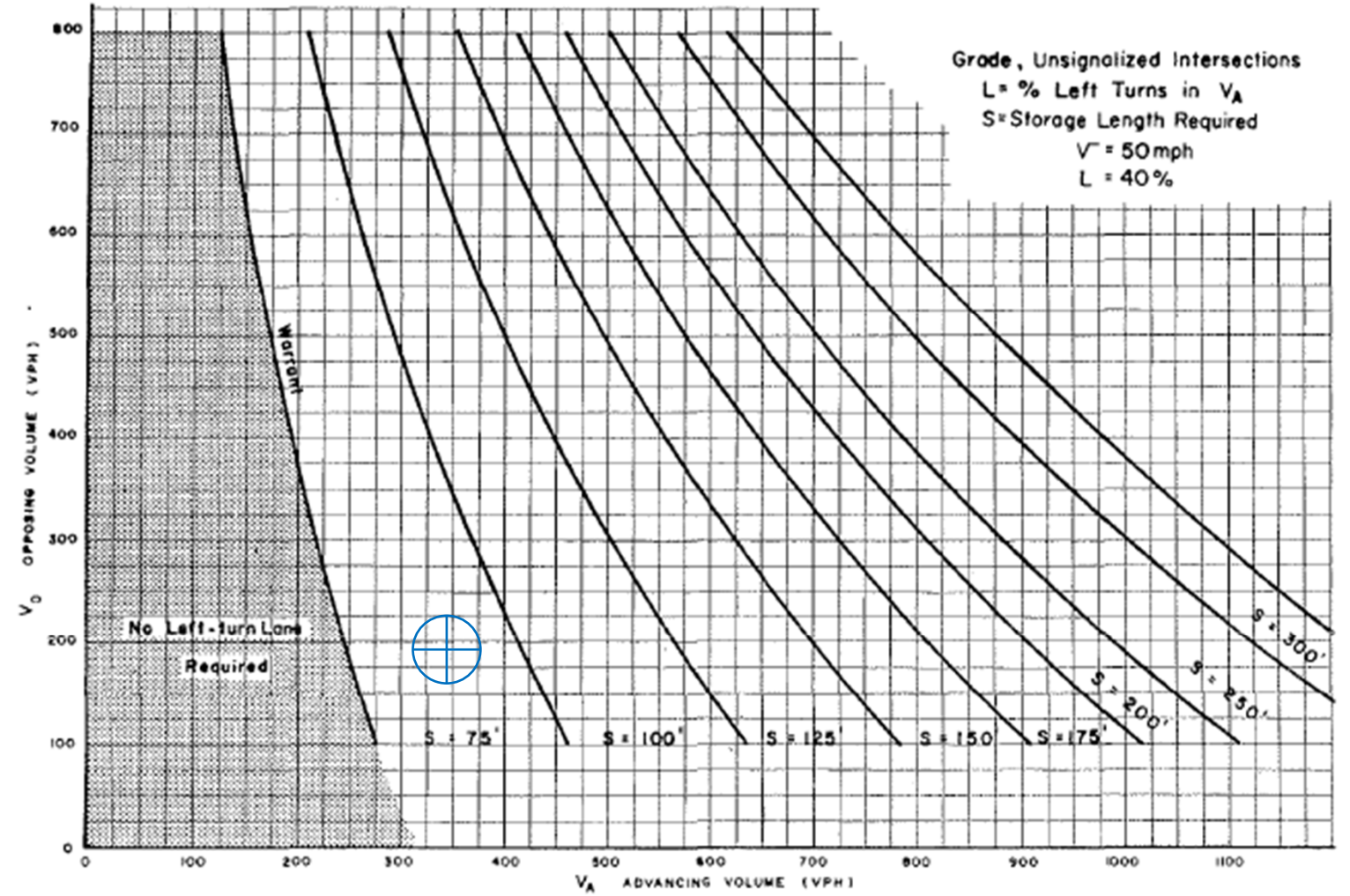


Figure 13. Warrant for left-turn storage lanes on two-lane highways.

Oak Ridge Avenue at Pearce Blvd.



AM Peak

Left Turns: 34
 Advancing Volumes Va: 153 + 34 = 187
 % Left Turns: 22%
 Opposing Volumes Vo: 180 + 8 = 188



PM Peak

Left Turns: 118
 Advancing Volumes Va: 226 + 118 = 344
 % Left Turns: 52%
 Opposing Volumes Vo: 160 + 29 = 189

Source: Harmelink, M., "Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections," in *Highway Research Record 211*, Figure 8



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Figure 17 – Oak Ridge Avenue at Pearce Boulevard - Left Turn Lane Warrants

Ayrshire PUD – Traffic Impact Study
 The City of Green Cove Springs, Florida

Table 01
Trip Generation
Ayrshire PUD, City of Green Cove Springs, FL

ITE Land Use Code	Description	Quantity	Units	Time Period	Rate or Equation	Percent Traffic		Project Trips		
						Entering	Exiting	Total	Entering	Exiting
Phase 01										
210	Single Family Home Detached	235	Dwelling Units	Daily	$\ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	2,215	1,108	1,107
				AM Peak	$\ln(T) = 0.91 \ln(X) + 0.12$	26%	74%	162	42	120
				PM Peak	$\ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	222	140	82
Phase 02 (Cumulative)										
210	Single Family Home Detached	500	Dwelling Units	Daily	$\ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	4,436	2,218	2,218
				AM Peak	$\ln(T) = 0.91 \ln(X) + 0.12$	26%	74%	322	84	238
				PM Peak	$\ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	451	284	167
Phase 03 (Cumulative)										
210	Single Family Home Detached	1,000	Dwelling Units	Daily	$\ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	8,393	4,197	4,196
				AM Peak	$\ln(T) = 0.91 \ln(X) + 0.12$	26%	74%	606	158	448
				PM Peak	$\ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	865	545	320
Phase 04 (Cumulative)										
210	Single Family Home Detached	2,100	Dwelling Units	Daily	$\ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	16,609	8,305	8,304
				AM Peak	$\ln(T) = 0.91 \ln(X) + 0.12$	26%	74%	1,189	309	880
				PM Peak	$\ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	1,738	1,095	643

Source: Trip Generation Manual, 11th Edition, ITE

Table 02
Trends Growth Rate Calculations
Ayrshire PUD, City of Green Cove Springs, FL

Roadway	AADT	Future Growth Rate
Oak Ridge Avenue	2,200	0.91%
SR 16 East of US 17	17,900	5.92%
SR 16 West of Oak Ridge	14,100	4.99%
SR 16 West of US 17	12,300	3.59%
US 17 North of SR 16 E	19,200	3.43%
US 17 North of SR 16 W	22,500	3.52%
US 17 South of SR 16 E	15,000	4.51%
US 17 South of SR 16W	19,400	1.29%
Weighted Average		3.754%

Source: Attachment C

Table 03

Existing Conditions - HCM Delay and LOS Summary

Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	37.50	D	34.20	C
	EB	Signal	49.40	D	27.90	C
	WB	Signal	25.50	C	42.30	D
	NB	Signal	30.10	C	28.60	C
	SB	Signal	26.40	C	24.00	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	30.60	C	110.70	F
	EB	Signal	40.50	D	40.60	D
	WB	Signal	46.40	D	40.20	D
	NB	Signal	22.20	C	173.80	F
	SB	Signal	32.20	C	54.80	D
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	35.00	C	38.80	D
	EB	Signal	46.90	D	47.20	D
	WB	Signal	26.50	C	40.00	D
	NB	Signal	44.60	D	48.30	D
	SB	Signal	33.60	C	28.90	C
US 17 at Hall Park Road	SBL	Yield	9.00	A	9.30	A
	WB	Stop	18.60	A	11.90	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	7.80	A	7.70	A
	WB	Stop	11.80	B	10.90	B
US 17 at Oak Ridge Avenue	NBL	Yield	8.70	A	9.00	A
	EB	Stop	13.40	B	12.30	B

Source: Attachment H

Table 04
Existing Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Moveent	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	37.50	D			34.20	C		
	EBL	Signal	15.60	B	0.190	35	18.00	B	0.080	13
	EBTR	Signal	53.60	B	0.000		28.50	C	0.690	
	WBL	Signal	21.50	C	0.150	7	16.90	B	0.190	25
	WBT	Signal	26.50	C	0.580		46.70	D	0.910	
	WBR	Signal	18.30	B	0.060	3	19.70	B	0.060	-
	NB	Signal	30.10	C	0.000	87	28.60	C	0.500	165
	SB	Signal	26.40	C	0.000	37	24.00	A	0.240	33
C										
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	30.60	C			110.70	F		
	EBLT	Signal	42.50	D	0.520	109	42.00	D	0.350	141
	EBR	Signal	38.40	D	0.660	34	39.20	D	0.490	31
	WB	Signal	46.40	D	0.300	46	40.20	D	0.260	58
	NBL	Signal	21.50	C	0.520	115	403.10	F	1.770	545
	NBTR	Signal	22.50	C	0.480		93.10	F	1.040	
	SBL	Signal	14.40	B	0.030	4	30.30	C	0.110	14
	SBTR	Signal	32.40	C	0.710		55.20	E	0.850	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	35.00	C			38.80	D		
	EB	Signal	46.90	D	0.30	125	47.20	D	0.30	77
	WBL	Signal	49.20	D	0.59	168	55.40	E	0.71	273
	WBT	Signal	31.70	C	0.07		33.70	C	0.21	
	WBR	Signal	15.50	B	0.46	152	36.20	D	0.91	650
	NBL	Signal	55.10	E	0.02	5	56.10	E	0.07	13
	NBT	Signal	45.20	D	0.53		48.90	D	0.67	
	NBR	Signal	43.40	D	0.54	32	46.80	D	0.63	45
	SBL	Signal	40.00	D	0.65	303	36.20	D	0.47	216
SBTR	Signal	20.00	C	0.20		20.90	C	0.27		
US 17 at Hall Park Road	SBL	Yield	9.00	A	0.067	25	9.30	A	0.019	25
	WB	Stop	18.60	C	0.050	25	11.90	B	0.152	25
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	7.80	A	0.045	25	7.70	A	0.012	-
	WB	Stop	11.80	B	0.072	25	10.90	B	0.156	25
US 17 at Oak Ridge Avenue	NBL	Yield	8.70	A	0.082	25	9.00	A	0.101	25
	EB	Stop	13.40	B	0.217	25	12.30	B	0.196	25

Source: Attachment H

Table 05
Year 2025 Background Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	56.70	E	38.30	D
	EB	Signal	87.60	F	28.40	C
	WB	Signal	29.50	C	49.70	D
	NB	Signal	32.30	C	31.80	C
	SB	Signal	26.90	C	24.40	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	35.00	C	178.20	F
	EB	Signal	44.30	D	42.20	D
	WB	Signal	47.30	D	40.90	D
	NB	Signal	25.10	C	295.80	F
	SB	Signal	38.50	D	77.50	E
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.90	D	50.90	D
	EB	Signal	47.90	D	49.20	D
	WB	Signal	28.50	C	66.10	E
	NB	Signal	47.10	D	52.90	D
	SB	Signal	35.10	D	29.60	C
US 17 at Hall Park Road	SBL	Yield	9.40	A	9.80	A
	WB	Stop	22.60	C	12.90	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	7.90	A	7.80	A
	WB	Stop	12.70	B	11.50	B
US 17 at Oak Ridge Avenue	NBL	Yield	9.00	A	9.40	A
	EB	Stop	14.90	B	13.40	B

Source: Attachment H

Table 06
Year 2025 Background Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	56.70	E			38.30	D		
	EBL	Signal	18.00	B	0.26	40	18.70	B	0.1	14
	EBTR	Signal	96.20	F	1.11		29.00	C	0	
	WBL	Signal	22.50	C	0.18	8	16.70	B	0.22	28
	WBT	Signal	31.00	C	0.73		55.50	E	0.97	
	WBR	Signal	18.20	B	0.07	4	181.00	B	0.07	0
	NB	Signal	32.30	C	0.52	102	31.80	C	0	199
	SB	Signal	26.90	C	0.26	44	24.40	C	0	39
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	35.00	C			178.20	F		
	EBLT	Signal	44.50	D	0.6	111	43.10	D	0.36	162
	EBR	Signal	44.00	D	0.76	38	41.50	D	0.57	32
	WB	Signal	47.30	D	0.33	52	40.90	D	0	111
	NBL	Signal	28.60	C	0.67	208	700.20	F	2.44	645
	NBTR	Signal	24.10	C	0.55		152.80	F	1.21	
	SBL	Signal	14.90	B	0.04	5	30.60	C	0.13	16
	SBTR	Signal	38.80	D	0.82		78.50	E	0.99	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.90	D			50.90	D		
	EB	Signal	47.90	D	0.35	143	49.20	D	0	87
	WBL	Signal	53.80	D	0.67	193	69.30	E	0.85	383
	WBT	Signal	31.80	C	0.08		34.20	C	0.24	
	WBR	Signal	17.00	B	0.55	230	69.50	F	1.05	1019
	NBL	Signal	55.10	E	0.02	5	56.50	E	0.09	15
	NBT	Signal	47.20	D	0.61		53.20	D	0.78	
	NBR	Signal	46.80	D	0.63	32	52.20	D	0.73	47
	SBL	Signal	42.10	D	0.75	360	37.10	D	0.55	254
SBTR	Signal	20.30	C	0.23		21.30	C	0.32		
US 17 at Hall Park Road	SBL	Yield	9.40	A	0.084	25	9.80	A	0.023	25
	WB	Stop	22.60	C	0.064	25	12.90	B	0.191	25
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	7.90	A	0.053	25	7.80	A	0.015	-
	WB	Stop	12.70	B	0.094	25	11.50	B	0.192	25
US 17 at Oak Ridge Avenue	NBL	Yield	9.00	A	0.1	25	9.40	A	0.125	25
	EB	Stop	14.90	B	0.277	50	13.40	B	0.245	25

Source: Attachment H

Table 07
Year 2027 Background Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	71.00	E	47.50	D
	EB	Signal	116.40	F	31.50	C
	WB	Signal	29.20	C	67.00	E
	NB	Signal	33.90	C	34.70	C
	SB	Signal	27.30	C	24.70	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	38.90	D	211.30	F
	EB	Signal	47.30	D	43.20	D
	WB	Signal	48.60	D	41.30	D
	NB	Signal	27.50	C	349.50	F
	SB	Signal	44.60	D	98.40	F
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	38.20	D	50.40	D
	EB	Signal	48.60	D	51.90	D
	WB	Signal	30.40	C	65.70	E
	NB	Signal	48.80	D	51.70	D
	SB	Signal	36.00	D	29.40	C
US 17 at Hall Park Road	SBL	Yield	9.70	A	10.10	B
	WB	Stop	28.80	D	13.50	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	7.90	A
	WB	Stop	13.20	B	12.00	B
US 17 at Oak Ridge Avenue	NBL	Yield	9.20	A	9.70	A
	EB	Stop	15.90	C	14.30	B

Source: Attachment H

Table 08
Year 2027 Background Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	71.00	E			47.50	D		
	EBL	Signal	18.20	B	0.28	42	19.20	B	0.11	15
	EBTR	Signal	128.50	F	1.19	811	32.20	C	0.8	427
	WBL	Signal	22.80	C	0.21	8	17.90	B	0.26	30
	WBT	Signal	30.80	C	0.72		75.80	F	1.05	
	WBR	Signal	18.20	B	0.08	5	18.10	B	0.07	0
	NB	Signal	33.90	C	0.57	111	34.70	C	0.66	226
	SB	Signal	27.30	C	0.28	47	24.70	C	0.29	44
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	38.90	D			211.30	F		
	EBLT	Signal	45.90	D	0.65	112	42.80	D	0.38	172
	EBR	Signal	48.70	D	0.82	40	43.10	D	0.61	33
	WB	Signal	48.60	D	0.38	58	41.30	D	0.33	120
	NBL	Signal	35.30	D	0.76	237	797.50	F	2.66	699
	NBTR	Signal	25.20	C	0.6		191.00	F	1.3	
	SBL	Signal	15.10	B	0.04	5	30.70	C	0.14	17
	SBTR	Signal	44.80	D	0.89		99.70	F	1.07	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	38.20	D			50.40	D		
	EB	Signal	48.60	D	0.38	152	51.90	D	0.4	89
	WBL	Signal	58.00	E	0.73	226	67.30	E	0.84	370
	WBT	Signal	31.90	C	0.08		34.20	C	0.24	
	WBR	Signal	17.90	B	0.58	264	69.50	F	1.05	1019
	NBL	Signal	55.10	E	0.02	5	56.50	E	0.09	15
	NBT	Signal	48.50	D	0.66		53.20	D	0.78	
	NBR	Signal	49.30	D	0.68	41	48.10	D	0.69	46
	SBL	Signal	20.50	C	0.81	395	36.80	D	0.55	254
SBTR	Signal	20.50	C	0.24		21.10	C	0.32		
US 17 at Hall Park Road	SBL	Yield	9.70	A	0.095	25	10.10	B	0.027	25
	WB	Stop	28.80	D	0.107	25	13.50	B	0.209	25
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	0.059	25	7.90	A	0.017	25
	WB	Stop	13.20	B	0.105	25	12.00	B	0.215	25
US 17 at Oak Ridge Avenue	NBL	Yield	9.20	A	0.111	25	9.70	A	0.142	25
	EB	Stop	15.90	C	0.311	50	14.30	B	0.279	50

Source: Attachment H

Table 09
Year 2030 Background Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	78.00	E	52.00	D
	EB	Signal	130.10	F	32.90	C
	WB	Signal	30.10	C	75.40	E
	NB	Signal	34.60	C	35.90	D
	SB	Signal	27.30	C	24.80	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	41.20	D	225.00	F
	EB	Signal	48.70	D	43.70	D
	WB	Signal	48.80	D	41.50	D
	NB	Signal	29.20	C	370.80	F
	SB	Signal	48.00	D	108.40	F
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.40	D	157.80	F
	EB	Signal	50.40	D	52.30	D
	WB	Signal	25.80	C	114.70	F
	NB	Signal	46.20	D	294.50	F
	SB	Signal	30.80	C	26.70	C
US 17 at Hall Park Road	SBL	Yield	10.80	B	13.00	B
	WB	Stop	61.70	F	23.00	C
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	7.90	A
	WB	Stop	13.50	B	12.20	B
US 17 at Oak Ridge Avenue	NBL	Yield	9.20	A	9.80	A
	EB	Stop	16.40	C	14.80	B

Source: Attachment H

Table 10
Year 2030 Background Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	78.00	E			52.00	D		
	EBL	Signal	18.80	B	0.3	43	19.20	B	0.11	15
	EBTR	Signal	144.00	F	1.23		33.70	C	0.82	
	WBL	Signal	22.90	C	0.21	7	18.50	B	0.28	30
	WBT	Signal	31.80	C	0.75		85.60	F	1.08	
	WBR	Signal	18.30	B	0.08	5	18.10	B	0.07	0
	NB	Signal	34.60	C	0.59	114	35.90	D	0.69	249
	SB	Signal	27.30	C	0.29	49	24.80	C	0.29	45
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	41.20	D			225.00	F		
	EBLT	Signal	46.50	D	0.67	112	43.10	D	0.4	178
	EBR	Signal	51.00	D	0.84	40	43.70	D	0.63	34
	WB	Signal	48.80	D	0.38		41.50	D	0.33	
	NBL	Signal	41.00	D	0.8	249	832.20	F	2.74	722
	NBTR	Signal	25.70	C	0.61		207.60	F	1.34	
	SBL	Signal	15.30	B	0.04	5	30.70	C	0.14	17
	SBTR	Signal	48.20	D	0.91		109.70	F	1.1	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.40	D			157.80	F		
	EB	Signal	50.40	D	0.44	149	52.30	D	0.49	101
	WBL	Signal	42.20	D	0.4	111	46.90	D	0.53	161
	WBT	Signal	31.40	C	0.04		32.60	C	0.13	
	WBR	Signal	18.00	B	0.34	142	146.40	F	1.18	0
	NBL	Signal	60.00	E	0.22	28	157.20	F	1.05	108
	NBT	Signal	48.30	D	0.82		339.20	F	1.63	
	NBR	Signal	30.30	C	0.28	8	39.50	D	0.4	0
	SBL	Signal	43.30	D	0.55	209	33.50	C	0.3	100
SBTR	Signal	24.10	C	0.5		24.30	C			
US 17 at Hall Park Road	SBL	Yield	10.80	B	0.118	25	13.00	B	0.043	25
	WB	Stop	61.70	F	0.222	25	23.00	C	0.379	50
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	0.061	25	7.90	A	0.017	25
	WB	Stop	13.50	B	0.112	25	12.20	B	0.224	25
US 17 at Oak Ridge Avenue	NBL	Yield	9.20	A	0.116	25	9.80	A	0.149	25
	EB	Stop	16.40	C	0.328	50	14.80	B	0.299	50

Source: Attachment H

Table 11
Year 2035 Background Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	89.20	F	60.90	E
	EB	Signal	152.30	F	36.30	D
	WB	Signal	31.70	C	91.80	F
	NB	Signal	36.20	D	38.50	D
	SB	Signal	27.60	C	25.00	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	46.00	D	249.20	F
	EB	Signal	51.70	D	44.60	D
	WB	Signal	49.10	D	41.80	D
	NB	Signal	32.50	C	407.70	F
	SB	Signal	55.50	E	127.70	F
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	37.40	D	173.70	F
	EB	Signal	50.90	D	53.50	D
	WB	Signal	26.20	C	130.10	F
	NB	Signal	48.40	D	324.50	F
	SB	Signal	31.00	C	27.00	C
US 17 at Hall Park Road	SBL	Yield	11.10	B	13.50	B
	WB	Stop	69.80	F	25.50	D
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.10	A	8.00	A
	WB	Stop	13.90	B	12.50	B
US 17 at Oak Ridge Avenue	NBL	Yield	9.40	A	10.00	B
	EB	Stop	17.30	C	15.40	C

Source: Attachment H

Table 12
Year 2035 Background Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Moveent	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	89.20	F			60.90	E		
	EBL	Signal	19.90	B	0.33	45	19.30	B	0.12	16
	EBTR	Signal	168.70	F	1.29		37.30	D	0.86	
	WBL	Signal	22.90	C	0.21	7	19.50	B	0.3	31
	WBT	Signal	33.70	C	0.78		104.80	F	1.13	
	WBR	Signal	18.30	B	0.09	5	18.20	B	0.08	0
	NB	Signal	36.20	D	0.62	121	38.50	D	0.73	273
	SB	Signal	27.60	C	0.3	51	25.00	C	0.31	48
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	46.00	D			249.20	F		
	EBLT	Signal	47.60	D	0.7	112	43.60	D	0.42	186
	EBR	Signal	55.80	E	0.88	42	45.10	D	0.66	35
	WB	Signal	49.10	D	0.39	60	41.80	D	0.35	128
	NBL	Signal	52.50	D	0.87	269	894.20	F	2.88	762
	NBTR	Signal	26.60	C	0.64		235.00	F	1.4	
	SBL	Signal	15.50	B	0.04	5	30.90	C	0.15	18
	SBTR	Signal	55.50	E	0.96		129.10	F	1.15	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	37.40	D			173.70	F		
	EB	Signal	50.90	D	0.46	154	53.50	D	0.53	108
	WBL	Signal	43.00	D	0.43	116	48.70	D	0.57	170
	WBT	Signal	31.40	C	0.04		32.70	C	0.14	
	WBR	Signal	18.30	B	0.35	151	168.20	F	1.24	96
	NBL	Signal	60.50	E	0.24	30	173.20	F	1.11	94
	NBT	Signal	50.90	D	0.86		374.20	F	1.71	
	NBR	Signal	30.60	C	0.29	11	39.90	D	0.42	34
	SBL	Signal	43.50	D	0.57	220	33.60	C	0.32	146
SBTR	Signal	24.40	C	0.53		24.60	C	0.57		
US 17 at Hall Park Road	SBL	Yield	11.10	B	0.123	25	13.50	B	0.05	25
	WB	Stop	69.80	F	0.247	25	23.50	D	0.423	50
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.10	A	0.065	25	8.00	A	0.019	25
	WB	Stop	13.90	B	0.123	25	12.50	B	0.241	25
US 17 at Oak Ridge Avenue	NBL	Yield	9.40	A	0.124	25	10.00	B	0.16	25
	EB	Stop	17.30	C	0.356	50	15.40	C	0.32	50

Source: Attachent H

Table 13

**Year 2025 (Analysis Phase 01) Development Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL**

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	42.60	D	36.80	D
	EB	Signal	58.20	E	34.10	C
	WB	Signal	23.00	C	42.70	D
	NB	Signal	32.80	C	31.20	C
	SB	Signal	25.30	C	23.40	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	32.70	C	55.80	E
	EB	Signal	44.80	D	47.00	D
	WB	Signal	45.90	D	50.30	D
	NB	Signal	23.50	C	63.10	E
	SB	Signal	33.70	C	49.90	D
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.30	D	52.70	D
	EB	Signal	51.80	D	51.40	D
	WB	Signal	26.80	C	72.00	E
	NB	Signal	45.20	D	50.10	D
	SB	Signal	35.40	D	30.30	C
US 17 at Hall Park Road	SBL	Yield	9.00	A	9.80	A
	WB	Stop	16.90	C	12.60	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.10	A	8.00	A
	WB	Stop	13.10	B	14.40	B
US 17 at Oak Ridge Avenue	NBL	Yield	8.70	A	9.40	A
	EB	Stop	12.70	B	12.80	B
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.5	A	7.7	A
	WBL	Stop	10.6	B	13.1	B
	WBR	Stop	9.5	A	9.2	A

Source: Attachment H

Table 14
Year 2025 (Analysis Phase 01) Development Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	42.60	D			36.80	D		
	EBL	Signal	14.20	B	0.15	42	17.90	B	0.7	16
	EBTR	Signal	62.90	E	1		34.80	C	0.82	
	WBL	Signal	23.30	C	0.24	5	21.10	C	0.39	62
	WBT	Signal	23.50	C	0.46		48.50	D	0.93	
	WBR	Signal	18.00	B	0.06	4	18.90	B	0.06	0
	NB	Signal	32.80	C	0.54	237	31.20	C	0.6	268
	SB	Signal	25.30	C	0.14	53	23.40	C	0.2	58
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	32.70	C			55.80	E		
	EBLT	Signal	42.50	D	0.52	108	51.70	D	0.54	186
	EBR	Signal	46.60	D	0.8	43	42.50	D	0.62	40
	WB	Signal	45.90	D	0.27	58	50.30	D	0.38	119
	NBL	Signal	25.00	C	0.61	178	141.80	F	1.19	586
	NBTR	Signal	23.10	C	0.51		35.80	D	0.78	
	SBL	Signal	14.40	B	0.01	6	21.80	C	0.05	14
	SBTR	Signal	33.80	C	0.74		50.00	D	0.87	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.30	D			52.70	D		
	EB	Signal	51.80	D	0.5	193	51.40	D	0.44	126
	WBL	Signal	51.80	D	0.62	207	67.60	E	0.83	381
	WBT	Signal	31.60	C	0.06	45	34.50	C	0.26	
	WBR	Signal	17.30	B	0.55	226	78.70	F	1.08	1059
	NBL	Signal	54.90	D	0.01	7	55.60	E	0.04	18
	NBT	Signal	46.00	D	0.56		50.60	D	0.72	
	NBR	Signal	43.40	D	0.54	53	49.00	D	0.67	59
	SBL	Signal	42.70	D	0.75	368	38.00	D	0.58	270
SBTR	Signal	20.50	C	0.24	129	21.70	C	0.33		
US 17 at Hall Park Road	SBL	Yield	9.00	A	0.044	25	9.80	A	0.013	-
	WB	Stop	16.90	C	0.014	-	12.60	B	0.112	25
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.10	A	0.044	25	8.00	A	0.011	-
	WB	Stop	13.10	B	0.014	25	14.40	B	0.287	50
US 17 at Oak Ridge Avenue	NBL	Yield	8.70	A	0.078	25	9.40	A	0.119	25
	EB	Stop	12.70	B	0.217	25	12.80	B	0.234	25
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.5	A	0.029	25	7.7	A	0.099	25
	WBL	Stop	10.6	B	0.01	-	13.1	B	0.01	-
	WBR	Stop	9.5	A	0.133	25	9.2	A	0.091	25

Source: Attachment H

Table 15
Year 2027 (Analysis Phase 02) Development Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	55.80	E	41.10	D
	EB	Signal	82.50	F	40.10	D
	WB	Signal	23.50	C	48.30	D
	NB	Signal	31.80	C	31.80	C
	SB	Signal	25.40	C	23.60	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	34.50	C	67.20	E
	EB	Signal	44.20	D	47.10	D
	WB	Signal	46.80	D	51.00	D
	NB	Signal	25.70	C	75.50	E
	SB	Signal	37.60	D	65.90	E
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	40.80	D	58.90	E
	EB	Signal	50.90	D	54.70	D
	WB	Signal	31.70	C	79.40	E
	NB	Signal	55.70	E	54.90	D
	SB	Signal	35.40	D	36.90	D
US 17 at Pearce Blvd/Hall Park Road	Intersection	Signal	13.20	B	12.90	B
	EB	Signal	17.20	B	17.50	B
	WB	Signal	22.50	C	23.70	C
	NB	Signal	14.30	B	12.30	B
	SB	Signal	10.70	B	12.10	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	7.90	A
	WB	Stop	12.70	B	13.10	B
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.5	A	7.6	A
	WBL	Stop	10.4	B	11.6	B
	WBR	Stop	9.2	A	9.1	A
US 17 at Oak Ridge Avenue	NBL	Yield	8.80	A	9.70	A
	EB	Stop	13.30	B	13.50	B

Source: Attachment H

Table 16
Year 2027 (Analysis Phase 02) Development Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	55.80	E			41.10	D		
	EBL	Signal	14.60	B	0.17	44	18.30	B	0.08	16
	EBTR	Signal	89.70	F	1.09		41.00	D	0.89	
	WBL	Signal	22.40	C	0.17	3	19.10	B	0.23	37
	WBT	Signal	24.20	C	0.5		53.00	D	0.96	
	WBR	Signal	18.10	B	0.07	5	18.00	B	0.06	0
	NB	Signal	31.80	C	0.5	243	31.80	C	0.61	282
	SB	Signal	25.40	C	0.15	57	23.60	C	0.21	61
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	34.50	C			67.20	E		
	EBLT	Signal	42.20	D	0.51	96	51.80	D	0.55	188
	EBR	Signal	45.70	D	0.78	42	42.60	D	0.62	45
	WB	Signal	46.80	D	0.31	65	51.00	D	0.41	129
	NBL	Signal	28.40	C	0.67	223	183.00	F	1.27	578
	NBTR	Signal	25.00	C	0.59		42.30	D	0.86	
	SBL	Signal	14.90	B	0.01	6	23.60	C	0.06	15
	SBTR	Signal	37.70	D	0.81		67.10	E	0.97	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	40.80	D			58.90	E		
	EB	Signal	50.90	D	0.47	181	54.70	D	0.46	122
	WBL	Signal	62.50	E	0.78	330	73.80	E	0.95	557
	WBT	Signal	31.50	C	0.05		27.30	C	0.19	
	WBR	Signal	18.10	B	0.58	275	88.40	F	1.11	1123
	NBL	Signal	54.90	D	0.01	7	58.10	E	0.06	18
	NBT	Signal	50.10	D	0.7		61.10	E	0.87	
	NBR	Signal	65.00	E	0.86	159	43.30	D	0.72	59
	SBL	Signal	43.20	D	0.78	386	46.60	D	0.76	311
SBTR	Signal	20.90	C	0.27		27.70	C	0.47		
US 17 at Pearce Blvd/Hall Park Road	Intersection	Signal	13.20	B			12.90	B		
	EB	Signal	17.40	B	0.36	116	17.70	B	0.27	86
	EBTR	Signal	12.70	B	0.02		13.60	B	0.02	
	WB	Signal	22.50	C	0.04	5	23.70	C	0.36	9
	NBL	Signal	10.30	B	0.01	5	9.70	A	0.04	8
	NBTR	Signal	14.30	B	0.64		12.40	B	0.58	
	SBL	Signal	10.10	B	0.13	27	9.70	A	0.02	5
	SBT	Signal	10.90	B	0.42		12.40	B	0.6	
SBR	Signal	9.40	B	0.1	0	10.90	B	0.34	32	
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	0.048	25	7.90	A	0.011	-
	WB	Stop	12.70	B	0.087	25	13.10	B	0.239	25
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.5	A	0.017	25	7.6	A	0.057	25
	WBL	Stop	10.4	B	0.005	-	11.6	B	0.004	-
	WBR	Stop	9.2	A	0.075	25	9.1	A	0.053	25
US 17 at Oak Ridge Avenue	NBL	Yield	8.80	A	0.086	25	9.70	A	0.131	25
	EB	Stop	13.30	B	0.238	25	13.50	B	0.262	25

Source: Attachment H

Table 17
Year 2030 (Analysis Phase 03) Development Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	62.30	E	45.50	D
	EB	Signal	94.60	F	46.80	D
	WB	Signal	23.70	C	52.80	D
	NB	Signal	32.60	C	33.20	C
	SB	Signal	25.50	C	23.70	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	36.70	D	77.80	E
	EB	Signal	45.30	D	47.80	D
	WB	Signal	47.00	D	51.30	D
	NB	Signal	27.90	C	76.80	E
	SB	Signal	41.10	D	94.10	F
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.60	D	43.40	D
	EB	Signal	50.90	D	48.40	D
	WB	Signal	27.20	C	43.50	D
	NB	Signal	43.20	D	45.40	D
	SB	Signal	32.50	C	41.00	D
US 17 at Pearce Blvd/Hall Park Road	Intersection	Signal	13.40	B	14.70	B
	EB	Signal	18.30	B	21.70	C
	WB	Signal	22.60	C	28.80	C
	NB	Signal	12.30	B	13.40	B
	SB	Signal	12.60	B	13.80	B
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	8.00	A
	WB	Stop	13.10	B	13.60	B
Oak Ridge Avenue at Pearce Boulevard	SBL	Yield	7.6	A	7.7	A
	WBL	Stop	10.8	B	12	B
	WBR	Stop	9.3	A	9.2	A
Oak Ridge Avenue at Jersey Avenue	SBL	Yield	7.50	A	7.60	A
	WB	Stop	9.50	A	9.70	A
US 17 at Oak Ridge Avenue	NBL	Yield	8.90	A	9.90	A
	EB	Stop	13.60	B	14.10	B

Source: Attachment H

Table 18
Year 2030 (Analysis Phase 03) Development Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	62.30	E			45.50	D		
	EBL	Signal	14.80	B	0.18	45	18.80	B	0.08	17
	EBTR	Signal	103.10	F	1.13		47.90	D	0.93	
	WBL	Signal	22.70	C	0.2	3	20.80	C	0.29	38
	WBT	Signal	24.50	C	0.51		58.50	E	0.99	
	WBR	Signal	18.10	B	0.07	5	18.00	B	0.06	0
	NB	Signal	32.60	C	0.53	270	33.20	C	0.64	306
	SB	Signal	25.50	C	0.15	57	23.70	C	0.22	63
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	36.70	D			76.80	E		
	EBLT	Signal	42.50	D	0.52	95	52.30	D	0.56	194
	EBR	Signal	47.60	D	0.81	43	43.40	D	0.64	52
	WB	Signal	47.00	D	0.32	60	51.30	D	0.42	131
	NBL	Signal	31.50	C	0.72	244	210.30	F	1.34	600
	NBTR	Signal	27.00	C	0.66		37.10	D	0.85	
	SBL	Signal	15.40	B	0.01	6	26.10	C	0.09	25
	SBTR	Signal	41.30	D	0.85		96.90	F	1.08	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	36.60	D			43.40	D		
	EB	Signal	50.90	D	0.46	163	48.40	D	0.34	105
	WBL	Signal	41.90	D	0.39	136	49.20	D	0.6	215
	WBT	Signal	31.20	C	0.03		32.40	C	0.12	
	WBR	Signal	20.70	C	0.36	158	42.70	D	0.82	449
	NBL	Signal	57.30	E	0.12	33	48.70	D	0.24	93
	NBT	Signal	45.50	D	0.83		48.30	D	0.93	
	NBR	Signal	28.10	C	0.3	34	22.20	C	0.28	36
	SBL	Signal	47.70	D	0.61	214	54.10	D	0.74	182
SBTR	Signal	25.40	C	0.55		37.10	D	0.83		
US 17 at Pearce Blvd/Hall Park Road	Intersection	Signal	13.40	B			14.70	B		
	EBL	Signal	19.10	B	0.4	135	22.60	C	0.33	130
	EBTR	Signal	17.50	B	0.46		20.90	C	0.38	
	WB	Signal	22.60	C	0.03	0	28.80	C	0.36	17
	NBL	Signal	9.30	A	0.2	21	16.60	B	0.68	97
	NBTR	Signal	12.50	B	0.62		12.80	B	0.72	
	SBL	Signal	9.00	A	0.13	15	11.00	B	0.03	5
	SBT	Signal	13.00	B	0.67		14.30	B	0.67	
	SBR	Signal	9.30	A	0.09	10	11.50	B	0.31	28
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.00	A	0.05	25	8.00	A	0.012	-
	WB	Stop	13.10	B	0.095	25	13.60	B	0.256	25
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.6	A	0.014	-	7.7	A	0.045	25
	WBL	Stop	10.8	B	0.021	25	12	B	0.017	-
	WBR	Stop	9.3	A	0.048	25	9.2	A	0.034	25
Oak Ridge Avenue at Jersey Avenue	SBL	Yield	7.50	A	0.009	-	7.60	A	0.03	25
	WB	Stop	9.50	A	0.044	25	9.70	A	0.034	25
US 17 at Oak Ridge Avenue	NBL	Yield	8.90	A	0.095	25	9.90	A	0.163	25
	EB	Stop	13.60	B	0.274	50	14.10	B	0.3	50

Source: Attachment H

Table 19
Year 2035 (Analysis Phase 04) Development Conditions - HCM Delay and LOS Summary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Approach	Signal Control	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
SR 16 W at Oak Ridge Avenue	Intersection	Signal	77.30	E	46.50	D
	EB	Signal	123.50	F	49.20	D
	WB	Signal	24.20	C	49.50	D
	NB	Signal	37.30	D	41.70	D
	SB	Signal	25.60	C	24.60	C
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	43.30	D	114.80	F
	EB	Signal	47.70	D	49.30	D
	WB	Signal	47.30	D	51.70	D
	NB	Signal	34.30	C	91.00	F
	SB	Signal	51.30	D	173.90	F
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	40.50	D	45.40	D
	EB	Signal	52.90	D	72.00	E
	WB	Signal	30.10	C	71.90	E
	NB	Signal	48.20	D	40.20	D
	SB	Signal	35.10	D	34.70	C
US 17 at Pearce Boulevrd/Hall Park Road	Intersection	Signal	22.20	C	28.50	C
	EB	Signal	26.50	C	43.90	D
	WB	Signal	35.50	D	49.90	D
	NB	Signal	20.00	C	22.00	C
	SB	Signal	21.30	C	29.50	C
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.20	A	8.10	A
	WB	Stop	14.90	B	17.90	C
Oak Ridge Avenue at Pearce Boulevrd	SBL	Yield	7.7	A	7.9	A
	WBL	Stop	11.8	B	15.2	C
	WBR	Stop	9.8	A	9.5	A
Oak Ridge Avenue at Jersey Avenue	SBL	Yield	7.60	A	7.80	A
	WB	Stop	9.90	A	10.40	B
US 17 at Oak Ridge Avenue	NBL	Yield	9.00	A	10.30	B
	EB	Stop	14.30	B	15.20	C

Source: Attachment H

Table 20
Year 2035 (Analysis Phase 04) Development Conditions - HCM Delay and LOS Suary
Ayrshire PUD - Traffic Study, City of Green Cove Springs, FL

Intersection	Movement	Signal Control	AM Peak				PM Peak			
			Delay	LOS	V/C Ratio	95%ile Queue (Feet)	Delay	LOS	V/C Ratio	95%ile Queue (Feet)
SR 16 W at Oak Ridge Avenue	Intersection	Signal	77.30	E			46.50	D		
	EBL	Signal	15.00	B	0.19	47	19.00	B	0.09	16
	EBTR	Signal	134.70	F	1.2		50.30	D	0.96	
	WBL	Signal	23.10	C	0.22	4	27.30	C	0.47	42
	WBT	Signal	25.10	C	0.54		54.40	D	0.98	
	WBR	Signal	18.10	B	0.07	5	16.80	B	0.06	0
	NB	Signal	37.30	D	0.66	376	41.70	D	0.78	396
	SB	Signal	25.60	C	0.16	59	24.60	C	0.23	67
SR 16 W / Ferris Ave. at US 17	Intersection	Signal	43.30	D			114.80	F		
	EBLT	Signal	43.40	D	0.56	94	53.80	D	0.62	225
	EBR	Signal	51.20	D	0.85	40	44.70	D	0.67	62
	WB	Signal	47.30	D	0.33		51.70	D	0.43	
	NBL	Signal	43.00	D	0.81	265	238.80	F	1.41	640
	NBTR	Signal	32.40	C	0.78	434	49.80	D	0.95	830
	SBL	Signal	16.80	B	0.02	6	29.70	C	0.11	15
	SBTR	Signal	51.80	D	0.93		182.90	F	1.3	
SR 16 E / Cooks Ln. at US 17	Intersection	Signal	40.50	D			45.40	D		
	EB	Signal	52.90	D	0.52	184	72.00	E	0.62	151
	WBL	Signal	44.40	D	0.47	151	77.50	E	0.88	384
	WBT	Signal	31.20	C	0.03		36.60	D	0.16	
	WBR	Signal	23.10	C	0.4	184	74.10	E	0.99	578
	NBL	Signal	54.80	D	0.1	34	60.00	E	0.4	104
	NBT	Signal	52.00	D	0.92		42.80	D	0.92	
	NBR	Signal	27.60	C	0.38	42	15.70	B	0.29	30
	SBL	Signal	51.60	D	0.73	232	57.80	E	0.88	224
SBTR	Signal	27.80	C	0.63		28.90	C	0.81		
US 17 at Pearce Blvd/Hall Park Road	Intersection	Signal	22.20	C			28.80	C		
	EBL	Signal	28.00	C	0.65	462	46.00	D	0.75	355
	EBTR	Signal	25.00	C	0.71		44.10	D	0.75	
	WB	Signal	35.50	D	0.04	0	50.10	D	0.51	0
	NBL	Signal	17.60	B	0.48	69	44.80	D	0.93	448
	NBTR	Signal	20.40	C	0.69		13.80	B	0.63	
	SBL	Signal	15.50	B	0.18	30	18.80	B	0.04	6
	SBT	Signal	22.20	C	0.76		29.90	C	0.79	
	SBR	Signal	16.30	B	0.2	33	29.80	C	0.74	61
Oak Ridge Avenue at Green Cove Avenue	SBL	Yield	8.20	A	0.056	25	8.10	A	0.013	-
	WB	Stop	14.90	B	0.132	25	17.90	C	0.388	50
Oak Ridge Avenue at Pearce Blvd	SBL	Yield	7.7	A	0.027	25	7.9	A	0.094	25
	WBL	Stop	11.8	B	0.047	25	15.2	C	0.05	25
	WBR	Stop	9.8	A	0.098	25	9.5	A	0.07	25
Oak Ridge Avenue at Jersey Avenue	SBL	Yield	7.60	A	0.017	25	7.80	A	0.062	25
	WB	Stop	9.90	A	0.09	25	10.40	B	0.074	25
US 17 at Oak Ridge Avenue	NBL	Yield	9.00	A	0.109	25	10.30	B	0.205	25
	EB	Stop	14.30	B	0.325	50	15.20	C	0.352	50

Source: Attachment H

Attachment A

Conceptual Site Plan

(Source: Dunn and Associates, Inc.)

NOT RELEASED FOR CONSTRUCTION

LEGEND

- = WETLANDS
- = UPLAND BUFFER
- = WETLAND IMPACT
- = RECREATION
- * = GENERAL ENTRY SIGNAGE LOCATION
- O.S. = OPEN SPACE

SITE SUMMARY

1. **OWNER:**
GUSTAFSON'S CATTLE, INC.
P.O. BOX 600337
JACKSONVILLE, FL 32260
2. **DEVELOPER:**
D.R. HORTON, INC. - JACKSONVILLE
4220 RACE TRACK ROAD
JACKSONVILLE, FL 32259
3. **ENGINEER:**
DUNN & ASSOCIATES, INC.
8647 BAYPINE ROAD, SUITE 200
JACKSONVILLE, FL 32256
PH: (904)363-8916
FA: (904)363-8917
4. **SURVEYOR:**
ETM SURVEYING & MAPPING, INC.
14775 OLD ST. AUGUSTINE RD,
JACKSONVILLE, FL 32258
PH: (904) 642-8550
5. **EXISTING/PROPOSED ZONING:**
EXISTING AG & IS
PROPOSED PUD
6. **TOTAL SITE AREA SUMMARY:**

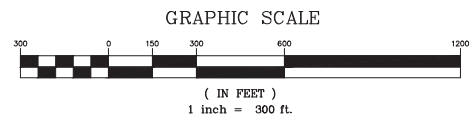
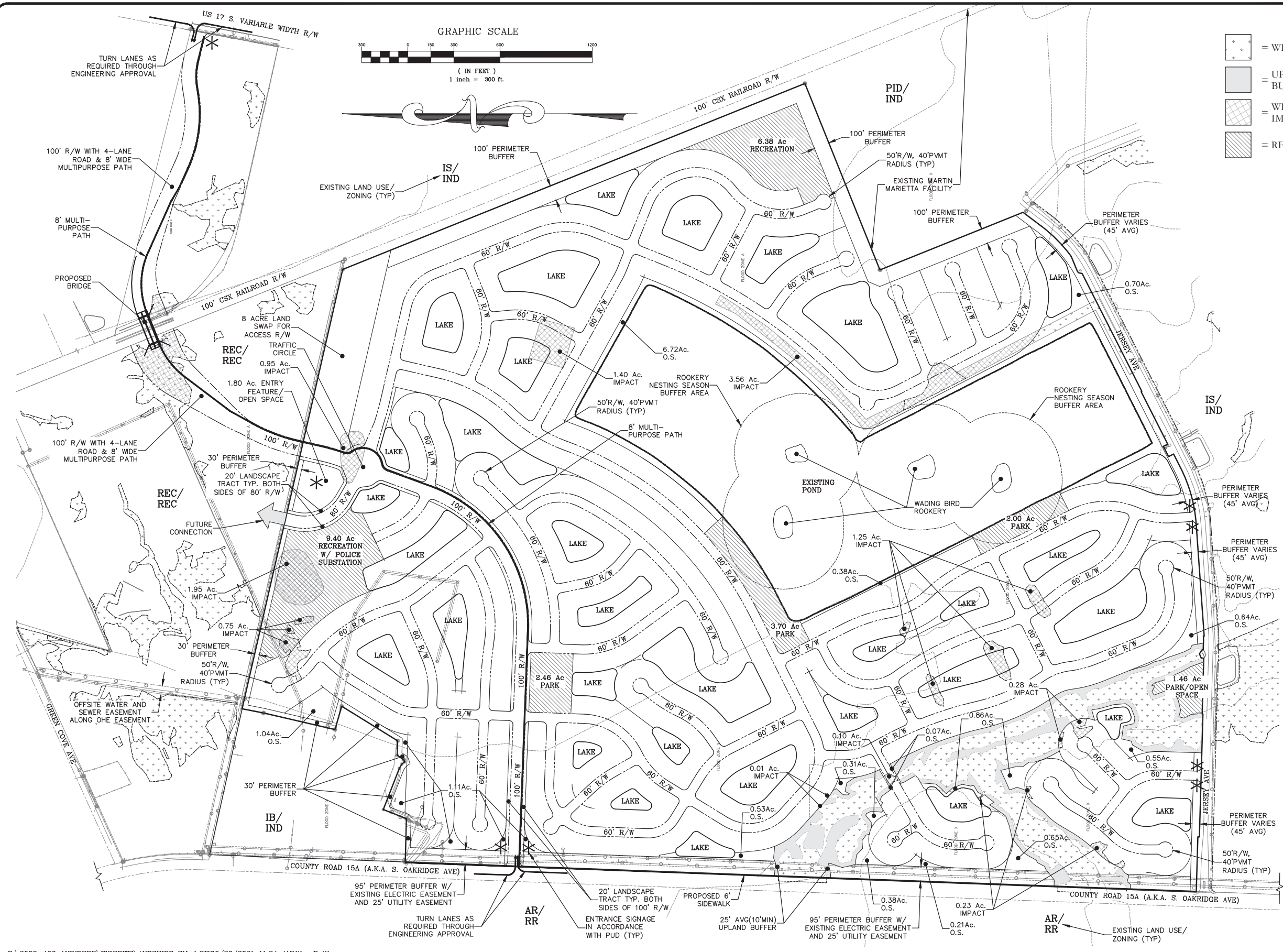
MINIMUM LOT SIZES	= 43' x 100'
MINIMUM SQUARE FOOTAGE	= 4,300 SF
MINIMUM LOT WIDTH	= 43'
FRONT SETBACK (FACE OF GARAGE):	= 20'
(FAÇADE OF HOME):	= 15'
SECOND FRONT (CORNER LOTS):	= 10'
SIDE SETBACK (43' LOTS):	= 6.5'
(WIDER LOTS)	= 5'
REAR SETBACK:	= 10'
MAX HEIGHT OF STRUCTURES:	= 35'
7. FOR CORNER LOTS THE MIN. LOT WIDTH SHALL BE INCREASED BY 5'.
8. MIN. FRONTAGE OF EACH LOT SHALL BE 80% OF ITS REQUIRED LOT WIDTH PROVIDED, HOWEVER THAT THE LOT FRONTAGE MAY BE REDUCED TO 25' ON CUL-DE-SACS AND CURVES.
9. **WATER SUPPLY:** = CCUA
10. **SEWER SERVICE:** = CCUA
11. **ELECTRICAL SERVICE:** = CITY OF GREEN COVE
12. **STORM WATER SYSTEM:** WET DETENTION PONDS
13. **FIRE PROTECTION:** AS REQUIRED VIA HYDRANTS
14. **SIGNAGE:** TYPE, LOCATION AND DIMENSIONS TO BE IN ACCORDANCE WITH P.U.D.
15. **SIDEWALKS:** SHALL BE 5' WIDE ON ONE SIDE OF ALL INTERNAL ROADWAYS AND AN 8' MULTI-PURPOSE PATH FROM SR 17 TO CR 15A.

SITE DATA

TOTAL GROSS ACREAGE	= 560.52 Ac.
NUMBER OF RESIDENTIAL LOTS	= 2,100 D.U. MAX.
DENSITY	= 3.75 LOTS/ACRE
MAXIMUM COVERAGE OF BLDGS & STRUCTURES	= 60% OF LOT
WETLANDS	= 30.08 ±Ac.
WETLAND IMPACTS	= 10.48 ±Ac.
EXIST POND	= 86.59 ±Ac.
REMAINING UPLANDS	= 454.33 ±Ac.
LAND SWAP PARCEL	= 8.00 ±Ac.
LAKES	= 56.87 ±Ac.
PUBLIC R/W	= 75.93 ±Ac.
PERIMETER BUFFER	= 27.33 ±Ac.
PARK & RECREATION	= 25.40 ±Ac.
UPLAND BUFFER	= 8.45 ±Ac.
OPEN SPACE	= 15.95 ±Ac.
LANDSCAPE TRACT	= 3.53 ±Ac.

FLOOD ZONE
DEVELOPED AREA LOCATED WITHIN FLOOD ZONE "X" & "A" PER FEMA MAP NO.'S 12019C0277E, 12019C0280E, 12019C0281E & 12019C0283E, DATED MAR 17, 2014. (NO BASE FLOOD ELEVATION ESTABLISHED PER FEMA).

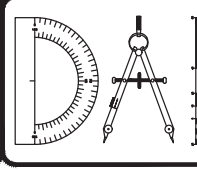
NOTE: THIS PLAN IS CONCEPTUAL IN NATURE. LOT LINES, LOT SIZES, ROADWAY NETWORK, RIGHT-OF-WAYS, STORM WATER PONDS AND SIGNAGE MAY BE ADJUSTED FOR ENGINEERING, GEOMETRY AND ANY GOVERNMENTAL AGENCY REQUIREMENTS AND AS SITE PLANNING REQUIRES.



P:\2008-499 AYRSHIRE\EXHIBITS\AYRSHIRE ZM-1.DWG/29/2021 11:24 AM Mike Reilly

REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED BY: DAI
 DRAWN BY: MR
 CHECKED BY: VJD
 SCALE: 1" = 300'
 DATE: June 29, 2021
 PROJ. NO.: 2008-499



Dunn & Associates, Inc.
 CIVIL ENGINEERS / LAND PLANNERS
 8647 Baypine Road, Suite 200
 Jacksonville, Florida 32256
 Phone: (904)363-8916 Fax: (904)363-8917
 www.dunneng.com

AYRSHIRE
 FOR:
 D.R. HORTON INC. - JACKSONVILLE
 GREEN COVE SPRINGS, FLORIDA
 ZONING MAP

Sheet No. 1 of 1
ZM-1
 DWG. NO.

VINCENT J. DUNN ENGINEER NO. 39452
 DAVID M. TAYLOR ENGINEER NO. 44164
 GLEN R. WIEGNER ENGINEER NO. 81419
 CERTIFICATE OF AUTHORIZATION NO. 27168

Attachment B

Traffic Counts Data and Season
Factors



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

Location: 1 SOUTH OAKRIDGE AVENUE & SR 16 WEST AM

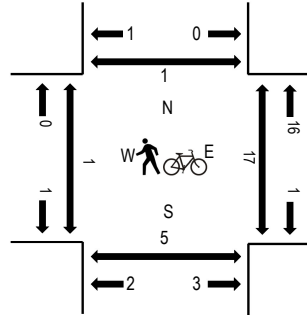
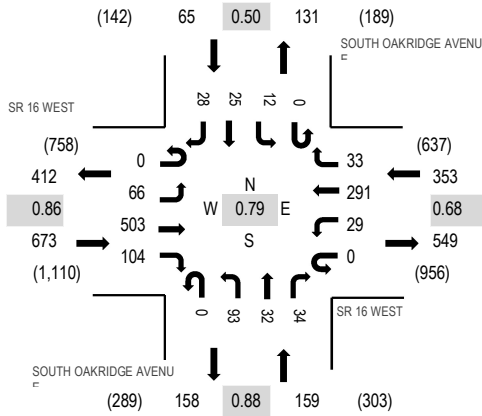
Date: Thursday, April 22, 2021

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 16 WEST Eastbound				SR 16 WEST Westbound				SOUTH OAKRIDGE AVENUE Northbound				SOUTH OAKRIDGE AVENUE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	12	150	34	0	7	115	7	0	34	2	9	0	6	6	12	394	1,250	0	0	0	0
7:15 AM	0	23	131	28	0	10	64	3	0	30	0	9	0	1	0	6	305	1,138	0	1	0	1
7:30 AM	0	10	111	25	0	7	47	11	0	20	8	9	0	3	4	2	257	1,076	0	3	0	0
7:45 AM	0	21	111	17	0	5	65	12	0	9	22	7	0	2	15	8	294	1,036	1	9	0	0
8:00 AM	0	12	86	17	0	4	69	9	0	16	9	15	0	12	23	10	282	942	0	5	0	0
8:15 AM	0	4	86	25	0	6	67	4	0	25	3	12	0	2	2	7	243		0	0	0	0
8:30 AM	0	3	86	17	0	2	61	2	0	14	8	15	0	2	5	2	217		0	0	0	0
8:45 AM	0	4	76	21	0	5	55	0	0	14	0	13	0	2	4	6	200		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	15	5	0	4	12	0	0	10	0	0	0	0	0	0	46
Lights	0	63	471	85	0	24	272	32	0	58	29	27	0	12	23	25	1,121
Mediums	0	3	17	14	0	1	7	1	0	25	3	7	0	0	2	3	83
Total	0	66	503	104	0	29	291	33	0	93	32	34	0	12	25	28	1,250



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

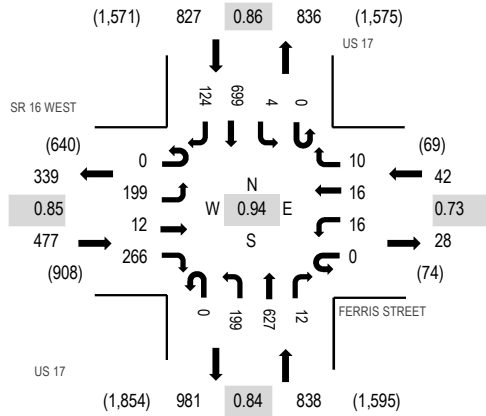
Location: 2 US 17 & FERRIS STREET AM

Date: Thursday, April 22, 2021

Peak Hour: 07:15 AM - 08:15 AM

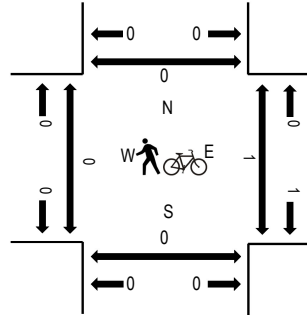
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SR 16 WEST Eastbound				FERRIS STREET Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	47	5	82	0	2	4	3	0	51	120	3	0	4	146	43	510	2,168	0	0	0	0
7:15 AM	0	72	3	72	0	3	3	2	0	38	145	4	0	2	214	24	582	2,184	0	0	0	0
7:30 AM	0	38	0	65	0	4	2	1	0	61	193	3	0	1	153	30	551	2,153	0	0	0	0
7:45 AM	0	42	3	69	0	5	6	4	0	44	135	4	0	1	174	38	525	2,081	0	0	0	0
8:00 AM	0	47	6	60	0	4	5	3	0	56	154	1	0	0	158	32	526	1,975	0	1	0	0
8:15 AM	0	51	5	71	0	3	4	3	0	51	159	2	0	1	178	23	551		0	0	0	0
8:30 AM	0	30	3	54	0	0	1	3	0	39	166	1	0	3	163	16	479		0	0	0	0
8:45 AM	0	31	4	48	0	1	2	1	0	36	125	4	0	11	125	31	419		0	0	1	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	0	18	0	0	0	0	0	9	27	0	0	0	22	2	80
Lights	0	192	12	232	0	16	16	10	0	186	580	12	0	4	666	121	2,047
Mediums	0	5	0	16	0	0	0	0	0	4	20	0	0	0	11	1	57
Total	0	199	12	266	0	16	16	10	0	199	627	12	0	4	699	124	2,184



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

Location: 3 SOUTH OAKRIDGE AVENUE & GREEN COVE AVENUE AM

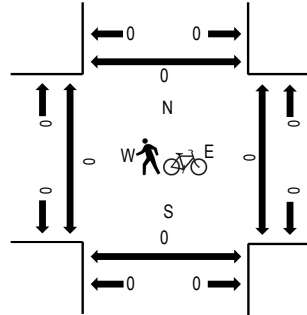
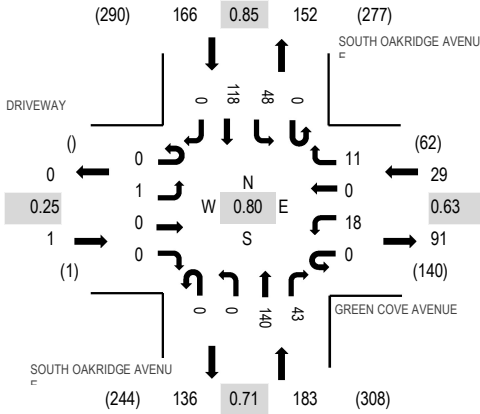
Date: Thursday, April 22, 2021

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DRIVEWAY Eastbound				GREEN COVE AVENUE Westbound				SOUTH OAKRIDGE AVENUE Northbound				SOUTH OAKRIDGE AVENUE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	5	0	3	0	0	49	15	0	16	31	0	119	379	0	0	0	0
7:15 AM	0	0	0	0	0	3	0	2	0	0	31	6	0	12	23	0	77	342	0	0	0	0
7:30 AM	0	1	0	0	0	3	0	6	0	0	26	13	0	14	35	0	98	341	0	0	0	0
7:45 AM	0	0	0	0	0	7	0	0	0	0	34	9	0	6	29	0	85	313	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	4	0	0	35	7	0	6	29	0	82	282	0	1	0	0
8:15 AM	0	0	0	0	0	3	0	5	0	0	30	2	0	12	24	0	76		0	0	0	0
8:30 AM	0	0	0	0	0	8	0	5	0	0	24	5	0	9	19	0	70		0	0	0	0
8:45 AM	0	0	0	0	0	5	0	2	0	0	20	2	0	6	19	0	54		0	0	1	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	11	2	0	0	6	0	19
Lights	0	1	0	0	0	15	0	10	0	0	93	30	0	48	93	0	290
Mediums	0	0	0	0	0	3	0	1	0	0	36	11	0	0	19	0	70
Total	0	1	0	0	0	18	0	11	0	0	140	43	0	48	118	0	379

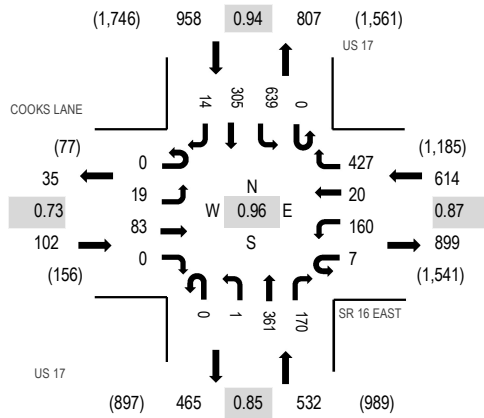
Location: 4 US 17 & SR 16 EAST AM

Date: Thursday, April 22, 2021

Peak Hour: 07:00 AM - 08:00 AM

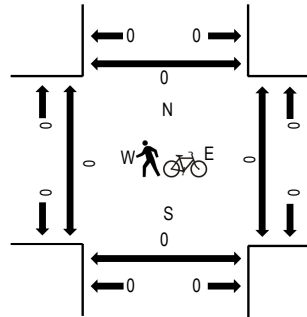
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	COOKS LANE Eastbound				SR 16 EAST Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	2	33	0	1	34	9	99	0	0	78	54	0	163	75	1	549	2,206	0	0	0	0
7:15 AM	0	5	20	0	1	40	4	93	0	0	101	44	0	179	73	3	563	2,147	0	0	0	0
7:30 AM	0	6	17	0	3	35	3	115	0	1	111	46	0	159	73	3	572	2,099	0	0	0	0
7:45 AM	0	6	13	0	2	51	4	120	0	0	71	26	0	138	84	7	522	1,971	0	0	0	0
8:00 AM	0	6	6	1	1	34	2	103	0	1	96	40	0	121	74	5	490	1,870	0	0	0	0
8:15 AM	0	2	13	1	0	34	3	108	0	0	91	36	0	141	81	5	515		0	0	0	0
8:30 AM	0	5	10	0	0	31	5	111	0	0	59	25	0	110	81	7	444		0	0	0	0
8:45 AM	0	4	5	1	1	34	10	94	0	1	75	33	0	100	60	3	421		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	27	0	15	0	0	22	16	0	13	15	0	108
Lights	0	18	82	0	7	123	20	401	0	1	325	129	0	610	282	13	2,011
Mediums	0	1	1	0	0	10	0	11	0	0	14	25	0	16	8	1	87
Total	0	19	83	0	7	160	20	427	0	1	361	170	0	639	305	14	2,206



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Location: 5 US 17 & HALL PARK ROAD AM

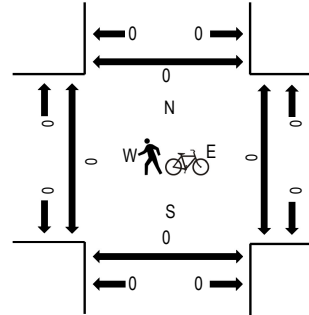
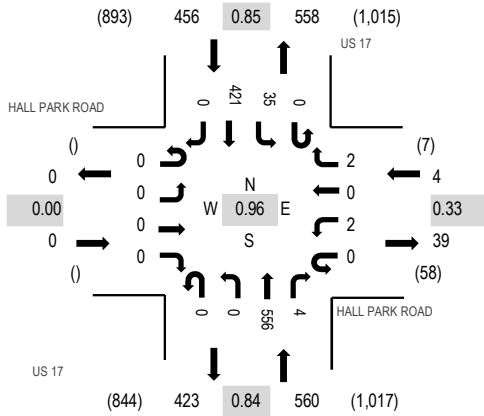
Date: Thursday, April 22, 2021

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HALL PARK ROAD Eastbound				HALL PARK ROAD Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
7:00 AM	0	0	0	0	0	0	2	0	1	0	0	153	2	0	7	99	0	264	1,020	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	129	1	0	7	105	0	243	998	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	166	1	0	4	94	0	265	998	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	108	0	0	17	123	0	248	939	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	138	1	0	6	95	0	242	897	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	126	0	0	4	112	0	243		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	86	0	0	2	117	0	206		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	105	0	0	6	95	0	206		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	35	0	0	0	42	0	77
Lights	0	0	0	0	0	2	0	2	0	0	482	4	0	35	361	0	886
Mediums	0	0	0	0	0	0	0	0	0	0	39	0	0	0	18	0	57
Total	0	0	0	0	0	2	0	2	0	0	556	4	0	35	421	0	1,020



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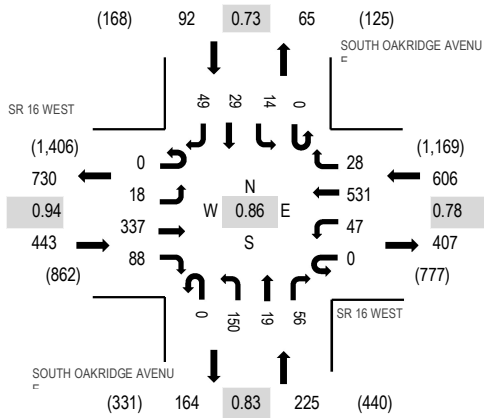
Location: 1 SOUTH OAKRIDGE AVENUE & SR 16 WEST PM

Date: Thursday, April 22, 2021

Peak Hour: 04:15 PM - 05:15 PM

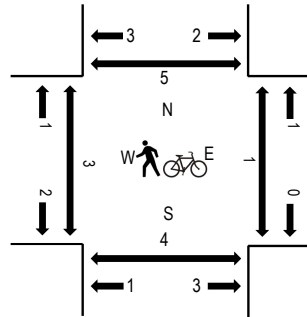
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	SR 16 WEST Eastbound				SR 16 WEST Westbound				SOUTH OAKRIDGE AVENUE Northbound				SOUTH OAKRIDGE AVENUE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	4	70	25	0	10	136	5	0	20	1	6	0	3	8	15	303	1,274	0	0	0	0
4:15 PM	0	5	85	27	0	4	140	9	0	38	6	15	0	3	5	8	345	1,366	0	1	2	0
4:30 PM	0	3	89	14	0	7	120	2	0	33	4	11	0	4	9	20	316	1,342	0	0	0	1
4:45 PM	0	4	76	22	0	11	113	7	0	43	3	14	0	3	2	12	310	1,338	2	0	0	2
5:00 PM	0	6	87	25	0	25	158	10	0	36	6	16	0	4	13	9	395	1,365	0	0	1	0
5:15 PM	0	4	73	22	0	8	113	6	0	51	6	17	0	3	6	12	321		0	0	0	0
5:30 PM	0	2	74	27	0	13	122	7	0	35	8	11	0	2	5	6	312		0	0	0	0
5:45 PM	0	7	89	22	0	16	122	5	0	34	5	21	0	1	5	10	337		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	7	4	0	0	7	0	0	1	0	3	0	0	0	0	22
Lights	0	18	319	73	0	40	516	28	0	145	19	50	0	14	27	48	1,297
Mediums	0	0	11	11	0	7	8	0	0	4	0	3	0	0	2	1	47
Total	0	18	337	88	0	47	531	28	0	150	19	56	0	14	29	49	1,366



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Location: 2 US 17 & FERRIS STREET PM

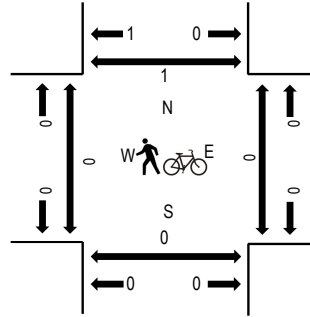
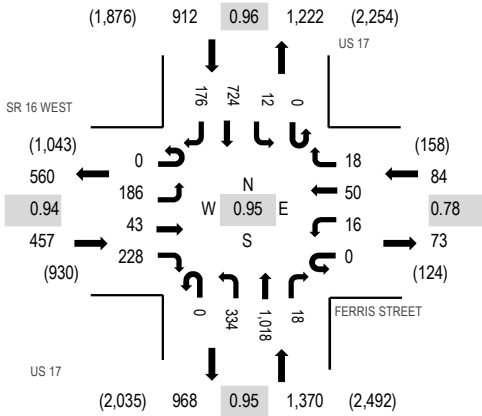
Date: Thursday, April 22, 2021

Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 16 WEST Eastbound				FERRIS STREET Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	47	8	54	0	4	5	9	0	81	221	3	0	0	2	197	37	668	2,633	0	0	0	1
4:15 PM	0	50	12	65	0	8	6	3	0	79	161	4	0	0	3	213	36	640	2,708	0	1	0	1
4:30 PM	0	51	4	56	0	8	12	3	0	60	215	0	0	0	5	193	42	649	2,761	0	0	0	0
4:45 PM	0	57	4	65	0	5	9	2	0	81	213	4	0	0	2	199	35	676	2,818	0	1	0	0
5:00 PM	0	58	10	64	0	4	15	4	0	83	258	6	0	0	2	191	48	743	2,823	0	0	0	0
5:15 PM	0	46	9	56	0	6	16	7	0	79	233	4	0	0	0	198	39	693		0	0	0	0
5:30 PM	0	34	9	54	0	6	10	4	0	69	287	5	0	0	6	178	44	706		0	0	0	1
5:45 PM	0	48	15	54	0	0	9	3	0	103	240	3	0	0	4	157	45	681		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	1	0	0	0	0	0	4	26	0	0	0	13	3	48
Lights	0	182	43	219	0	16	50	18	0	316	969	18	0	12	697	166	2,706
Mediums	0	3	0	8	0	0	0	0	0	14	23	0	0	0	14	7	69
Total	0	186	43	228	0	16	50	18	0	334	1,018	18	0	12	724	176	2,823



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Location: 3 SOUTH OAKRIDGE AVENUE & GREEN COVE AVENUE PM

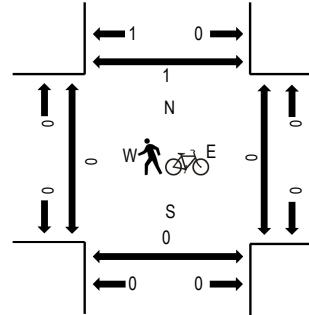
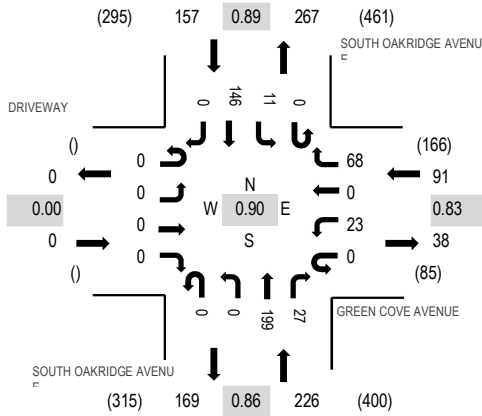
Date: Thursday, April 22, 2021

Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DRIVEWAY				GREEN COVE AVENUE				SOUTH OAKRIDGE AVENUE				Total	Rolling Hour	Pedestrian Crossings									
	Eastbound				Westbound				Northbound						Southbound				West	East	South	North		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right								
4:00 PM	0	0	0	0	0	0	5	0	6	0	0	22	8	0	0	8	32	0	81	387	0	0	0	1
4:15 PM	0	0	0	0	0	0	7	0	12	0	0	46	4	0	0	9	29	0	107	437	0	1	0	1
4:30 PM	0	0	0	0	0	0	8	0	15	0	0	40	3	0	0	4	22	0	92	442	0	0	0	0
4:45 PM	0	0	0	0	0	0	10	0	12	0	0	41	10	0	0	1	33	0	107	455	0	1	0	0
5:00 PM	0	0	0	0	0	0	5	0	16	0	0	56	10	0	0	6	38	0	131	474	0	0	0	0
5:15 PM	0	0	0	0	0	0	7	0	15	0	0	52	5	0	0	2	31	0	112		0	0	0	0
5:30 PM	0	0	0	0	0	0	5	0	23	0	0	34	4	0	0	2	37	0	105		0	0	0	1
5:45 PM	0	0	0	0	0	0	6	0	14	0	0	57	8	0	0	1	40	0	126		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	1	0	0	0	6	0	8
Lights	0	0	0	0	0	18	0	67	0	0	190	27	0	11	108	0	421
Mediums	0	0	0	0	0	4	0	1	0	0	8	0	0	0	32	0	45
Total	0	0	0	0	0	23	0	68	0	0	199	27	0	11	146	0	474

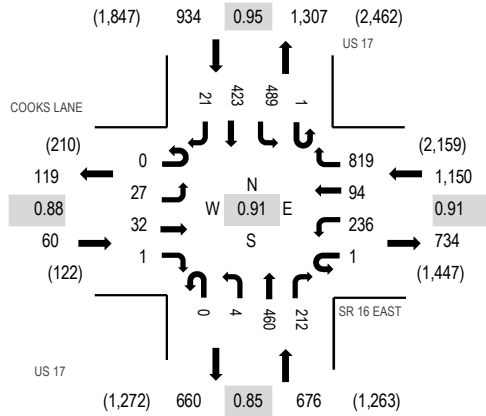
Location: 4 US 17 & SR 16 EAST PM

Date: Thursday, April 22, 2021

Peak Hour: 04:45 PM - 05:45 PM

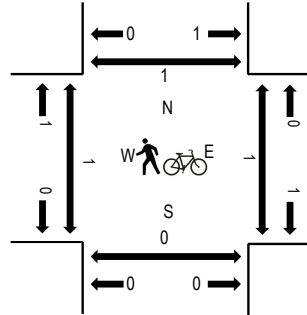
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	COOKS LANE Eastbound				SR 16 EAST Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	9	12	0	0	54	12	180	0	1	114	47	0	116	95	1	641	2,654	0	0	0	0
4:15 PM	0	2	12	0	1	55	19	176	0	1	80	36	0	148	109	3	642	2,784	0	0	0	0
4:30 PM	0	6	5	0	0	62	18	166	0	0	105	48	0	128	100	11	649	2,812	0	0	0	0
4:45 PM	0	2	6	1	0	56	13	218	0	2	107	52	0	148	113	4	722	2,820	0	0	0	0
5:00 PM	0	10	9	0	1	57	33	224	0	1	136	62	0	132	100	6	771	2,737	0	1	0	1
5:15 PM	0	6	9	0	0	55	24	179	0	0	109	44	1	126	110	7	670		0	0	0	0
5:30 PM	0	9	8	0	0	68	24	198	0	1	108	54	0	83	100	4	657		0	0	0	0
5:45 PM	0	10	6	0	1	46	18	201	1	0	106	48	0	105	90	7	639		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	8	1	9	0	0	17	9	0	9	7	0	60
Lights	0	27	32	1	1	217	89	803	0	4	423	201	1	471	411	20	2,701
Mediums	0	0	0	0	0	11	4	7	0	0	20	2	0	9	5	1	59
Total	0	27	32	1	1	236	94	819	0	4	460	212	1	489	423	21	2,820



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Location: 5 US 17 & HALL PARK ROAD PM

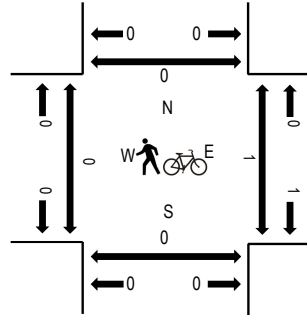
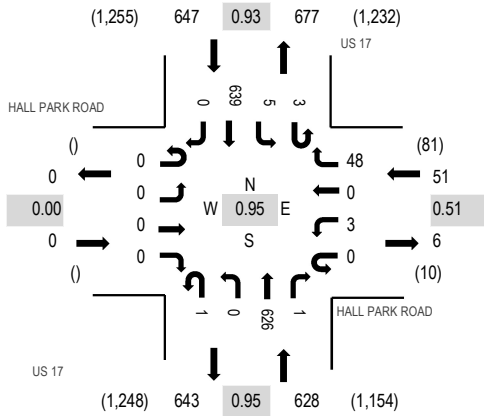
Date: Thursday, April 22, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Motorized Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HALL PARK ROAD Eastbound				HALL PARK ROAD Westbound				US 17 Northbound				US 17 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	1	0	12	0	0	123	0	0	0	155	0	291	1,197	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	3	0	0	107	0	0	0	147	0	257	1,247	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	9	0	0	148	0	0	3	173	0	333	1,310	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	6	0	0	159	0	0	1	150	0	316	1,326	0	1	0	0
5:00 PM	0	0	0	0	0	1	0	24	0	0	154	0	2	1	159	0	341	1,293	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	6	1	0	148	1	0	1	162	0	320		0	0	0	0
5:30 PM	0	0	0	0	0	1	0	12	0	0	165	0	1	2	168	0	349		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	5	0	0	148	0	0	1	129	0	283		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	1	0	0	25	1	0	0	17	0	44
Lights	0	0	0	0	0	3	0	45	1	0	579	0	3	4	607	0	1,242
Mediums	0	0	0	0	0	0	0	2	0	0	22	0	0	1	15	0	40
Total	0	0	0	0	0	3	0	48	1	0	626	1	3	5	639	0	1,326

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7100 CLAY COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.95 PSCF
1	01/01/2019 - 01/05/2019	1.04	1.09
2	01/06/2019 - 01/12/2019	1.05	1.11
3	01/13/2019 - 01/19/2019	1.06	1.12
4	01/20/2019 - 01/26/2019	1.05	1.11
5	01/27/2019 - 02/02/2019	1.04	1.09
6	02/03/2019 - 02/09/2019	1.02	1.07
7	02/10/2019 - 02/16/2019	1.01	1.06
8	02/17/2019 - 02/23/2019	1.00	1.05
9	02/24/2019 - 03/02/2019	0.99	1.04
10	03/03/2019 - 03/09/2019	0.98	1.03
*11	03/10/2019 - 03/16/2019	0.97	1.02
*12	03/17/2019 - 03/23/2019	0.97	1.02
*13	03/24/2019 - 03/30/2019	0.96	1.01
*14	03/31/2019 - 04/06/2019	0.95	1.00
*15	04/07/2019 - 04/13/2019	0.95	1.00
*16	04/14/2019 - 04/20/2019	0.94	0.99
*17	04/21/2019 - 04/27/2019	0.94	0.99
*18	04/28/2019 - 05/04/2019	0.94	0.99
*19	05/05/2019 - 05/11/2019	0.94	0.99
*20	05/12/2019 - 05/18/2019	0.95	1.00
*21	05/19/2019 - 05/25/2019	0.95	1.00
*22	05/26/2019 - 06/01/2019	0.96	1.01
*23	06/02/2019 - 06/08/2019	0.97	1.02
24	06/09/2019 - 06/15/2019	0.98	1.03
25	06/16/2019 - 06/22/2019	0.98	1.03
26	06/23/2019 - 06/29/2019	0.99	1.04
27	06/30/2019 - 07/06/2019	0.99	1.04
28	07/07/2019 - 07/13/2019	1.00	1.05
29	07/14/2019 - 07/20/2019	1.01	1.06
30	07/21/2019 - 07/27/2019	1.01	1.06
31	07/28/2019 - 08/03/2019	1.00	1.05
32	08/04/2019 - 08/10/2019	1.00	1.05
33	08/11/2019 - 08/17/2019	1.00	1.05
34	08/18/2019 - 08/24/2019	1.01	1.06
35	08/25/2019 - 08/31/2019	1.02	1.07
36	09/01/2019 - 09/07/2019	1.03	1.08
37	09/08/2019 - 09/14/2019	1.04	1.09
38	09/15/2019 - 09/21/2019	1.05	1.11
39	09/22/2019 - 09/28/2019	1.04	1.09
40	09/29/2019 - 10/05/2019	1.03	1.08
41	10/06/2019 - 10/12/2019	1.01	1.06
42	10/13/2019 - 10/19/2019	1.00	1.05
43	10/20/2019 - 10/26/2019	1.01	1.06
44	10/27/2019 - 11/02/2019	1.02	1.07
45	11/03/2019 - 11/09/2019	1.03	1.08
46	11/10/2019 - 11/16/2019	1.04	1.09
47	11/17/2019 - 11/23/2019	1.04	1.09
48	11/24/2019 - 11/30/2019	1.04	1.09
49	12/01/2019 - 12/07/2019	1.04	1.09
50	12/08/2019 - 12/14/2019	1.04	1.09
51	12/15/2019 - 12/21/2019	1.04	1.09
52	12/22/2019 - 12/28/2019	1.05	1.11
53	12/29/2019 - 12/31/2019	1.06	1.12

* PEAK SEASON

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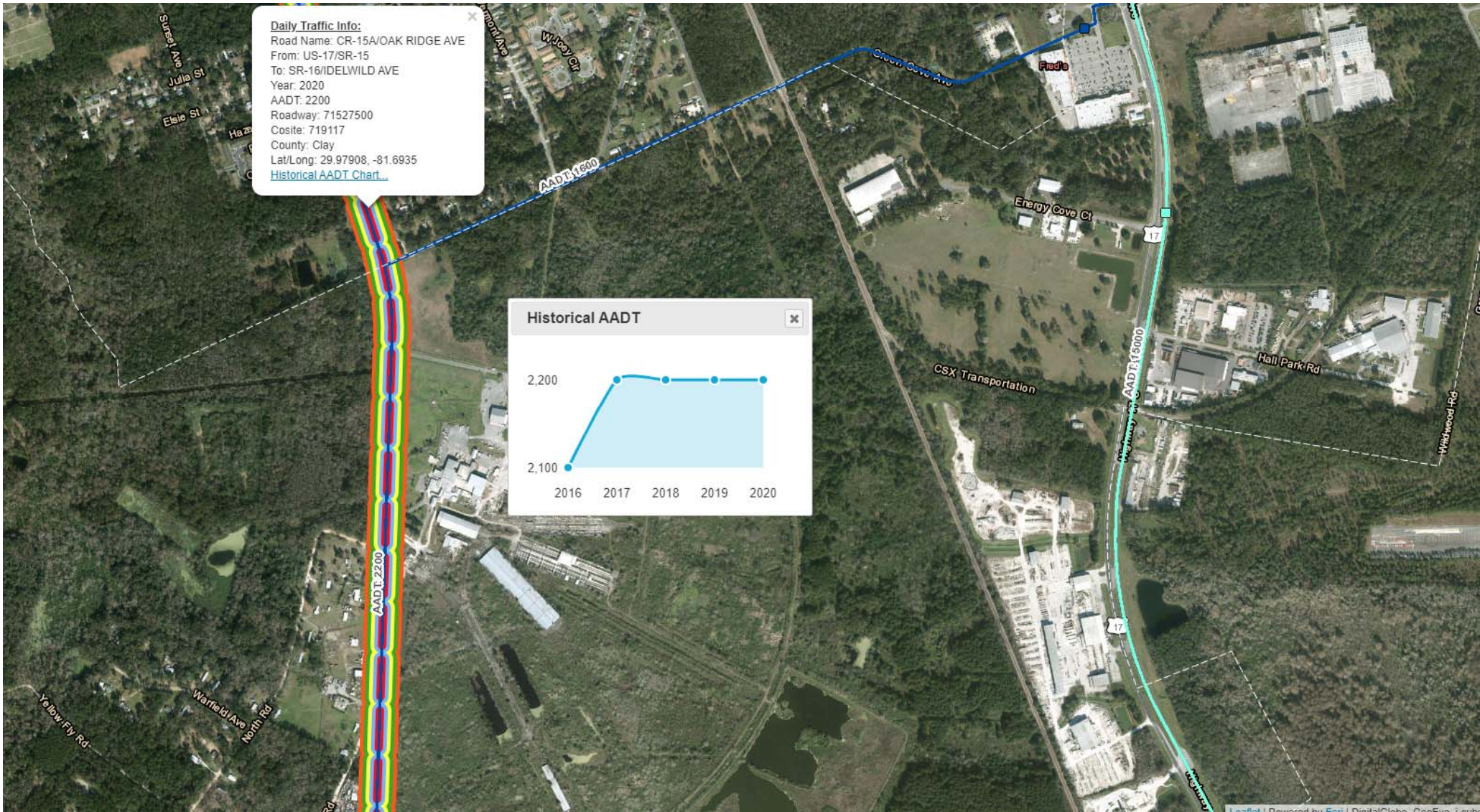
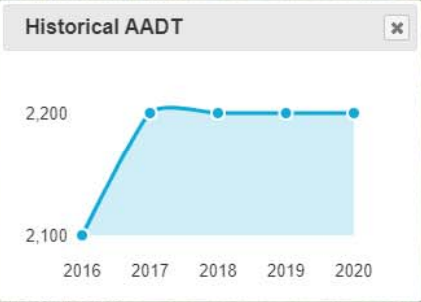
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Attachment C

Historical AADT and Trends Analysis

Daily Traffic Info:
Road Name: CR-15A/OAK RIDGE AVE
From: US-17/SR-15
To: SR-16/IDELWILD AVE
Year: 2020
AADT: 2200
Roadway: 71527500
Cosite: 719117
County: Clay
Lat/Long: 29.97908, -81.6935
[Historical AADT Chart](#)



FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 0113 - SR 16 .75 MI. E. OF SR 15

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	17900	C	E	8800	W	9100	9.00	54.50	9.30
2019	17800	C	E	8600	W	9200	9.00	54.10	7.00
2018	18300	C	E	9100	W	9200	9.00	54.20	8.10
2017	18300	C	E	9000	W	9300	9.00	54.50	6.50
2016	16200	C	E	7900	W	8300	9.00	54.30	5.80
2015	14400	C	E	7100	W	7300	9.00	54.50	5.70
2014	14300	C	E	7200	W	7100	9.00	54.50	5.50
2013	13700	C	E	6800	W	6900	9.00	55.10	6.20
2012	12400	C	E	6200	W	6200	9.00	54.60	5.50
2011	12300	C	E	6100	W	6200	9.00	54.70	5.40
2010	13300	C	E	6600	W	6700	9.86	54.07	5.40
2009	14300	C	E	7100	W	7200	9.76	54.11	6.50
2008	15400	C	E	7600	W	7800	9.71	55.26	7.60
2007	15500	C	E	7800	W	7700	9.36	55.25	8.80
2006	16600	C	E	8300	W	8300	9.36	55.56	9.20
2005	16500	C	E	8000	W	8500	9.00	54.20	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 5001 - SR 16 W. OF CR 15A

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	14100	C	E	7000	W	7100	9.00	54.50	11.60
2019	13300	C	E	6900	W	6400	9.00	54.10	10.20
2018	11800	C	E	6000	W	5800	9.00	54.20	9.40
2017	12400	C	E	6200	W	6200	9.00	54.50	7.70
2016	11100	C	E	5500	W	5600	9.00	54.30	10.00
2015	11100	C	E	5500	W	5600	9.00	54.50	7.70
2014	9600	C	E	4800	W	4800	9.00	54.50	8.40
2013	10700	C	E	5400	W	5300	9.00	55.10	8.90
2012	10800	C	E	5500	W	5300	9.00	54.60	7.90
2011	10500	C	E	5300	W	5200	9.00	54.70	8.20
2010	9900	C	E	5000	W	4900	9.86	54.07	7.70
2009	10900	C	E	5400	W	5500	9.76	54.11	8.20
2008	10100	C	E	5300	W	4800	9.71	55.26	10.80
2007	11600	C	E	5700	W	5900	9.36	55.25	12.60
2006	12600	C	E	6300	W	6300	9.36	55.56	14.70
2005	12100	C	E	5800	W	6300	9.00	54.20	5.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 0151 - SR 16 W. OF SR 15

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	12300	C	E	6300	W	6000	9.00	54.50	11.60
2019	11500	C	E	5800	W	5700	9.00	54.10	10.20
2018	12100	C	E	6200	W	5900	9.00	54.20	9.40
2017	11500	C	E	5900	W	5600	9.00	54.50	7.70
2016	10600	C	E	5400	W	5200	9.00	54.30	10.00
2015	10100	C	E	5100	W	5000	9.00	54.50	7.70
2014	11000	C	E	5700	W	5300	9.00	54.50	8.40
2013	10400	C	E	5300	W	5100	9.00	55.10	8.90
2012	10500	C	E	5400	W	5100	9.00	54.60	7.90
2011	10300	C	E	5200	W	5100	9.00	54.70	8.20
2010	10200	C	E	5100	W	5100	9.86	54.07	7.70
2009	11400	C	E	5700	W	5700	9.76	54.11	8.20
2008	11200	C	E	5700	W	5500	9.71	55.26	10.80
2007	11500	C	E	5800	W	5700	9.36	55.25	12.60
2006	12200	C	E	6200	W	6000	9.36	55.56	14.70
2005	12000	C	E	6200	W	5800	9.00	54.20	5.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 0142 - SR 15 .1 MI. N. OF SR 16 TO E.

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	19200	C	N	9700	S	9500	9.00	54.50	21.90
2019	21500	C	N	11000	S	10500	9.00	54.10	18.10
2018	23000	C	N	11500	S	11500	9.00	54.20	11.80
2017	22500	C	N	11000	S	11500	9.00	54.50	9.70
2016	20000	C	N	10000	S	10000	9.00	54.30	10.50
2015	19100	C	N	9700	S	9400	9.00	54.50	11.20
2014	17900	C	N	9000	S	8900	9.00	54.50	10.90
2013	17500	C	N	8800	S	8700	9.00	55.10	12.30
2012	16600	C	N	8400	S	8200	9.00	54.60	11.10
2011	17900	C	N	9200	S	8700	9.00	54.70	11.80
2010	18100	C	N	9200	S	8900	9.86	54.07	11.10
2009	18500	C	N	9300	S	9200	9.76	54.11	10.90
2008	19600	C	N	9900	S	9700	9.71	55.26	13.00
2007	21000	C	N	10500	S	10500	9.36	55.25	12.50
2006	23000	C	N	11500	S	11500	9.36	55.56	14.80
2005	24500	C	N	12500	S	12000	9.00	54.20	5.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 5019 - SR 15 200' N. OF NORTH ST.

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2020	22500	C	N 11500		S 11000	9.00	54.50	6.60
2019	24000	C	N 12500		S 11500	9.00	54.10	5.90
2018	24500	C	N 12500		S 12000	9.00	54.20	5.80
2017	23000	C	N 11500		S 11500	9.00	54.50	5.70
2016	23000	C	N 12000		S 11000	9.00	54.30	5.40
2015	20400	C	N 10500		S 9900	9.00	54.50	5.20
2014	20500	C	N 10500		S 10000	9.00	54.50	5.00
2013	20500	C	N 10500		S 10000	9.00	55.10	5.20
2012	19800	C	N 10000		S 9800	9.00	54.60	5.00
2011	21000	C	N 10500		S 10500	9.00	54.70	5.10
2010	21500	C	N 11000		S 10500	9.86	54.07	5.10
2009	22500	C	N 11500		S 11000	9.76	54.11	5.10
2008	22500	C	N 11500		S 11000	9.71	55.26	6.20
2007	24000	C	N 12000		S 12000	9.36	55.25	6.80
2006	24500	C	N 12500		S 12000	9.36	55.56	7.40
2005	29000	C	N 15000		S 14000	9.00	54.20	7.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 0196 - SR 15/US 17 .3 MI. S. OF SR 16 TO E.

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	15000	C	N	7500	S	7500	9.00	54.50	14.00
2019	14100	C	N	7100	S	7000	9.00	54.10	10.70
2018	14500	C	N	7200	S	7300	9.00	54.20	11.80
2017	13800	C	N	6900	S	6900	9.00	54.50	9.70
2016	12900	C	N	6500	S	6400	9.00	54.30	10.50
2015	11600	C	N	5800	S	5800	9.00	54.50	11.20
2014	11100	C	N	5600	S	5500	9.00	54.50	10.90
2013	11200	C	N	5700	S	5500	9.00	55.10	12.30
2012	11400	C	N	5800	S	5600	9.00	54.60	11.10
2011	11400	C	N	5700	S	5700	9.00	54.70	11.80
2010	11600	C	N	5800	S	5800	9.86	54.07	11.10
2009	11800	C	N	5900	S	5900	9.76	54.11	10.90
2008	12400	C	N	6700	S	5700	9.71	55.26	13.00
2007	13500	C	N	6800	S	6700	9.36	55.25	12.50
2006	14400	C	N	7200	S	7200	9.36	55.56	14.80
2005	15700	C	N	7600	S	8100	9.00	54.20	14.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 71 - CLAY

SITE: 5016 - SR 15 100' SE. OF SR 16

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2020	19400	C	N	9900	S	9500	9.00	54.50	21.90
2019	20000	C	N	10500	S	9500	9.00	54.10	18.10
2018	20500	C	N	10500	S	10000	9.00	54.20	11.80
2017	21500	C	N	10500	S	11000	9.00	54.50	9.70
2016	21000	C	N	10500	S	10500	9.00	54.30	10.50
2015	18400	C	N	9000	S	9400	9.00	54.50	11.20
2014	18800	C	N	9300	S	9500	9.00	54.50	10.90
2013	17900	C	N	9100	S	8800	9.00	55.10	12.30
2012	17300	C	N	8800	S	8500	9.00	54.60	11.10
2011	17300	C	N	8800	S	8500	9.00	54.70	11.80
2010	18000	C	N	9100	S	8900	9.86	54.07	11.10
2009	18500	C	N	9400	S	9100	9.76	54.11	10.90
2008	20500	C	N	10500	S	10000	9.71	55.26	13.00
2007	21000	C	N	10500	S	10500	9.36	55.25	12.50
2006	23000	C	N	11500	S	11500	9.36	55.56	14.80
2005	25000	C	N	12500	S	12500	9.00	54.20	5.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

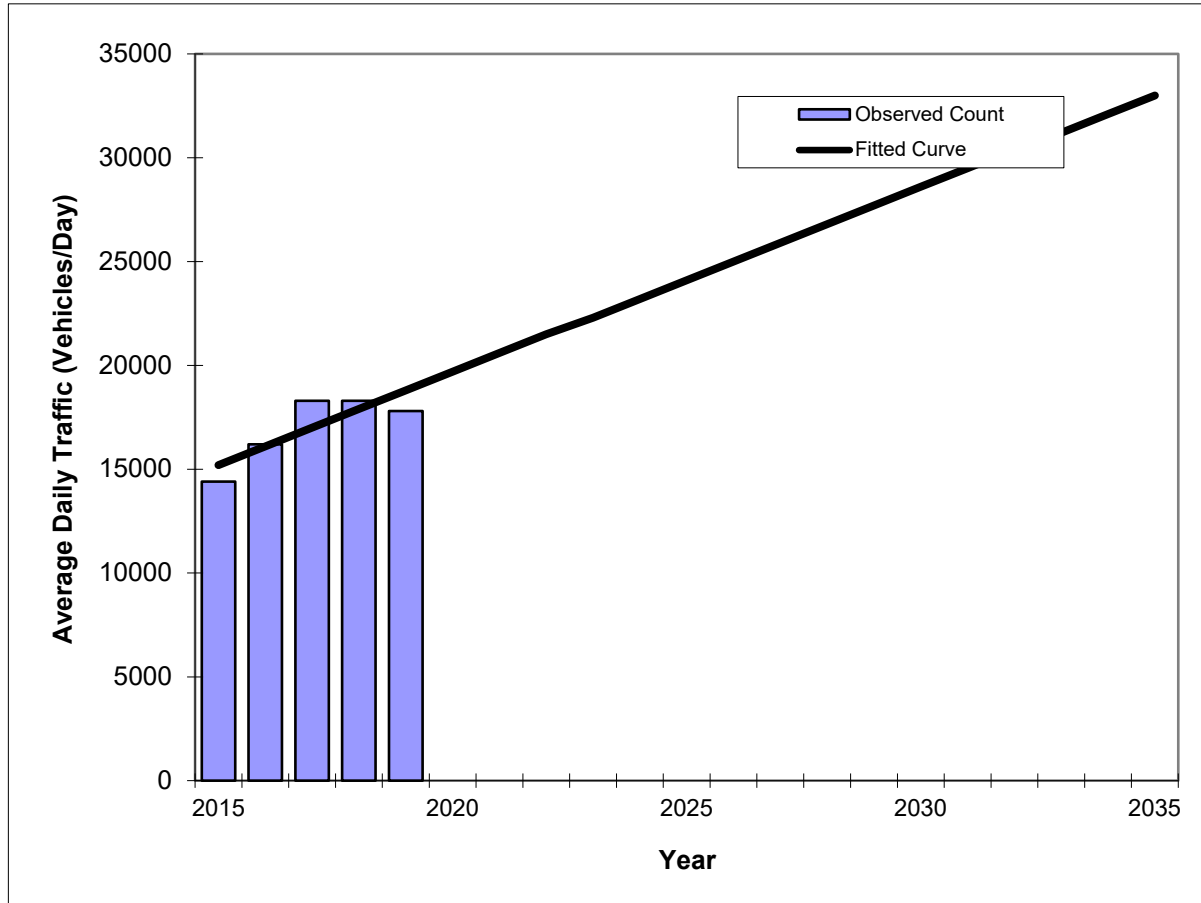
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V03.a

SR 16 E -- East of US 17

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	SR 16 E



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	14400	15200
2016	16200	16100
2017	18300	17000
2018	18300	17900
2019	17800	18800
2025 Opening Year Trend		
2025	N/A	24100
2030 Mid-Year Trend		
2030	N/A	28600
2035 Design Year Trend		
2035	N/A	33000
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	890
Trend R-squared:	69.36%
Trend Annual Historic Growth Rate:	5.92%
Trend Growth Rate (2019 to Design Year):	4.72%
Printed:	10-Dec-21
Straight Line Growth Option	

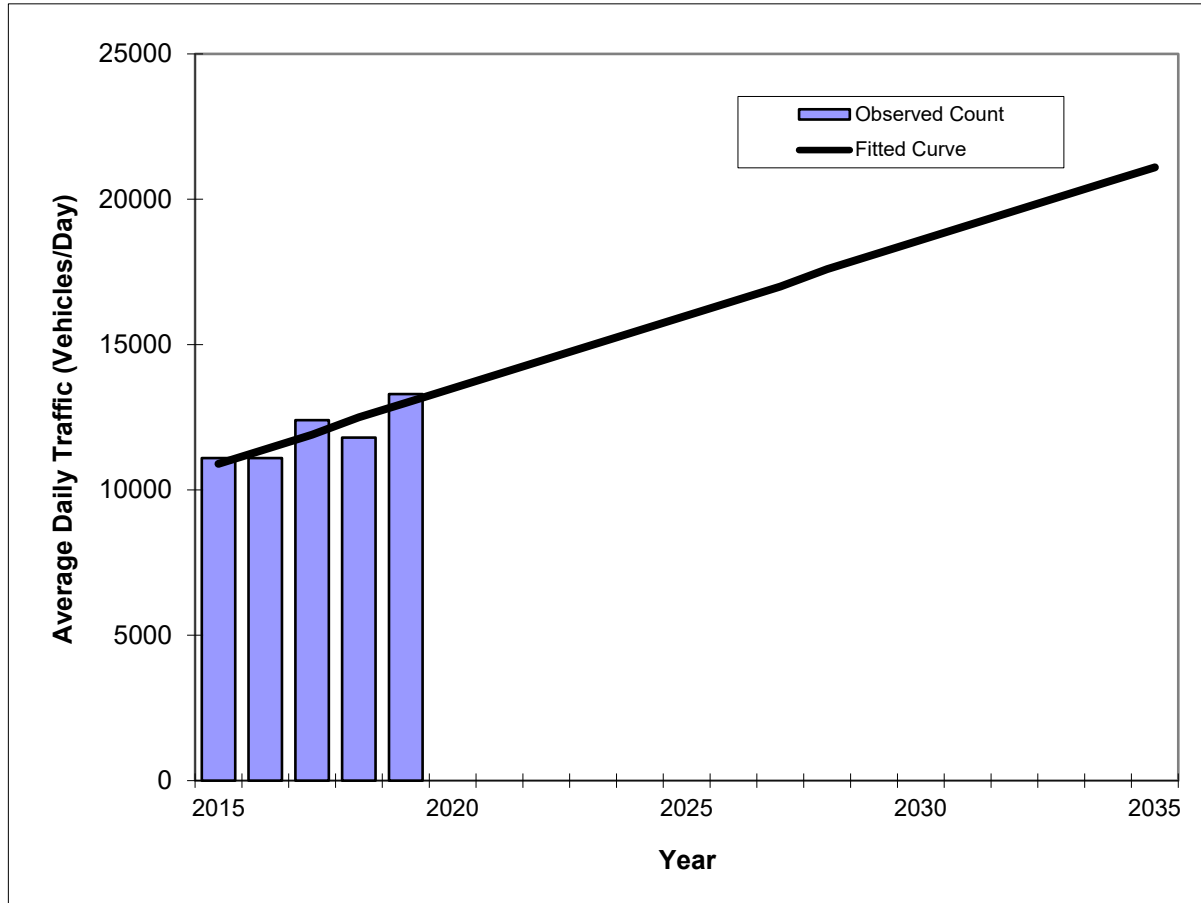
*Axle-Adjusted

Traffic Trends - V03.a

SR 16 West -- West of Oak Ridge Avenue

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	SR 16 West



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	11100	10900
2016	11100	11400
2017	12400	11900
2018	11800	12500
2019	13300	13000
2025 Opening Year Trend		
2025	N/A	16000
2030 Mid-Year Trend		
2030	N/A	18600
2035 Design Year Trend		
2035	N/A	21100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	510
Trend R-squared:	74.48%
Trend Annual Historic Growth Rate:	4.82%
Trend Growth Rate (2019 to Design Year):	3.89%
Printed:	10-Dec-21
Straight Line Growth Option	

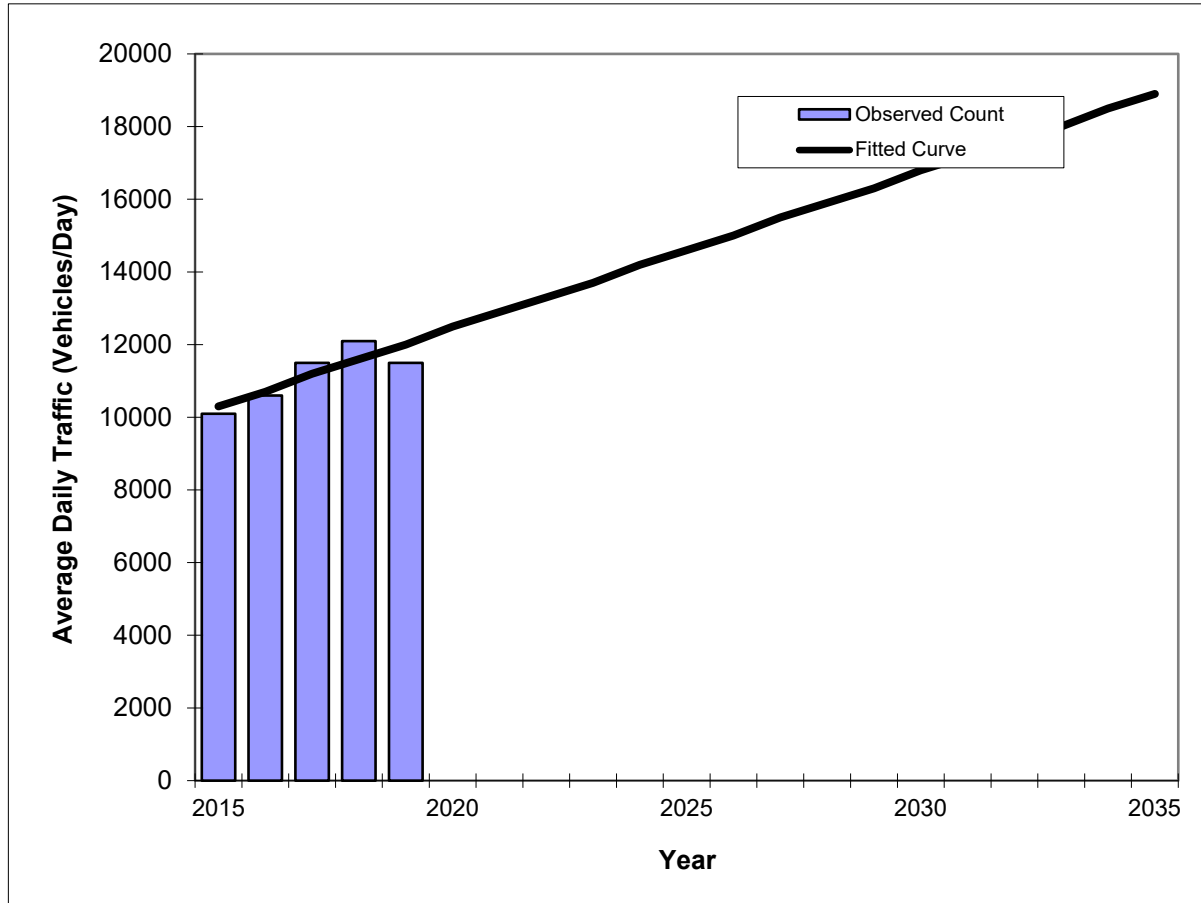
*Axle-Adjusted

Traffic Trends - V03.a

SR 16 West -- West of US 17

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	SR 16 West



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	10100	10300
2016	10600	10700
2017	11500	11200
2018	12100	11600
2019	11500	12000
2025 Opening Year Trend		
2025	N/A	14600
2030 Mid-Year Trend		
2030	N/A	16800
2035 Design Year Trend		
2035	N/A	18900
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	430
Trend R-squared:	72.45%
Trend Annual Historic Growth Rate:	4.13%
Trend Growth Rate (2019 to Design Year):	3.59%
Printed:	10-Dec-21
Straight Line Growth Option	

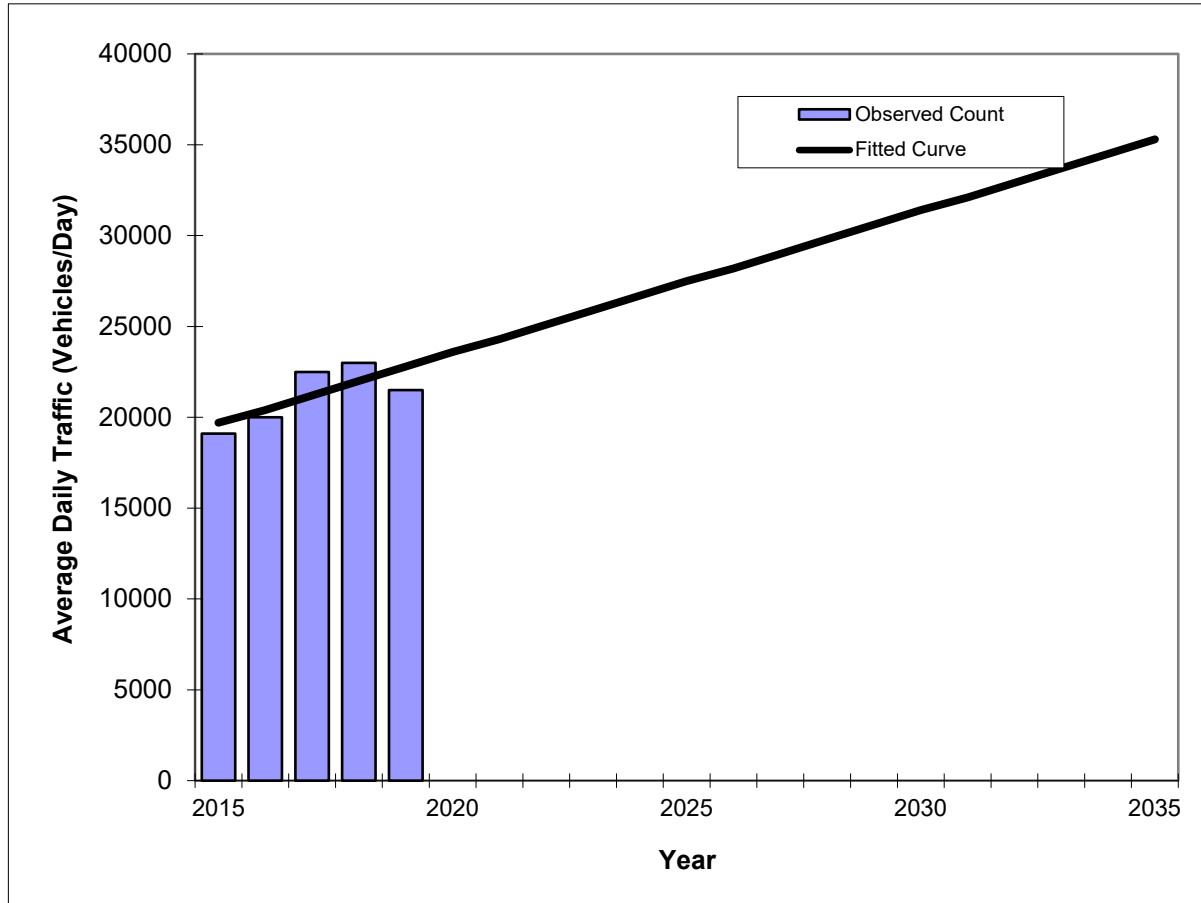
*Axle-Adjusted

Traffic Trends - V03.a

US 17 -- North of SR 16E

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	US 17



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	19100	19700
2016	20000	20400
2017	22500	21200
2018	23000	22000
2019	21500	22800
2025 Opening Year Trend		
2025	N/A	27500
2030 Mid-Year Trend		
2030	N/A	31400
2035 Design Year Trend		
2035	N/A	35300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	780
Trend R-squared:	55.98%
Trend Annual Historic Growth Rate:	3.93%
Trend Growth Rate (2019 to Design Year):	3.43%
Printed:	10-Dec-21
Straight Line Growth Option	

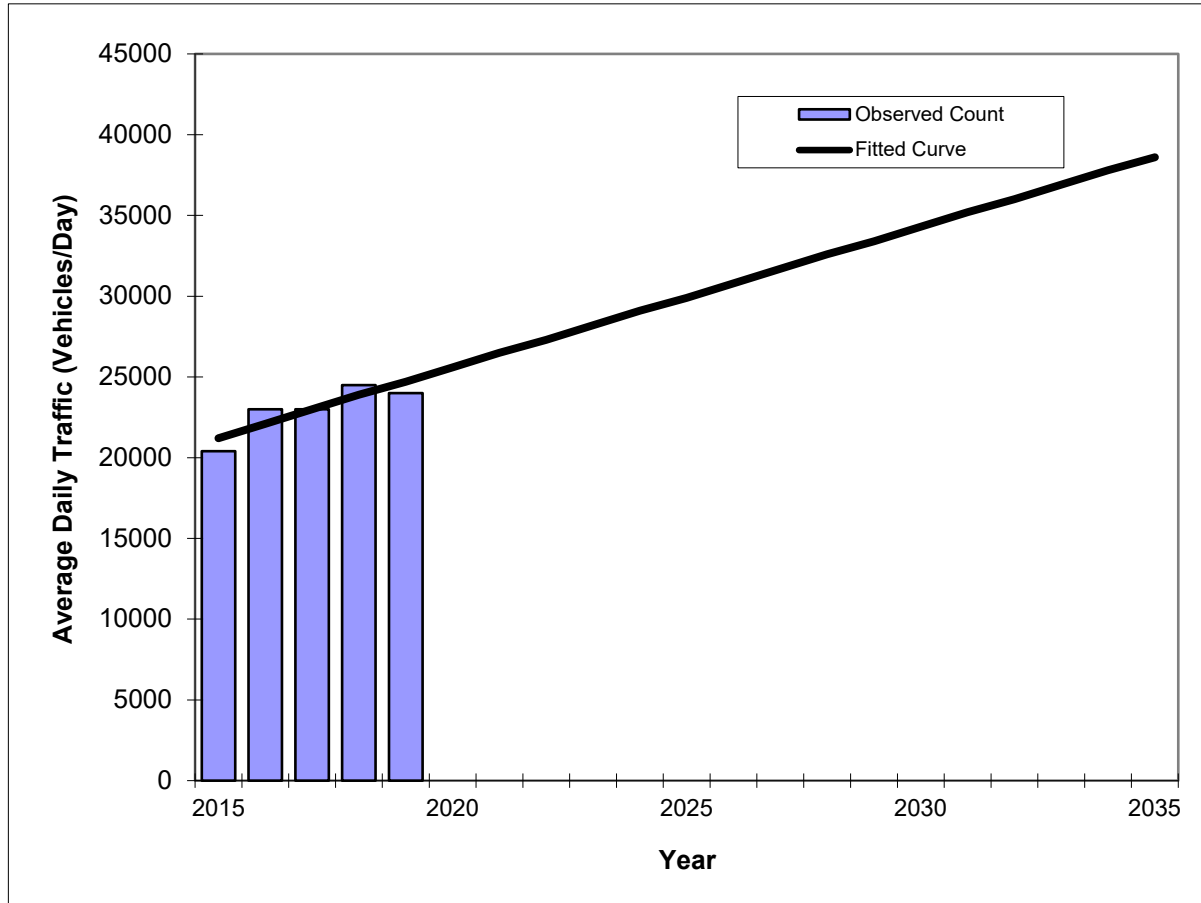
*Axle-Adjusted

Traffic Trends - V03.a

US 17 -- North of SR 16W

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	US 17



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	20400	21200
2016	23000	22100
2017	23000	23000
2018	24500	23900
2019	24000	24700
2025 Opening Year Trend		
2025	N/A	29900
2030 Mid-Year Trend		
2030	N/A	34300
2035 Design Year Trend		
2035	N/A	38600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	870
Trend R-squared:	75.63%
Trend Annual Historic Growth Rate:	4.13%
Trend Growth Rate (2019 to Design Year):	3.52%
Printed:	10-Dec-21
Straight Line Growth Option	

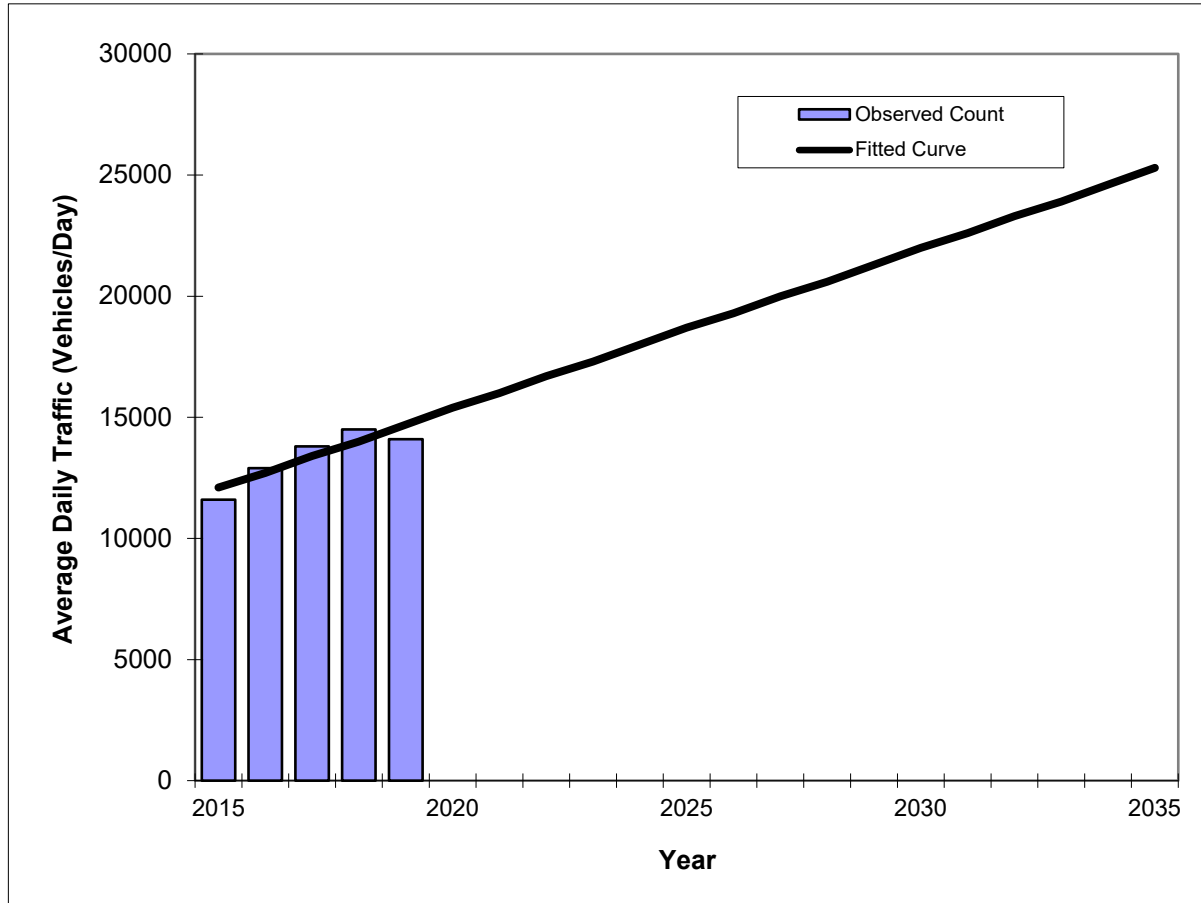
*Axle-Adjusted

Traffic Trends - V03.a

US 17 -- South of SR 16E

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	US 17



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	11600	12100
2016	12900	12700
2017	13800	13400
2018	14500	14000
2019	14100	14700
2025 Opening Year Trend		
2025	N/A	18700
2030 Mid-Year Trend		
2030	N/A	22000
2035 Design Year Trend		
2035	N/A	25300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	660
Trend R-squared:	81.45%
Trend Annual Historic Growth Rate:	5.37%
Trend Growth Rate (2019 to Design Year):	4.51%
Printed:	10-Dec-21
Straight Line Growth Option	

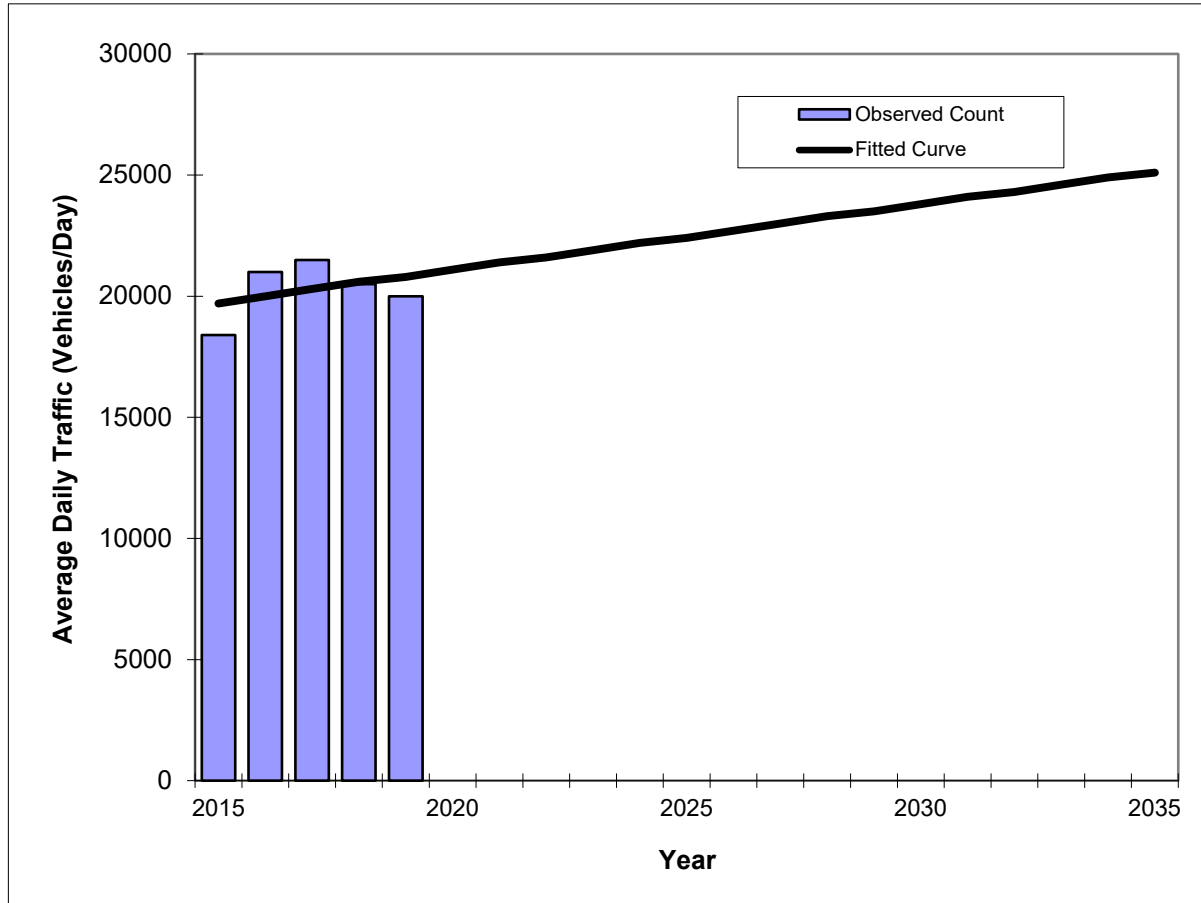
*Axle-Adjusted

Traffic Trends - V03.a

US 17 -- South of SR 16W

FIN#	1234
Location	1

County:	Clay (71)
Station #:	0
Highway:	US 17



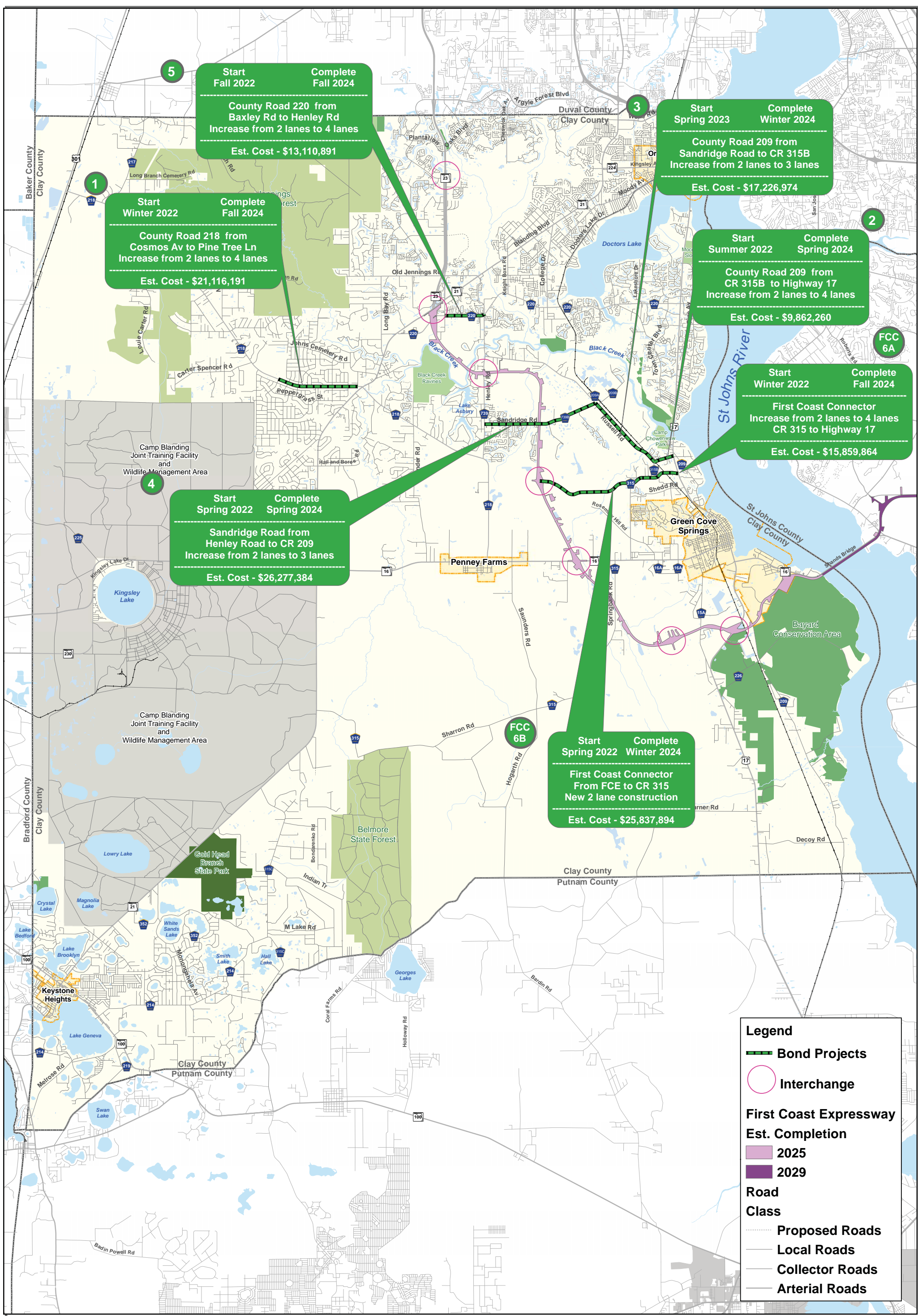
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	18400	19700
2016	21000	20000
2017	21500	20300
2018	20500	20600
2019	20000	20800
2025 Opening Year Trend		
2025	N/A	22400
2030 Mid-Year Trend		
2030	N/A	23800
2035 Design Year Trend		
2035	N/A	25100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	270
Trend R-squared:	12.86%
Trend Annual Historic Growth Rate:	1.40%
Trend Growth Rate (2019 to Design Year):	1.29%
Printed:	10-Dec-21
Straight Line Growth Option	

*Axle-Adjusted

Attachment D

Planned and Programmed
Improvements



1

Start Winter 2022 Complete Fall 2024

County Road 218 from Cosmos Av to Pine Tree Ln
Increase from 2 lanes to 4 lanes

Est. Cost - \$21,116,191

5

Start Fall 2022 Complete Fall 2024

County Road 220 from Baxley Rd to Henley Rd
Increase from 2 lanes to 4 lanes

Est. Cost - \$13,110,891

3

Start Spring 2023 Complete Winter 2024

County Road 209 from Sandridge Road to CR 315B
Increase from 2 lanes to 3 lanes

Est. Cost - \$17,226,974

2

Start Summer 2022 Complete Spring 2024

County Road 209 from CR 315B to Highway 17
Increase from 2 lanes to 4 lanes

Est. Cost - \$9,862,260

4

Start Spring 2022 Complete Spring 2024

Sandridge Road from Henley Road to CR 209
Increase from 2 lanes to 3 lanes

Est. Cost - \$26,277,384

FCC 6A

Start Winter 2022 Complete Fall 2024

First Coast Connector
Increase from 2 lanes to 4 lanes
CR 315 to Highway 17

Est. Cost - \$15,859,864

FCC 6B

Start Spring 2022 Complete Winter 2024

First Coast Connector
From FCE to CR 315
New 2 lane construction

Est. Cost - \$25,837,894

Legend

- Bond Projects
- Interchange

First Coast Expressway

Est. Completion

- 2025
- 2029

Road Class

- Proposed Roads
- Local Roads
- Collector Roads
- Arterial Roads

Bonded County Road Projects

Commissioner/District	Project Description	Project Limits	Length	# Lanes	Typical Section /Description	Clay County	Construction Start Date	Construction End Date
						Budget		
Betsy Condon / D4	No. 1 Middleburg CR 218	Cosmos Ave to Pine Tree Lane	2.7	4.0	Widen (2) lane urban section roadway to (4) lanes with median/turn lanes, bike lanes, curb and gutter, and sidewalks.	\$ 21,116,190.61	Fall 2022	Summer 2024
Mike Cella / D1	No. 2 Lake Asbury CR 209 (Russell Rd)	CR 315B to US 17	0.8	4.0	Reconstruct (2) lane urban roadway section to (4) lanes with median/turn lanes, bike lanes, curb and gutter, and sidewalks.	\$ 9,862,260.35	Summer 2022	Spring 2024
Kristen Burke / D5	No. 3 Lake Asbury CR 209 (Russell Rd)	Sandridge Rd to CR 315B	2.6	3.0	Reconstruct (2) lane urban roadway section to (3) lanes with turn lanes, bike lanes and sidewalks.	\$ 17,226,973.97	Summer 2023	Winter 2024
Kristen Burke / D5	No. 4 Lake Asbury (Sandridge Rd)	Henley Rd to CR 209 (Russell Rd)	3.75	3.0	Reconstruct (2) lane urban roadway to (3) lanes with turn lanes, bike lanes, curb and gutter and sidewalks.	\$ 26,277,383.91	Summer 2022	Summer 2024
Kristen Burke / D5	No. 5 Middleburg CR 220	Baxley Rd to Henley Rd	1.6	4.0	Reconstruct (2) lane urban roadway to (4) lanes with median/turn lanes, bike lanes, curb and gutter and sidewalks.	\$ 13,110,891.05	Spring 2023	Fall 2024
Mike Cella / D1	No. 6A Green Cove Springs / Lake Asbury (First Coast Connector)	US 17 to CR 315	1.6	4.0	Reconstruct (2) lane urban roadway to (4) lanes with median/turn lanes, bike lanes, curb and gutter and sidewalks.	\$ 15,859,863.61	Winter 2022	Summer 2024
Kristen Burke / D5	No. 6B Green Cove Springs (First Coast Connector)	SR 23 to CR 315	2.9	2.0	New (2) lane roadway with grass median, bike lanes and sidewalks.	\$ 25,837,893.88	Spring 2022	Spring 2024
			16.0		TOTAL BUDGET	\$ 129,291,457.38		
					GRAND TOTAL	\$129,291,457.38		



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County Road 220 PD&E Study

About this Project

Photos

Documents

Public Events

Overview

The FDOT is conducting a Project Development and Environment (PD&E) Study to evaluate alternatives to enhance safety and provide additional capacity to meet existing and future traffic needs on CR 220. FDOT encourages you to get involved throughout the study by providing comments, concerns, questions and/or suggestions to the Study Team.

Video (<https://vimeo.com/343447112/c87592abaa>)

Project Details

Project Start:	TBD
Expected Completion:	TBD
Cost:	TBD
Project #:	430719-2
Roads	County Road 220
Counties	Clay
Cities	Orange Park

Contact



David Tyler, P.E. (<mailto:david.tyler@dot.state.fl.us>)
(386) 961-7842

County Road 220 PD&E Study

Overview



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[sl=auto&tl=es&u=www.fdot.gov](https://translate.google.com/translate?sl=auto&tl=es&u=www.fdot.gov))

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The First Coast Expressway (FCE, SR 23) is a multi-lane, limited access toll road that, once completed, will cross parts of Duval, Clay and St. Johns counties. Expressway traffic will pass through electronic toll gantries without stopping. The gantries will contain an electronic system that will either detect the vehicle's SunPass transponder device or scan the vehicle's license plate for a toll-by-plate invoice in the mail. The total length of the proposed roadway is approximately 46 miles. The FCE will reduce congestion on other major roadways in the region, important not only for daily commuters but also critically important during times of storm-related evacuation.

Toll collection on the First Coast Expressway began in July 2019.

For questions or information regarding SunPass transponder registration, SunPass accounts or toll invoices, please contact SunPass at SunPass.com (<http://www.sunpass.com>) or 1-888-865-5352.

- List of Projects
- About
- Schedule
- Documents
- FAQ

Below are the list of individual projects. Click to learn more.

First Coast Expressway from I-10 to N. of Argyle Forest Blvd (<http://nflroads.com/ProjectDetails?p=5003>)

First Coast Expressway from N. of Argyle Forest Blvd to Blanding Blvd (<http://nflroads.com/ProjectDetails?p=5010>)

First Coast Expressway from State Road 21 to North of State Road 16 (<http://nflroads.com/ProjectDetails?p=5152>)

First Coast Expressway from North of State Road 16 to East of County Road 209 (<http://nflroads.com/ProjectDetails?p=5248>)

First Coast Expressway – New St. Johns River Bridge (<http://nflroads.com/ProjectDetails?p=5136>)

First Coast Expressway — East of County Road 16A Spur to I-95 (<http://nflroads.com/ProjectDetails?p=5337>)

List of Projects

Below are the list of individual projects. Click to learn more.

First Coast Expressway from I-10 to N. of Argyle Forest Blvd (<http://nflroads.com/ProjectDetails?p=5003>)

First Coast Expressway from N. of Argyle Forest Blvd to Blanding Blvd (<http://nflroads.com/ProjectDetails?p=5010>)

First Coast Expressway from State Road 21 to North of State Road 16 (<http://nflroads.com/ProjectDetails?p=5152>)

First Coast Expressway from North of State Road 16 to East of County Road 209 (<http://nflroads.com/ProjectDetails?p=5248>)

First Coast Expressway – New St. Johns River Bridge (<http://nflroads.com/ProjectDetails?p=5136>)

First Coast Expressway — East of County Road 16A Spur to I-95 (<http://nflroads.com/ProjectDetails?p=5337>)

About

Construction on the northwestern, first segment of the FCE (Blanding Boulevard/SR 21 in Clay County north to I-10/US 90 in Duval County) began in 2013 and was completed in summer 2019, with toll collection beginning July 13, 2019.

The central, second segment of the FCE project involves new roadway from Blanding Boulevard/SR 21 in Middleburg running south and then east through Green Cove Springs and includes a new bridge over Black Creek near the Byron Road/Lake Asbury community.

The second segment is being divided into two separate projects:

The north project (FIN 422938-6), which runs from north of SR 16 to north of SR 21, will be built by Sacyr Construction at a cost of \$230 million.

Construction began in March 2019 and is expected to be completed in 2025, weather and schedule permitting.

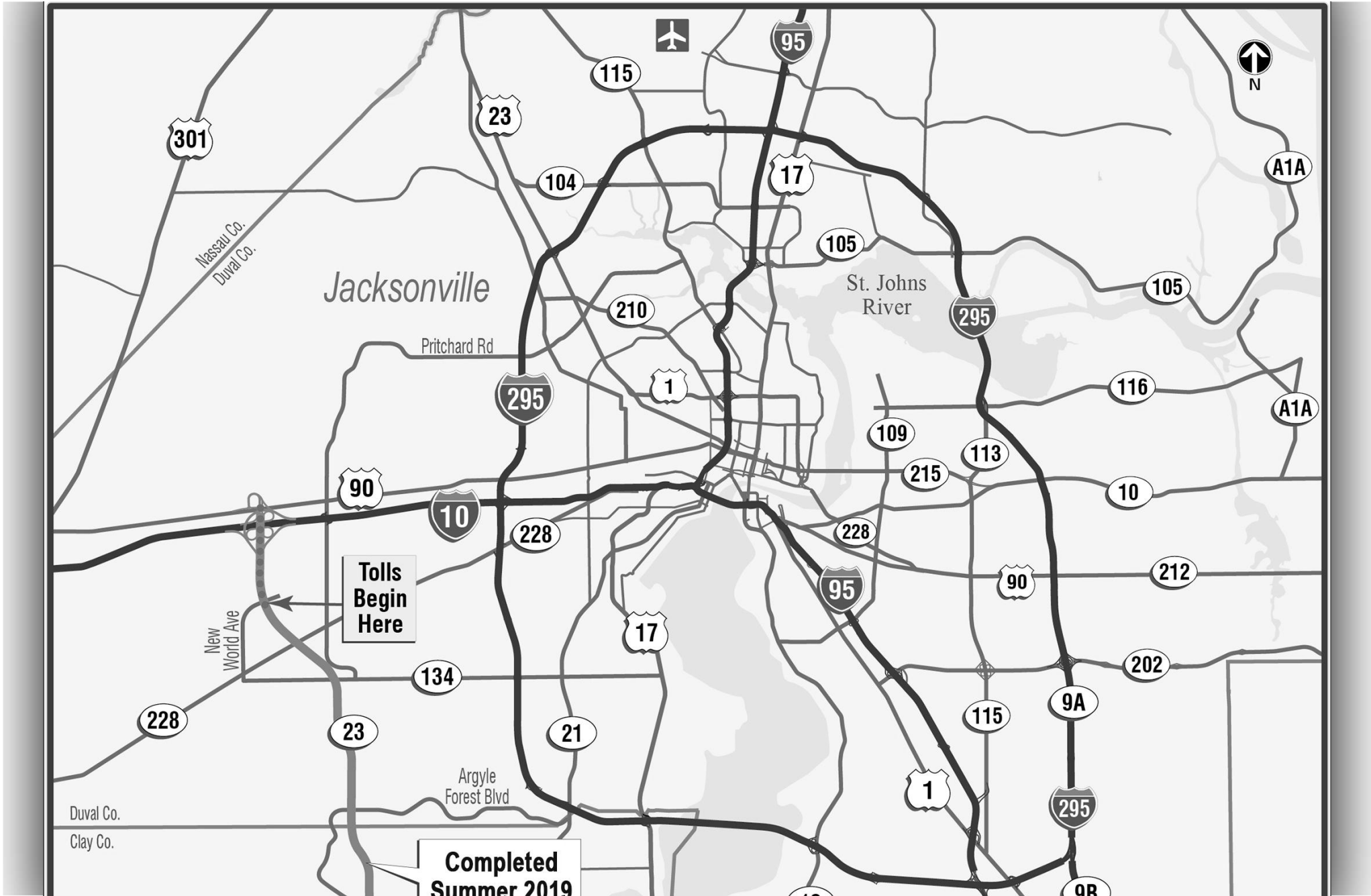
The south project (FIN 422938-5), which runs from east of CR 209 to north of SR 16, will be built by Superior Construction at a cost of \$180 million.

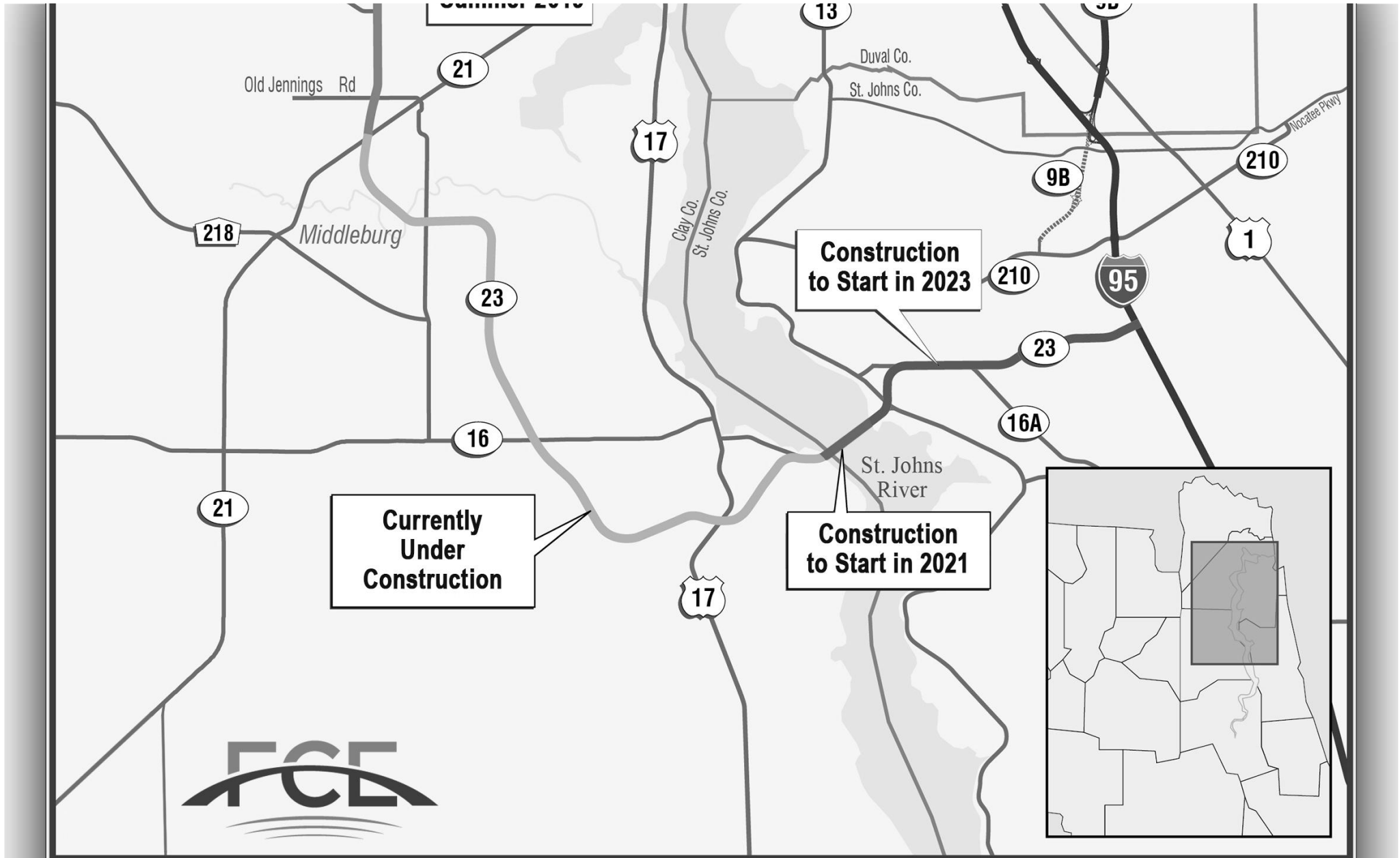
Construction began in April 2019 and is expected to be completed in 2026, weather and schedule permitting.

The third segment of the FCE is also being divided into two projects:

A new bridge over the St. Johns River just south of the existing Shands Bridge (FIN 422938-7), expected to begin construction in late 2021 and be completed in 2029 at a cost of approximately \$334 million.

New roadway from east of the County Road 16A Spur to I-95 in St. Johns County (FIN 422938-8), expected to begin construction in early 2023 and be completed in early 2030 at a cost of approximately \$303 million.





Contact



Sara Pleasants (<mailto:Sara.pleasants@dot.state.fl.us>)

386-269-3490

View FCE Map with Tolls ([FirstCoastExpressway/documents/2017-01-19-updated-fce-map-with-tolls.pdf](https://www.firstcoastexpressway.com/documents/2017-01-19-updated-fce-map-with-tolls.pdf))



View more information on being a SunPass user (<https://www.sunpass.com/en/home/index.shtml>)

Schedule

FCE Segment 1

Completion Date

FCE South Project (Blanding Blvd to North of Argyle Blvd.)	Summer 2019
FCE North Project (North of Argyle Blvd. to I-10)	Summer 2019
FCE Extension Project (I-10 to Beaver Street/US 90)	Summer 2018

FCE Segment 2

Start Date

Est. Completion Date

FCE North (Blanding Blvd. in Middleburg to North of SR 16 in Green Cove Springs)	March 2019	2025
FCE South (North of SR 16 to South of U.S. 17 by river in Green Cove Springs)	April 2019	2026

FCE Segment 3

Est. Start Date

Est. Completion Date

New bridge over St. Johns River	2022	2029
New roadway from east of the County Road 16A Spur to I-95 in St. Johns County	2023	2030

Documents

Documents

Document Name:	Date:
FCE Whole US 90 to SR 21 Map (FirstCoastExpressway/documents/2018-03-22-whole-fce-us-90-to-sr-21-map-2.pdf)	03/22/18
FCE Full Project Route Map (PIM) (FirstCoastExpressway/documents/FCE PIM 2019-08-23.pdf)	08/23/19
Aerial of Entire FCE Project (FirstCoastExpressway/documents/2017-02-14-sr-23-w-aerial.pdf)	02/14/17
Project Map from I-10 to Blanding Boulevard (FirstCoastExpressway/documents/2017-01-23-first-coast-i-10-to-sr-21.pdf)	01/23/17
FCE Map with Tolls (FirstCoastExpressway/documents/2017-01-19-updated-fce-map-with-tolls.pdf)	01/19/17
Public Meeting Handout (FirstCoastExpressway/documents/2015-12-10-public-meeting-handout.pdf)	12/10/15
Board 1 - Project Location Map (FirstCoastExpressway/documents/2016-03-24-fcx-board-project-location-map.pdf)	12/10/15
Board 2 - Project Details (FirstCoastExpressway/documents/2015-12-10-fcx-board-project-details.pdf)	12/10/15
Governor Invests \$9.9 Billion for Transportation Improvements (English) (FirstCoastExpressway/documents/2015-01-fdot-gov-scott-budget.pdf)	01/28/15
Governor Invests \$9.9 Billion for Transportation Improvements (Spanish) (FirstCoastExpressway/documents/2015-01-fdot-gov-scott-budget-spanish.pdf)	01/28/15
St. Johns River Crossing Record of Decision (FirstCoastExpressway/documents/2014-04-07-st-johns-river-crossing-record-of-decision.pdf)	04/07/14
St. Johns River Crossing Final Environmental Impact Statement (FirstCoastExpressway/documents/2013-10-11-st-johns-river-crossing-final-environmental-impact-statement.pdf)	10/11/13
Pile Driving Video (https://vimeo.com/275861894/8efd7e71d0)	5/17/19
FCE Full Project Map with Construction Timeline (FirstCoastExpressway/images/SR 23 FCE_Entire Projct_LocationMap 11-24-20.jpg)	11/24/20

Project Maps



FCE Project Maps - Click to download (FirstCoastExpressway/documents/FCE PIM 2019-08-23.pdf)



View more information on being a SunPass user (http://www.sunpass.com)

FAQ

What is a limited access highway?

What portion of the roadway will be tolled?

When will tolls start being collected?

Won't tolls cause Congestion? Will I have to stop to pay a toll?

What will the toll be?

Under what circumstances could these toll rates be raised?

Can I get a discount on the toll if I am a frequent traveler?

What are the free routes which motorists can use to avoid paying tolls?

Where is the money coming from to build this road?

How does the toll bonding/construction cost funding system work?

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I-295 at U.S. 17 Interchange Improvements

[About this Project](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

The Florida Department of Transportation is conducting a Project Development & Environment (PD&E) Study for proposed widening and reconstruction of U.S. 17 (S.R. 15) from south of the Wells Road Intersection to Birmingham Avenue, a distance of 3 miles, in Clay and Duval Counties. Additional improvements include ramp and intersection improvements at U.S. 17 and the I-295 off ramps, Eldridge Avenue, Old Orange Park Road, and Wells Road. Traffic operations within the project study area show excessive delay and heavy queuing at the intersections along U.S. 17 during peak hours as well as at the on and off-ramps to I-295. With expectations of continued traffic operation issues, this PD&E study is investigating alternatives to meet capacity needs, intersection operations, and safety within the study area.

Project Details

Project Start: 2022

Expected Completion: TBD

Cost: \$13.7 million

Project #: 4355751

Roads Interstate 295, U.S. 17

Counties Clay, Duval

Cities

Contact



Sara Pleasants (<mailto:Sara.pleasants@dot.state.fl.us>)

386-269-3490

I-295 at U.S. 17 Interchange Improvements



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First Coast Expressway from North of State Road 16 to East of County Road 209

[About this Project](#)[Traffic Alerts](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

Superior Construction is the contractor for the First Coast Expressway/State Road 23 from east of County Road 209 to north of State Road 16 in Clay County (9.7 miles).

Construction activities:

Constructing 9.7 miles of new multi-lane, limited access toll road

Constructing a drainage system for the new roadway, including a series of storm water ponds

Installing traffic signals, lighting, highway signing and guardrails

Building 15 new bridges

Constructing two new toll facilities featuring overhead gantries with electronic tolling just west of County Road 15A and east of County Road 209.

Project Details

Project Start: Spring 2019

Expected Completion: 2026

Cost: \$180 million

Project #: 422938-5

Roads State Road 13, State Road 16, State Road 23

Counties Clay

Cities

Contact



Sara Pleasants (<mailto:Sara.pleasants@dot.state.fl.us>)

386-269-3490



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First Coast Expressway from State Road 21 to North of State Road 16

[About this Project](#)[Traffic Alerts](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

Sacyr Construction began construction March 4, 2019 on the second phase of the First Coast Expressway (State Road 23) from north of State Road 16 to just north of Blanding Boulevard (State Road 21) through Clay County (10.5 miles)

Construction activities include:

Adding 10.5 miles of new multi-lane, limited access toll roadway to State Road 23

Constructing a drainage system for the new roadway with a series of storm water ponds

Installing new lighting, highway signing and guardrails

Building three new tolling facilities with overhead gantries and electronic tolling east of Baxley Road, west of the County Road 218 exit and just west of the State Road 16 exit

Building 26 bridges along the roadway, including two new bridges over Black Creek in the Lake Asbury community

Building noise walls south of Sandridge Road in the Rolling Hills Community

Constructing retaining walls along State Road 23

Traffic impacts:

Due to active sidewalks in the area, the contractor will be required to make necessary accommodations for pedestrians and physically handicapped during construction

Sacyr Construction will construct temporary access points at State Road 16 and State Road 21

Project Details

Project Start: March 2019

Expected Completion: 2025

Cost: \$229 million

Project #: 422938-6

Roads State Road 16, State Road 23

Counties Clay

Cities



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First Coast Expressway – New St. Johns River Bridge

[About this Project](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

The third and final segment of the FCE includes a new four-lane bridge over the St. Johns River just south of where the Shands Bridge currently stands. Construction on the new bridge is expected to begin in 2022 and be completed in 2029 at a cost of approximately \$334 million. The vertical clearance height of the new bridge will be 65 feet from the water line, compared to the existing 45 feet of clearance. The additional 20 feet will match the Buckman Bridge's clearance and is an improvement for marine commerce in the region.

Project Details

Project Start: 2022

Expected Completion: 2029

Cost: \$334 million

Project #: 422938-7

Roads State Road 23

Counties Clay, St. Johns

Cities

Contact



Sara Pleasants (mailto:Sara.pleasants@dot.state.fl.us)

386-269-3490

First Coast Expressway – New St. Johns River Bridge

Overview

RESOLUTION #2019/2020-67

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF CLAY COUNTY, FLORIDA, AMENDING SECTION II OF TABLE 1, THE NON-CAPITAL IMPROVEMENT ELEMENT IMPROVEMENTS, AND AMENDING TABLE 2, THE REVENUE SOURCES RELATING THERETO, BOTH OF WHICH ARE PART OF THE CLAY COUNTY CAPITAL IMPROVEMENTS PROGRAM; PROVIDING AN EFFECTIVE DATE.

Recitals

WHEREAS, on June 26, 2018, the Board of County Commissioners of Clay County, Florida (the Board), adopted Ordinance No. 2018-31, which adopted the Clay County 2040 Comprehensive Plan, as amended (the Plan); and

WHEREAS, Policy 1.1.2 of the Capital Improvements Element (CIE) of the Plan directs the County to monitor capital facilities to identify deficiencies, to evaluate whether improvements have met demands, and to identify needed maintenance; and

WHEREAS, certain tables are included in the CIE and contain both CIE improvements and Non-CIE improvements, as well as revenue sources for each, and together they make up the County's Capital Improvements Program; and

WHEREAS, the table attached and incorporated herein as Exhibit A entitled "Clay County Capital Improvements" (Table 1), contains CIE improvements in Section I and Non-CIE improvements in Section II thereof; and

WHEREAS, the table attached and incorporated herein as Exhibit B entitled "Clay County Capital Program Revenue Sources" (Table 2), specifies revenue sources for both CIE improvements and Non-CIE improvements; and

WHEREAS, amendments to the list of Non-CIE improvements in Section II of Table 1 and related changes to the revenue sources in Table 2 may be accomplished by resolution.

Be It Resolved by the Board of County Commissioners of Clay County:

Section 1.

Section II of Table 1 is amended as set forth in Exhibit A in order to make necessary changes as directed by the Board.

Section 2.

Table 2 is amended as set forth in Exhibit B in order to make it consistent with Section II of Table 1.

Section 3.

With respect to the Tables referenced in Section 1 and Section 2 above, the legal effect of this Resolution is that upon its effective date:

- (A) Funds for capital projects identified in the Tables shall only be expended consistent therewith; and
- (B) To the extent that corrections, updates, and modifications concerning costs, revenue sources, and acceptance of facilities pursuant to dedications which are inconsistent with the Tables, or a change in the date of construction of the capital projects identified in the Tables are proposed, such may only be implemented by amendment hereto; and
- (C) Nothing in this Resolution shall have any effect on the improvements listed in Section I of Table 1. This Resolution shall be construed only to amend Section II of Table 1 and the related revenue sources in Table 2.

Section 4.

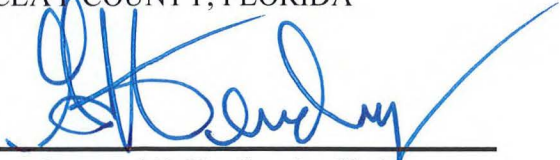
The revisions to the reserves, revenues, and appropriations for the Capital Improvement Project Fund set forth above are more particularly identified in the budget transfer form attached as Exhibit C.

Section 5.

This resolution shall take effect immediately upon its adoption.

DULY ADOPTED, by the Board of County Commissioners, Clay County, Florida,
this 12th day of May, 2020.

BOARD OF COUNTY COMMISSIONERS
OF CLAY COUNTY, FLORIDA

By: 
Gayward F. Hendry, Its Chairman

ATTEST:



Howard Wanamaker, County Manager and
Clerk of the Board of County Commissioners

Exhibit A
Table 1. Clay County Capital Improvements
CLAY COUNTY, FLORIDA
FY 2019-20
CIP
BCC - True Up 5/12/20

		2019-20	2020-21	2021-22	2022-23	2023-24
		Budget	Budget	Budget	Budget	Budget
Section I COMPREHENSIVE PLAN CAPITAL IMPROVEMENTS						
<u>Traffic Circulation Element</u>						
6076A	Atlantis Drive (State Funded)	2,843,760	-	-	-	-
6083	CR 218 Extension	-	9,000,000	-	-	-
6065	CR 220 (CR209 to Knight Boxx)	2,713,690	-	-	-	-
6064B	Tynes Blvd Ext.	152,759	-	-	-	-
6094	CR 315C - CR 214 (State Funded)	3,083,887	-	-	-	-
6095	CR224 (College) RR-CR-220 to SR-21 Blanding (RW widening)	4,010,382	-	-	-	-
7084	Intersection Improvement/Minor Capacity	500,000	500,000	500,000	500,000	500,000
6096	State Road 23 Access/Frontage Roads	680,727	-	-	-	-
6096A	State Road 23/Frontage Trail Ridge	3,000,000	-	-	-	-
6098	County Road 220 RRR - Swimming Pen Creek to US 17	3,580,699	-	-	-	-
Total Capital Improvement Plan Improvements		20,565,904	9,500,000	500,000	500,000	500,000
Section II NON-PLAN CAPITAL IMPROVEMENTS						
<u>Transportation</u>						
6059	Equipment - Transportaton	2,123,515	1,452,000	387,714	1,082,250	500,000
6093	Bridge Improvements	500,000	500,000	-	-	-
	Oakleaf Plantation/Eagle Landing Signal	-	500,000	-	-	-
<u>Parks and Recreation</u>						
	Fairgrounds Master Plan Improvements	-	2,510,000	-	-	-
6058	Parks and Recreation Equipment	65,000	-	-	-	-
6062	Multipurpose Field @ Fleming Island (FIAA)	300,000	-	-	-	-
6063	Fleming Island Baseball Park	814,593	-	-	-	-
6068	Omega Park	103,783	-	-	-	-
6088	Keystone Heights Trailhead*	46,000	-	-	-	-
<u>Environmental</u>						
	Animal Services - Building	-	714,000	4,789,500	2,236,000	-
6051	Equipment - Animal Services	-	-	-	-	-
<u>Public Safety</u>						
6049	Public Safety Training Facility	153,000	408,000	4,532,000	-	-
6107	Burn Building	-	-	-	135,200	-
6106	Gun Range	150,000	1,816,000	2,532,000	2,201,600	-
6054	800 MHz	4,225,867	-	-	-	-
6055	Station 11 Replacment	47,120	-	-	-	-
6089	Fire Station 20 - GCS	3,330,000	-	-	-	-
	Fire Station 15	-	-	309,000	3,120,000	-
	Fire Station 17	-	-	-	312,000	4,500,000
6057	Equipment - Public Safety	3,544,563	1,077,148	1,494,976	2,864,527	1,703,027
6078	Sheriff Capital Equipment & Vehicles	1,924,930	1,326,000	1,545,000	1,560,000	1,640,000
<u>Public Works</u>						
27	Road Resurfacing	6,568,344	4,000,000	4,000,000	4,000,000	4,000,000
6005	Road Paving	1,084,787	500,000	500,000	500,000	500,000
6040	Drainage Storm Water	1,969,599	1,000,000	400,000	400,000	400,000
6080	Public Works Building	1,131,620	-	-	-	-
6090	Infrastructure Studies	205,400	211,200	-	-	-
7086	Indigo Branch Drainage	-	3,000,000	-	-	-
	Moody Ave - Drainage Improvement	-	216,240	-	-	-
6092A	Ridaught Landing Drainage Improvements	31,364	-	-	-	-
6092F	Greenwood Drainage Improvments	136,280	-	-	-	-
6092C	Knight Box and CR220 Drainage Improvements	126,262	-	-	-	-
6092D	Tumbleweed Dr - Tanglewood Village Drainage Improv	42,138	-	-	-	-

Exhibit A
Table 1. Clay County Capital Improvements
CLAY COUNTY, FLORIDA
FY 2019-20
CIP
BCC - True Up 5/12/20

		2019-20	2020-21	2021-22	2022-23	2023-24
		Budget	Budget	Budget	Budget	Budget
<u>Other Projects</u>						
6056	Equipment-General Government	553,396	500,000	500,000	500,000	500,000
6067	Fairgrounds Improvements	938,050	-	-	-	-
6067A	Fairgrounds Improvements - FDACS FG Exhibit Hall Remodeling	500,000	-	-	-	-
6079	Equipment-Libraries	-	-	-	-	-
7083	Equipment-Extension Services	31,500	-	-	-	-
6042	School Board Aid	1,600,000	-	-	-	-
7087	Municipal Grants *	330,000	-	-	-	-
<u>Debt Service</u>						
4205	Debt Financing - transfer to Debt Service Fund	-	-	-	-	-
Total Non-Plan Improvements		32,577,111	19,730,588	20,990,190	18,911,577	13,743,027
Grand Total - Improvements		53,143,015	29,230,588	21,490,190	19,411,577	14,243,027

Includes \$7,000,000 in Developer Funding and \$2,000,000 in County Funding.
True Up Changes
New from 10 yr

Exhibit B
Table 2. Clay County Capital Program Revenue Sources
CLAY COUNTY, FLORIDA
Revenue Analysis for Capital Improvement Element
CIP
FY 2019-20
BCC - True Up 5/12/20

Revenues	2019-20 Budget	2020-21 Budget	2021-22 Budget	2022-23 Budget	2023-24 Budget
Prior Year Carry Forward	43,646,472	21,330,627	12,966,465	6,164,337	1,830,597
Local Option Sales Tax Receipts	8,015,256	-	-	-	-
Transfer In from Fund 120 - ISS Revenue Fund	9,619,052	11,802,815	12,206,137	12,621,035	13,037,920
2nd Local Option Gas Tax Receipts	3,110,500	3,151,253	3,244,390	3,239,781	3,304,577
Interest Earnings	115,000	10,000	10,000	10,000	10,000
Subtotal	64,506,280	36,294,695	28,426,992	22,035,153	18,183,094
Other Revenues					
Interfund Transfer	591	591	591	591	591
State Grant - Atlantis Dr	2,065,000	-	-	-	-
State Grant - FDACS Fairgrounds Project	500,000	-	-	-	-
State Grant - 315C	2,614,325	-	-	-	-
State Grant - SR23/Frontage Trail Ridge	3,000,000	-	-	-	-
Federal Grant - Ridaught Landing Drainage	23,523	-	-	-	-
Federal Grant - Knight Box CR222 Drainage Improvements	94,696	-	-	-	-
Federal Grant - Tumblewood Dr Tanglewood Drainage Improvements	31,603	-	-	-	-
Federal Grant - Greenwood Drainage Improvements	102,210	-	-	-	-
Developer Funding	-	7,000,000	-	-	-
Subtotal	8,431,948	7,000,591	591	591	591
Total Funds	72,938,228	43,295,286	28,427,583	22,035,744	18,183,685
Less 5% of Revenues	(1,464,588)	(1,098,233)	(773,056)	(793,570)	(817,654)
Total Revenues Available to County	71,473,640	42,197,053	27,654,527	21,242,174	17,366,031
Expenditures					
Plan Improvements	20,565,904	9,500,000	500,000	500,000	500,000
Non-Plan Improvements	32,577,111	19,730,588	20,990,190	18,911,577	13,743,027
Total	53,143,015	29,230,588	21,490,190	19,411,577	14,243,027
Excess of Revenues Over Expenditures					
Annually (total funds less expenditures)	19,795,213	14,064,698	6,937,393	2,624,167	3,940,658
Over (Under) 95 Percent	18,330,625	12,966,465	6,164,337	1,830,597	3,123,004

Includes \$7,000,000 in Developer Funding and \$2,000,000 in County Funding.
True Up Changes
New from 10 yr

EXHIBIT C

CLAY COUNTY BOARD OF COUNTY COMMISSIONERS
 BUDGET TRANSFER AUTHORIZATION (TRANSFER OF APPROPRIATIONS)

FY 19/20

TYPE OF REQUEST:

Budget Transfer
 # _____

- Transfer within same Cost Center
- Transfer between Cost Centers within same Fund (Contact Budget Director)
- Transfer In/Out of Contingency within same Fund (Contact Budget Director)
- Receipt of unanticipated funds (Submit information for Resolution below)
- Transfer between Funds (Contact Budget Director)
- Transfer within CIP Fund (Contact Budget Director)
- Carryforward of Grant Funds (For use by Budget Office Only - Requires Resolution)

AMOUNTS to TRANSFER

ACCOUNT NUMBER			ACCOUNT DESCRIPTION	AMOUNTS to TRANSFER	
Fund	Division	Account (Object Code)		INCREASE	DECREASE
REVENUE					
305	305	312600	Discr Sales Surtaxes		(12,821,757.00)
305	305	381120	Transfer 2020 Bond Revenue Fund	9,619,052.00	
305	305	399001	5% Of Budgeted Revenues		(16,807.00)
			Total Revenue Adjustment		(3,219,512.00)
APPROPRIATIONS					
305	6031	563000	Infrastructure		(4,500,000.00)
305	6040	563000	Infrastructure	1,000,000.00	
305	6076	563000	Infrastructure		(778,760.00)
305	6076A	563000	Infrastructure	2,843,760.00	
305	6080	563000	Infrastructure	157,000.00	
305	6092	563000	Infrastructure		(1,616,000.00)
305	6095	563000	Infrastructure	451,942.00	
305	6097	563000	Infrastructure		(1,823,042.00)
305	6098	563000	Infrastructure	403,520.00	
305	6100	563000	Infrastructure		(2,065,000.00)
305	7085	563000	Infrastructure		(384,938.00)
305	7086	563000	Infrastructure		(737,300.00)
305	7088	563000	Infrastructure		(60,600.00)
305	7089	563000	Infrastructure		(42,420.00)
305	6049	562000	Buildings		(150,000.00)
305	6106	562000	Buildings	150,000.00	
305	9912	599100	Reserve - Contingency	2,434,038.00	
305	9912	599200	Reserve - Cash Balance		(889,432.00)
305	9912	599800	Reserve For Capital Improvements	2,387,720.00	
			Total Appropriation Increase/Decrease	9,827,980.00	(13,047,492.00)
			Total Appropriation Adjustment		(3,219,512.00)

JUSTIFICATION:

This budget amendment is needed to true up CIP funding after the issuance of the 2020 Series Revenue Bond for road construction projects.

REQUESTED BY: _____

DATE REQUESTED: _____

ADMINISTRATIVE USE ONLY

BUDGET OFFICE APPROVAL

COUNTY MANAGER APPROVAL

BY: _____

BY: _____

DATE: _____

DATE: _____



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State Road 21 from CR-218 to Black Creek Improvements

[About this Project](#)[Traffic Alerts](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

The Florida Department of Transportation began a widening and resurfacing project on State Road 21 (Blanding Boulevard) from County Road 218 to Black Creek in February 2020.

Once completed, this project will add two lanes of capacity to the four-lane section of Blanding Boulevard between County Road 218 and Black Creek and provide more efficient east-west movements at the intersection of Blanding Boulevard and County Road 218. The County Road 218 bridge over Black Creek will be replaced to provide a wider bridge in order to accommodate the improvements within the project corridor. The County Road 218 bridge will remain to traffic open during construction.

Sacyr Construction was selected to complete the \$16.4 million project. Construction is estimated to begin this month and be completed in fall 2021, weather and unforeseen circumstances permitting.

Project Details

Project Start: February 2020

Expected Completion: Winter 2021

Cost: \$16.4 million

Project #: 208211-5-52-01

Roads County Road 218, State Road 21

Counties Clay

Cities Middleburg

Contact



Samantha Rambeau (mailto:Samantha.Rambeau@atkinsglobal.com)

386-269-3602



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Blanding Boulevard (SR 21) Widening and Reconstruction From Allie Murray Road to Long Bay Road (CR 220A)

- About this Project
- Traffic Alerts
- Photos
- Documents
- Public Events

Overview

Construction on this segment of State Road 21/Blanding Boulevard in Clay County from Allie Murray Road to Long Bay Road (CR 220A) involves full reconstruction and widening to six lanes of the roadway in this area. Construction on this \$18 million project also includes adding four-foot bike lanes and six-foot sidewalk in both directions, replacing traffic signals, adding street lights, and constructing a new drainage system including new pipes, inlets and small ponds. Medians are being narrowed to allow for the roadway widening and curb construction and some intersection realignment work will be done to better facilitate traffic signals and new travel lane alignment. The project contractor is R.B. Baker Construction Company.

This project is a continuation of other recently-completed Blanding Widening projects that increased to six lanes the segment of Blanding Boulevard/State Road 21 from Old Jennings Road to Branan Field Road and from there south to Allie Murray Road. Motorists should anticipate similar, occasional lane closures necessary during construction once it begins. Standard overnight lane closure times may be adjusted as-needed based on work schedules, weather and traffic flow levels.

A construction open house for this project was held December 10 at the Middleburg Civic Center to answer questions and discuss project details.



Project Details

Project Start: Early 2019

Expected Completion: Fall 2021

Cost: \$19.1 million

Project #: 208211-8

Roads: County Road 220A, State Road 21

Counties: Clay

Cities: Middleburg

Contact



Sara Pleasants (mailto:Sara.pleasants@dot.state.fl.us)
386-269-3490



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State Road 21 (South Lawrence Blvd.) Improvements

[About this Project](#)[Photos](#)[Documents](#)[Public Events](#)

Overview

This is a resurfacing improvement project. It is scheduled to start in June 2020 and Anderson Columbia is the contractor. The location is State Road 21 from the Putnam C/L to Commercial Circle in Keystone Heights. Cost is \$6.9 million. Completion summer 2021.

The FDOT is proposing to mill and resurface SR 21 from the Putnam county line to north of Commercial Circle in Keystone Heights. Portions of this project are in Bradford, Clay and Putnam Counties. In addition to the milling and resurfacing, the Department will be improving the safety of the roadway by widening the paved shoulders, improving the lighting within the Town of Keystone Heights, and adding mid-block crossings and bulb-outs as part of the Town's Streetscape project. Additionally, signal and pedestrian improvements at the intersection with SR-100 are also being proposed.

Project Details

Project Start: June 2020

Expected Completion: Summer 2021

Cost: \$6.9 million

Project #: 439399-1

Roads State Road 21

Counties Bradford, Clay, Putnam

Cities Keystone Heights

Contact



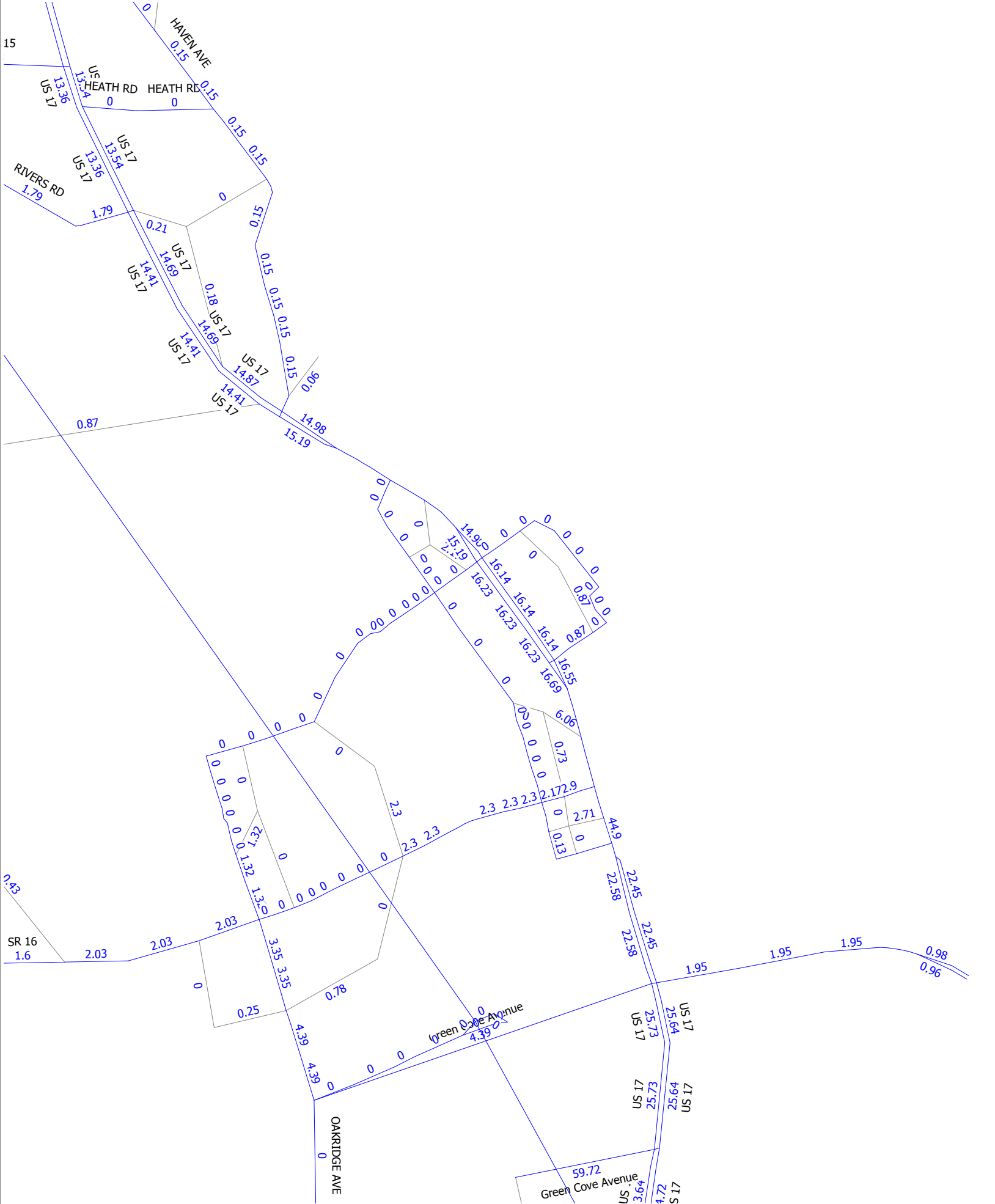
Troy Roberts (<mailto:Troy.Roberts@dot.state.fl.us>)

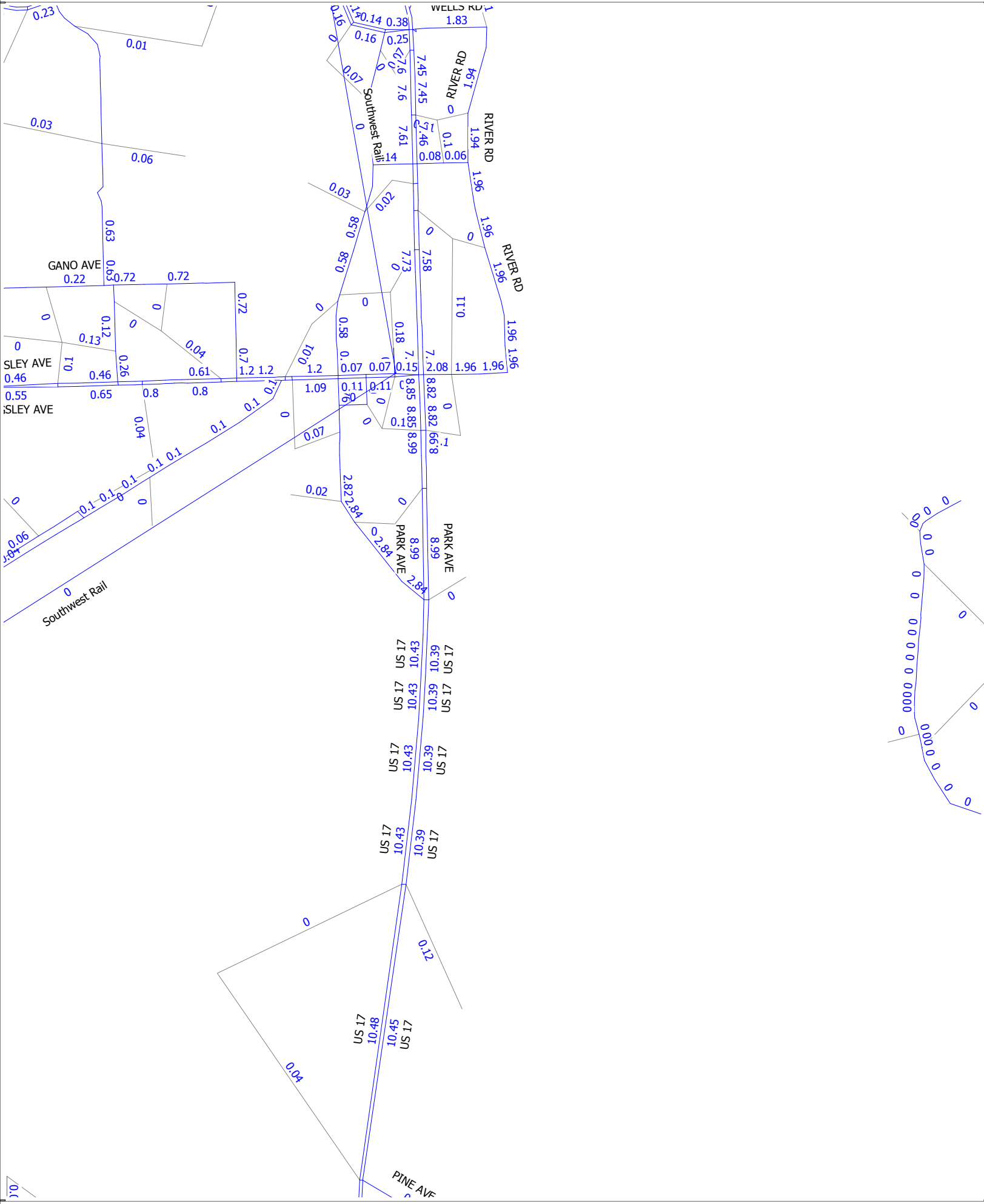
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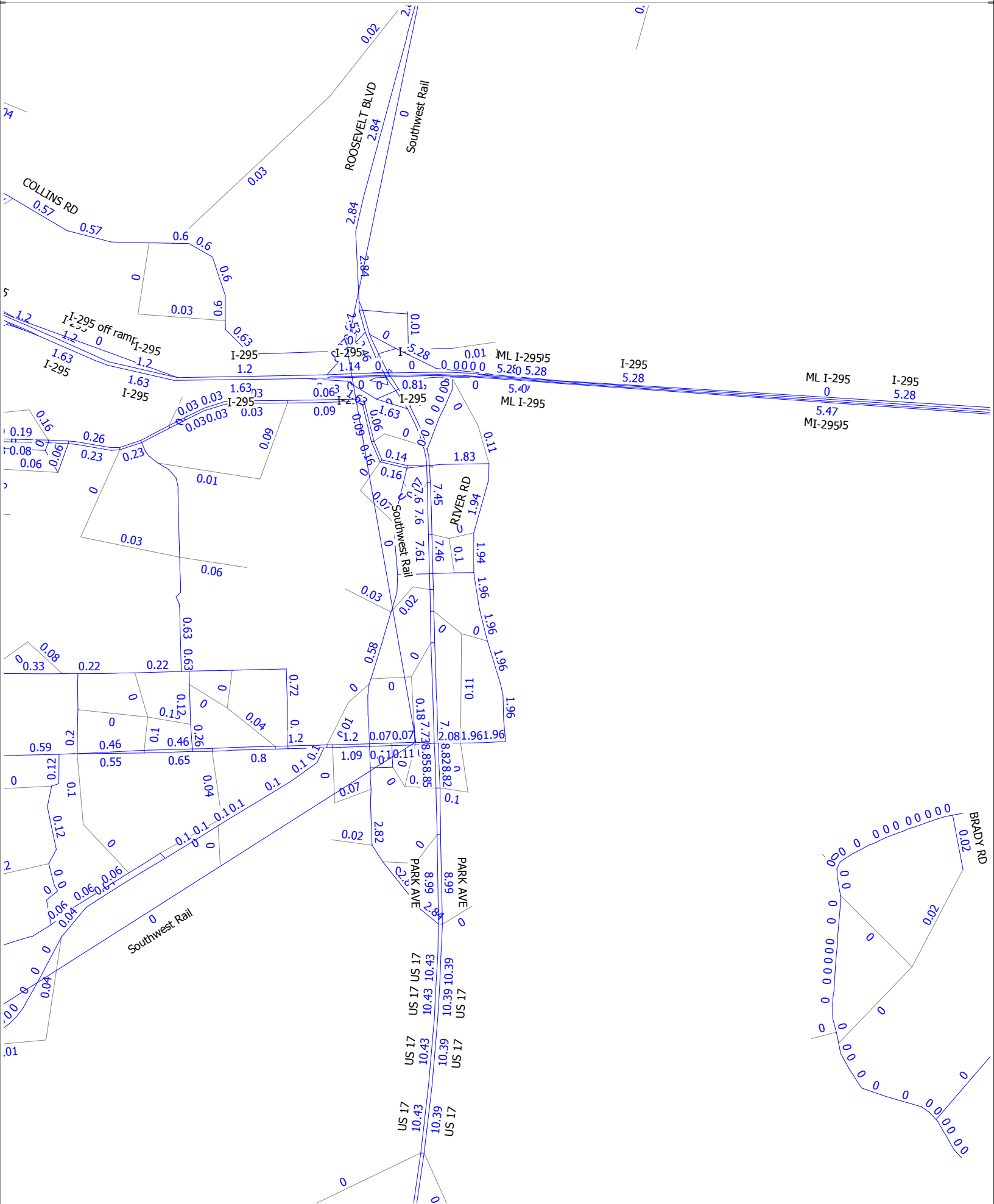
State Road 21 (South Lawrence Blvd.) Improvements

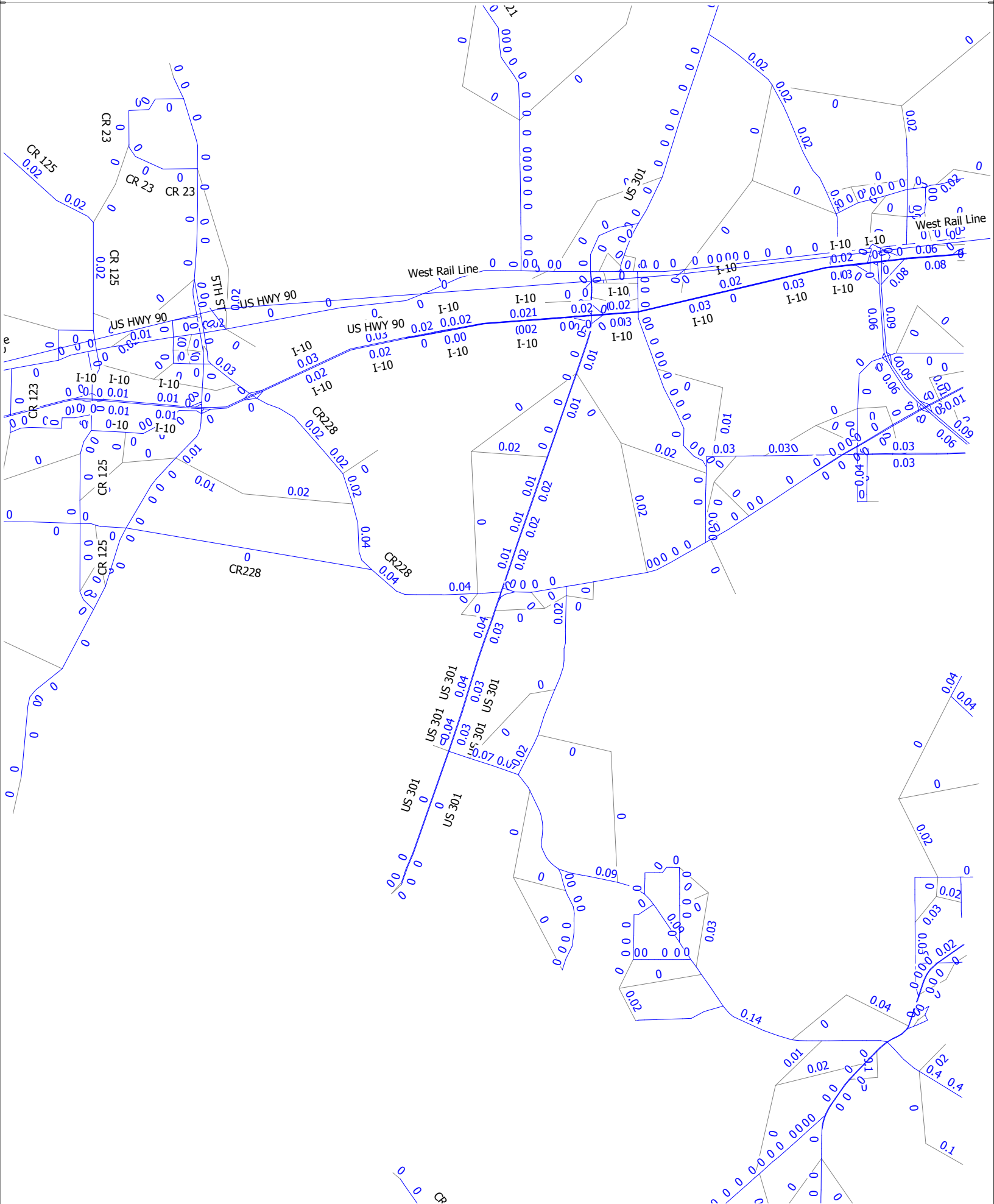
Attachment E

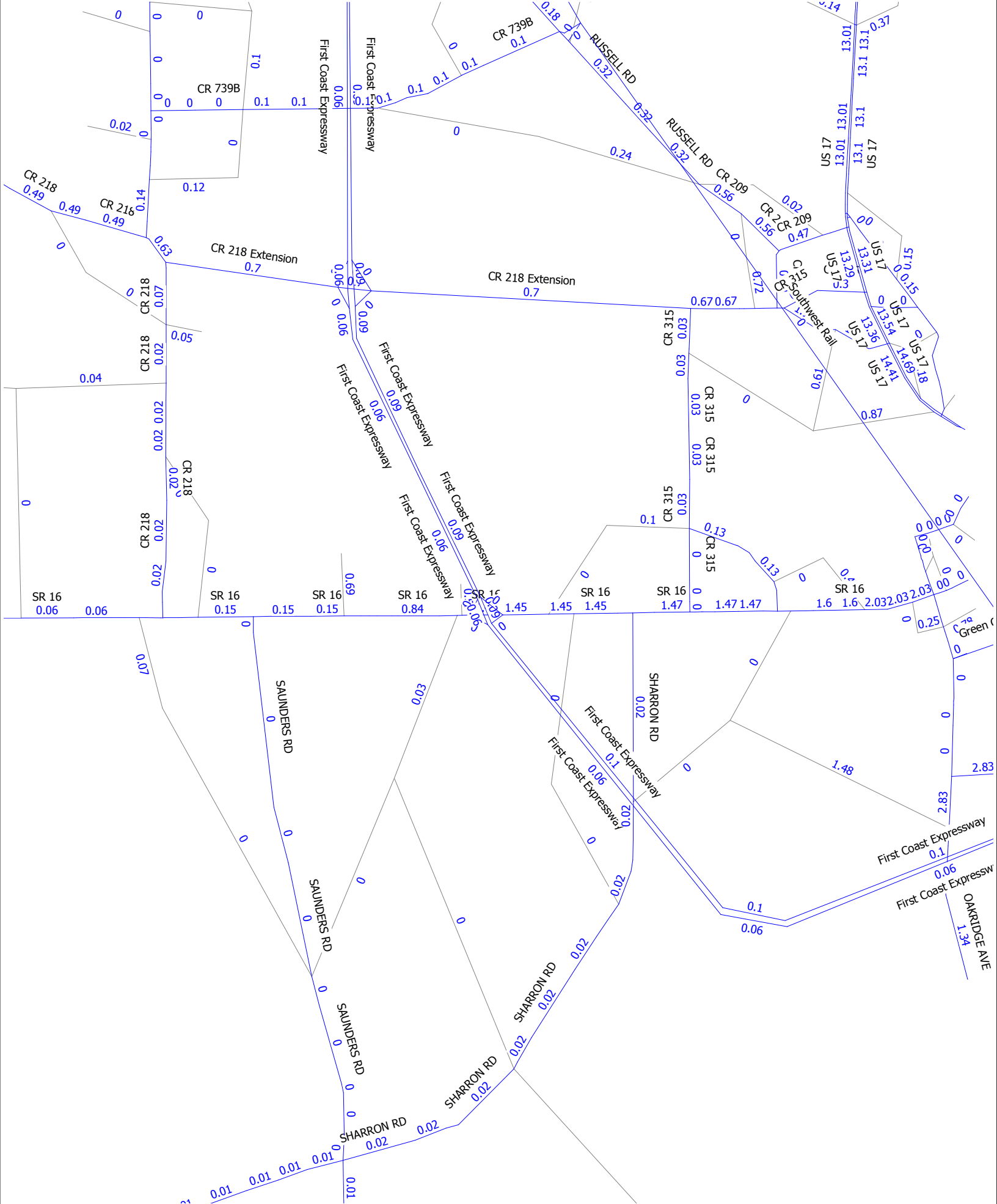
Travel Demand Model Plots

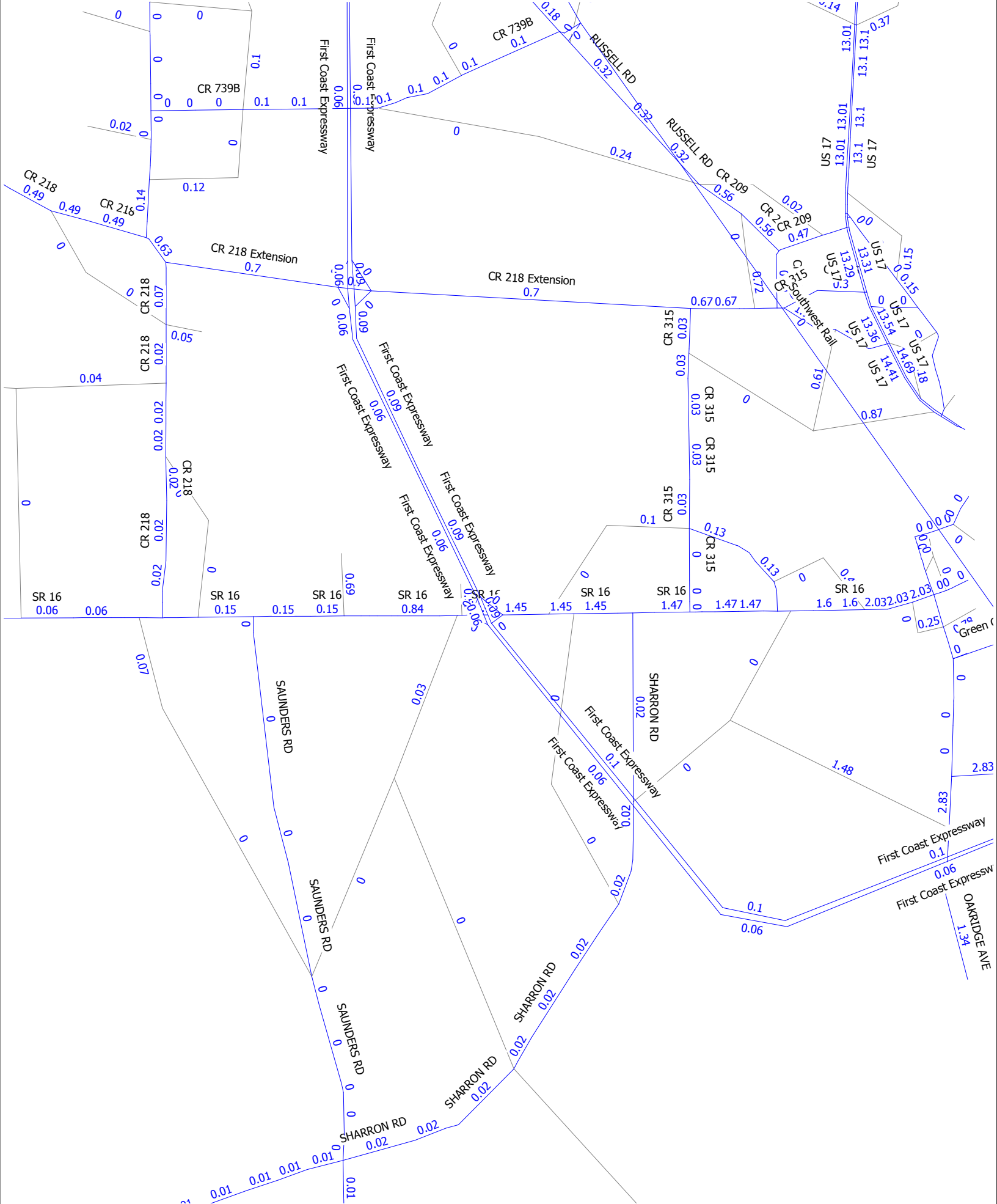


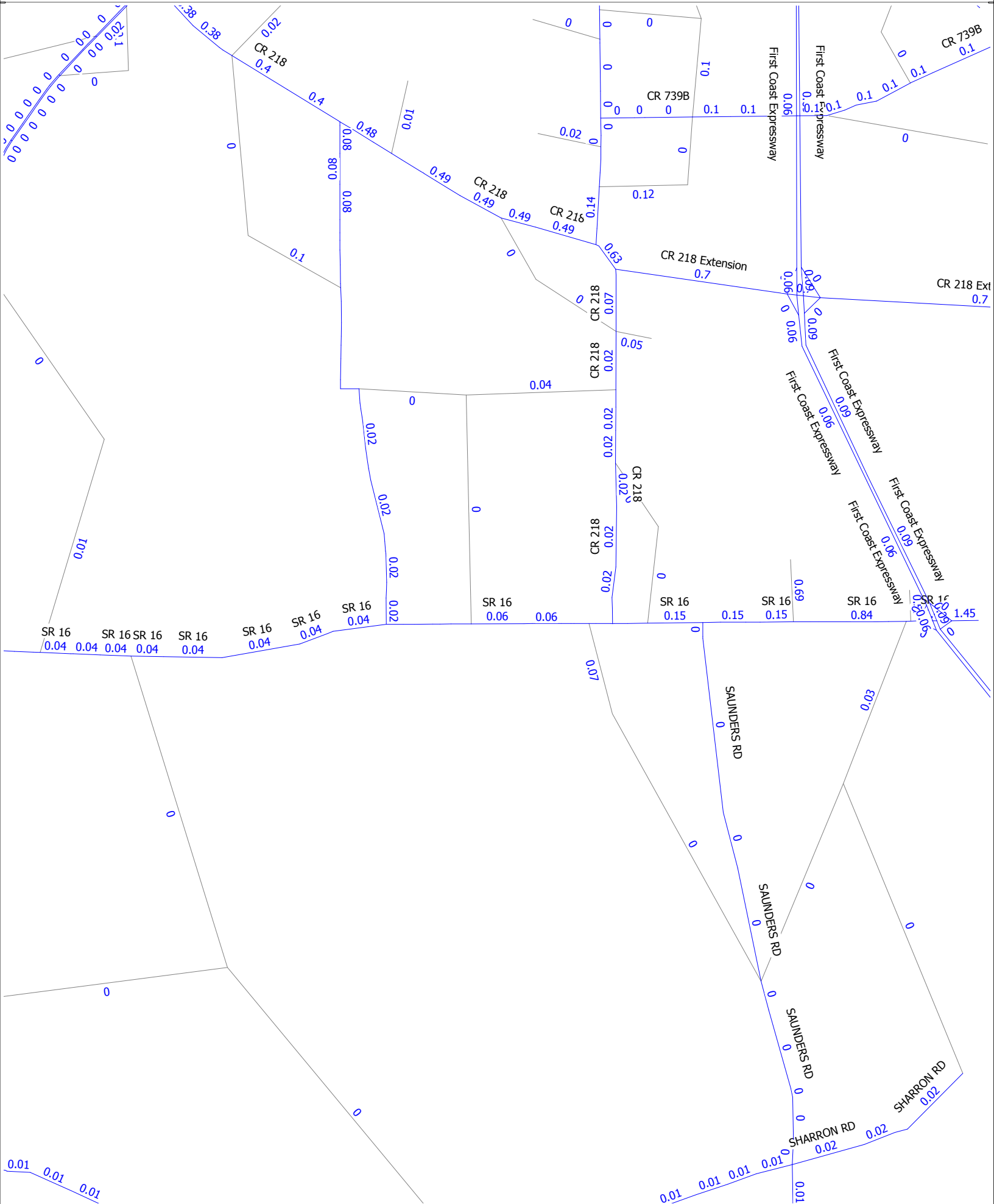


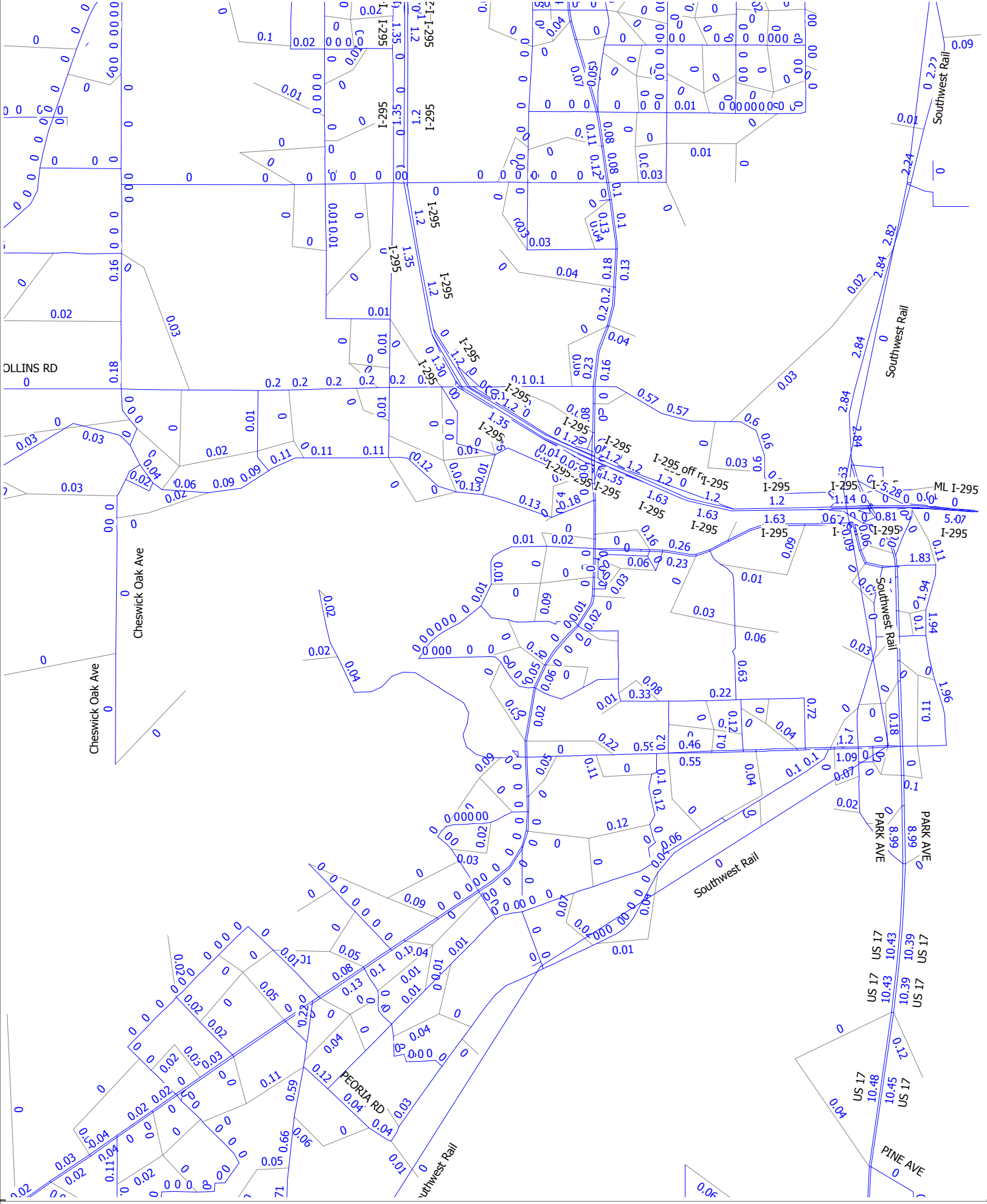


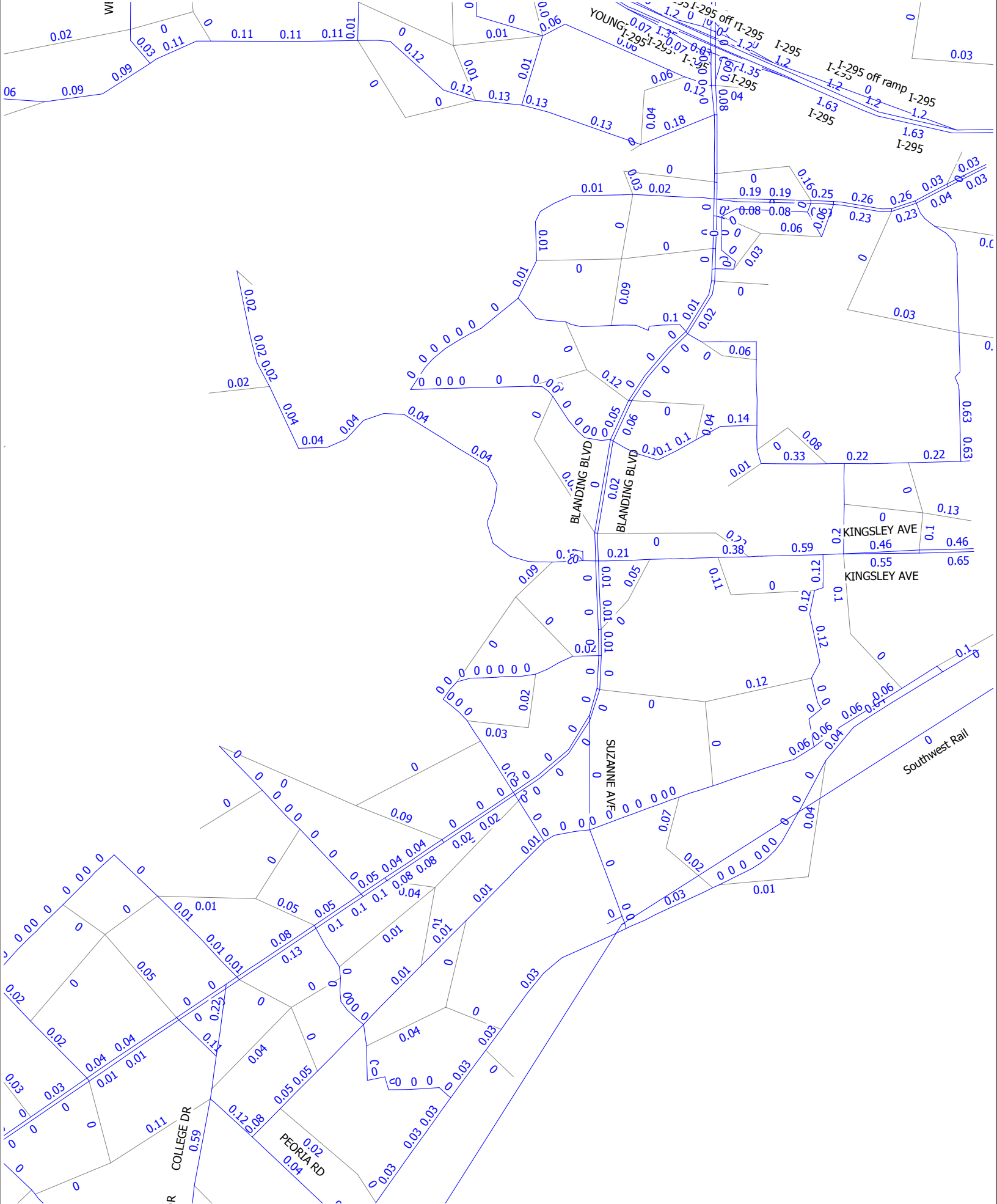


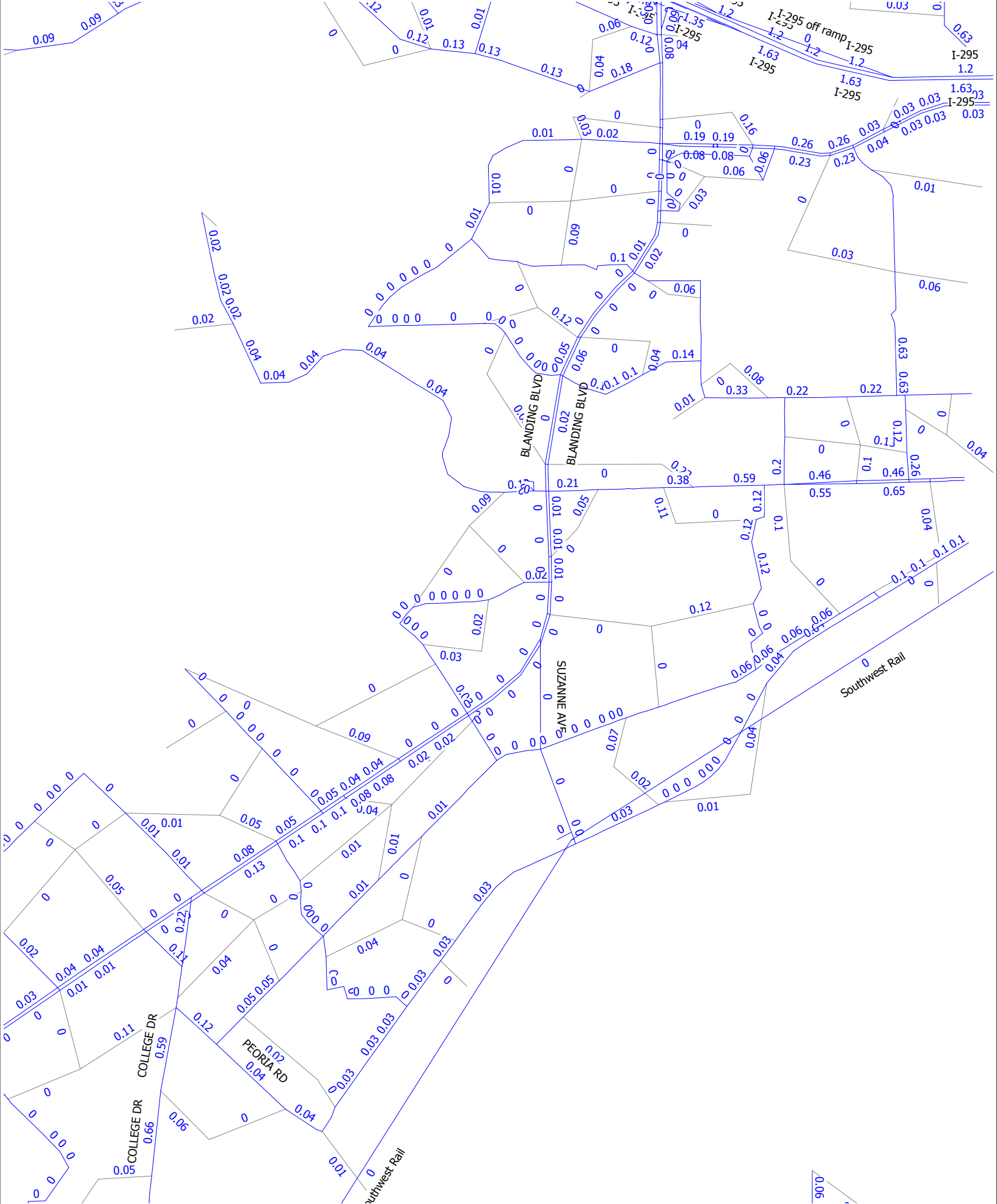


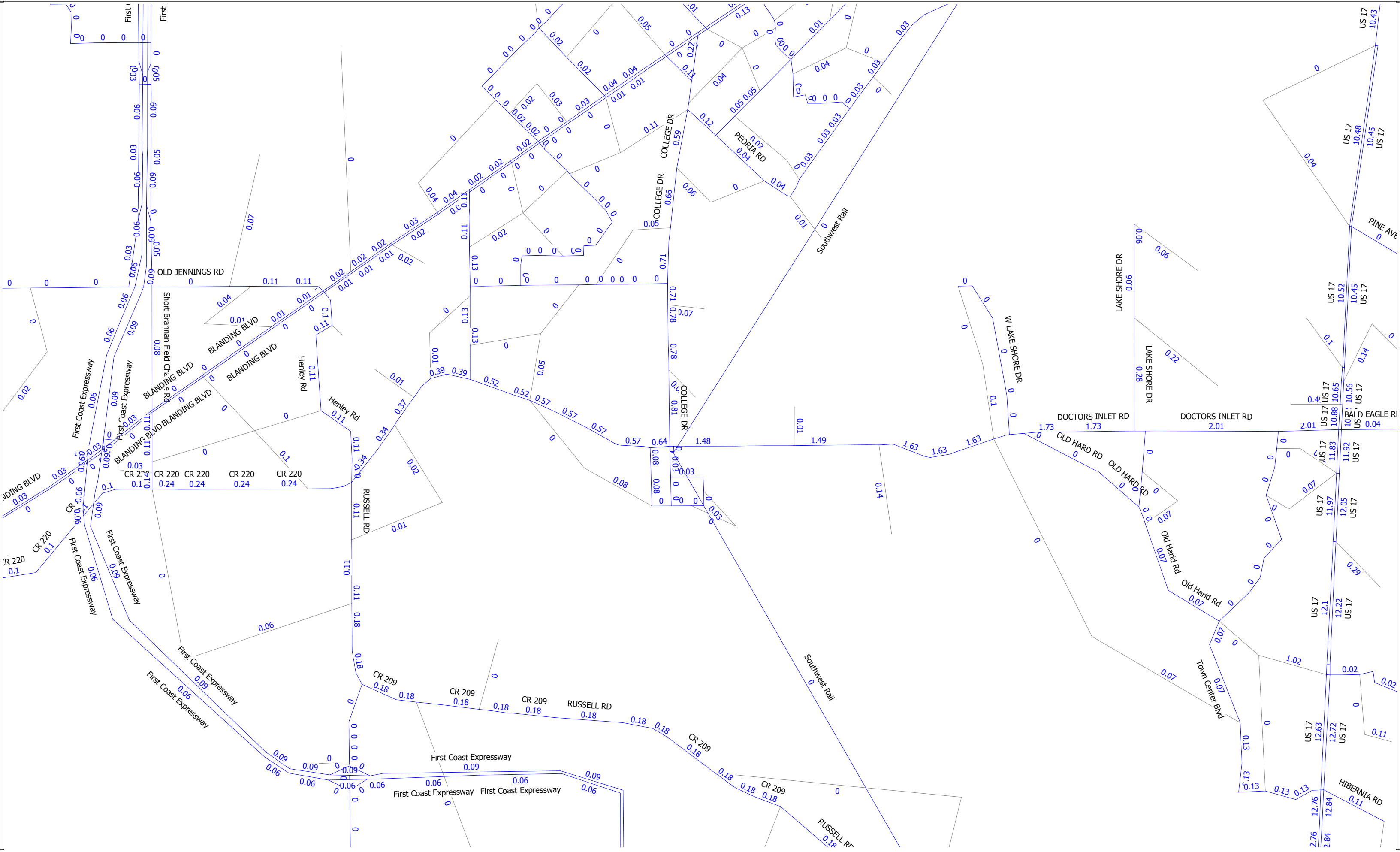


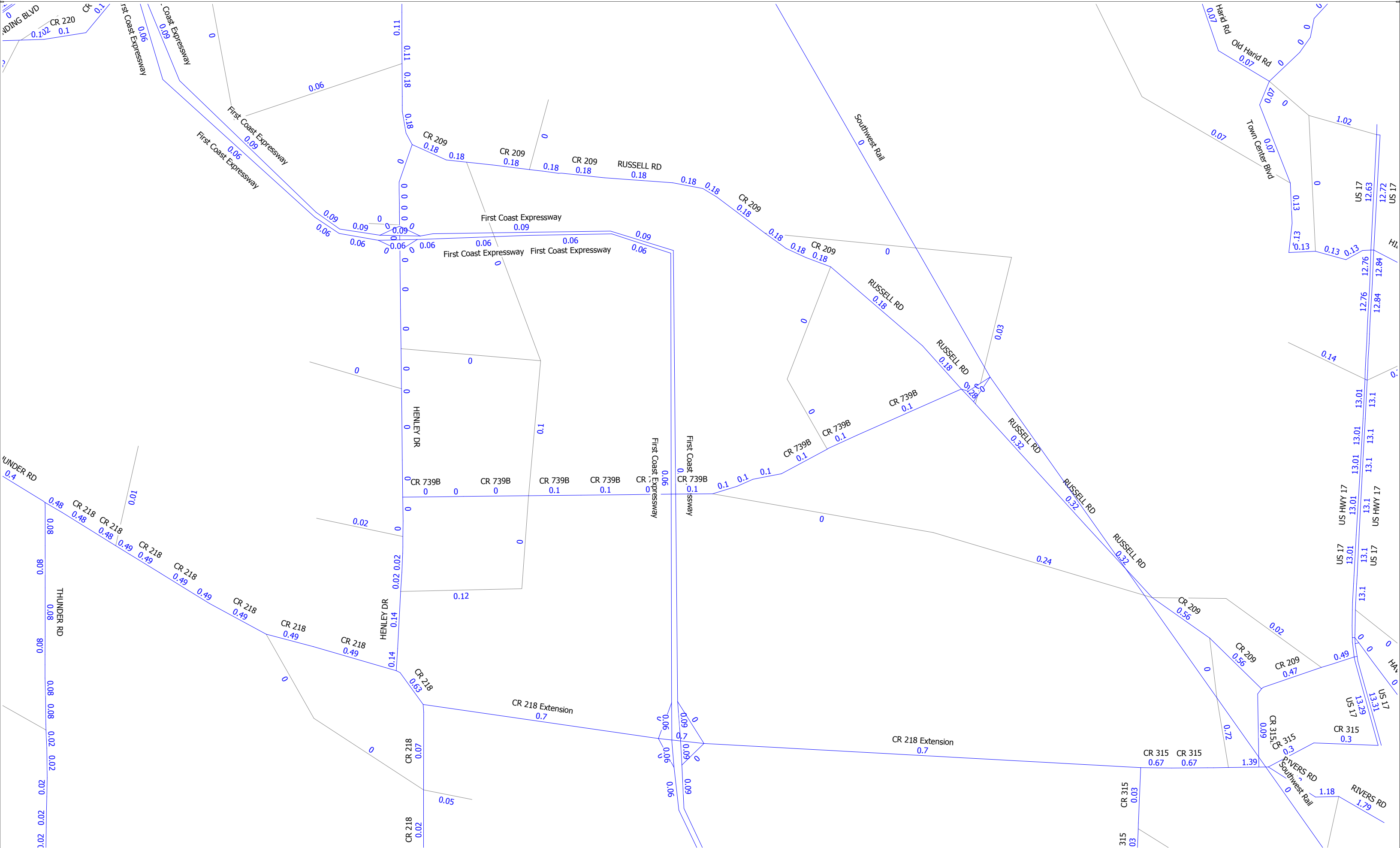








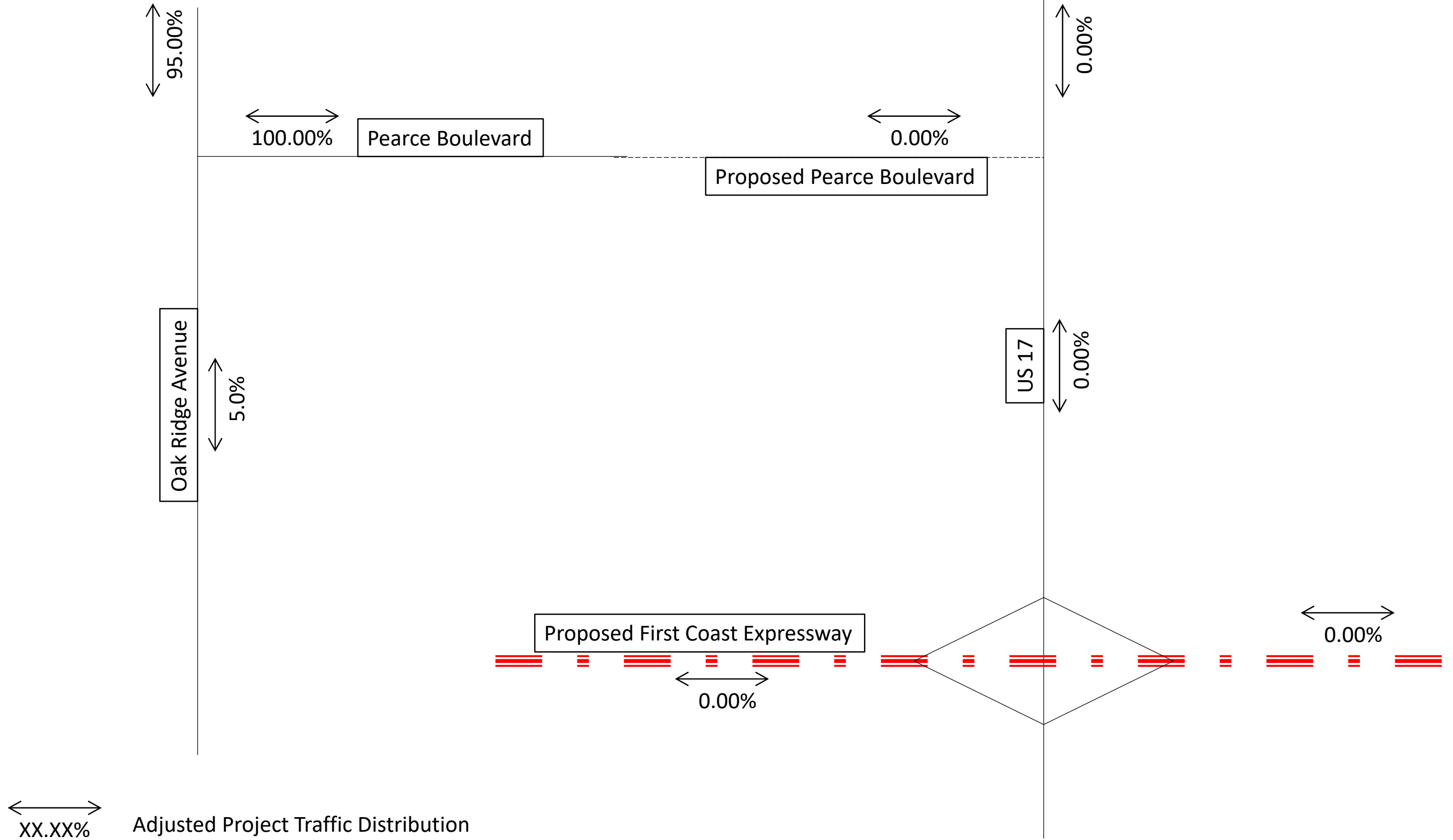




Attachment F

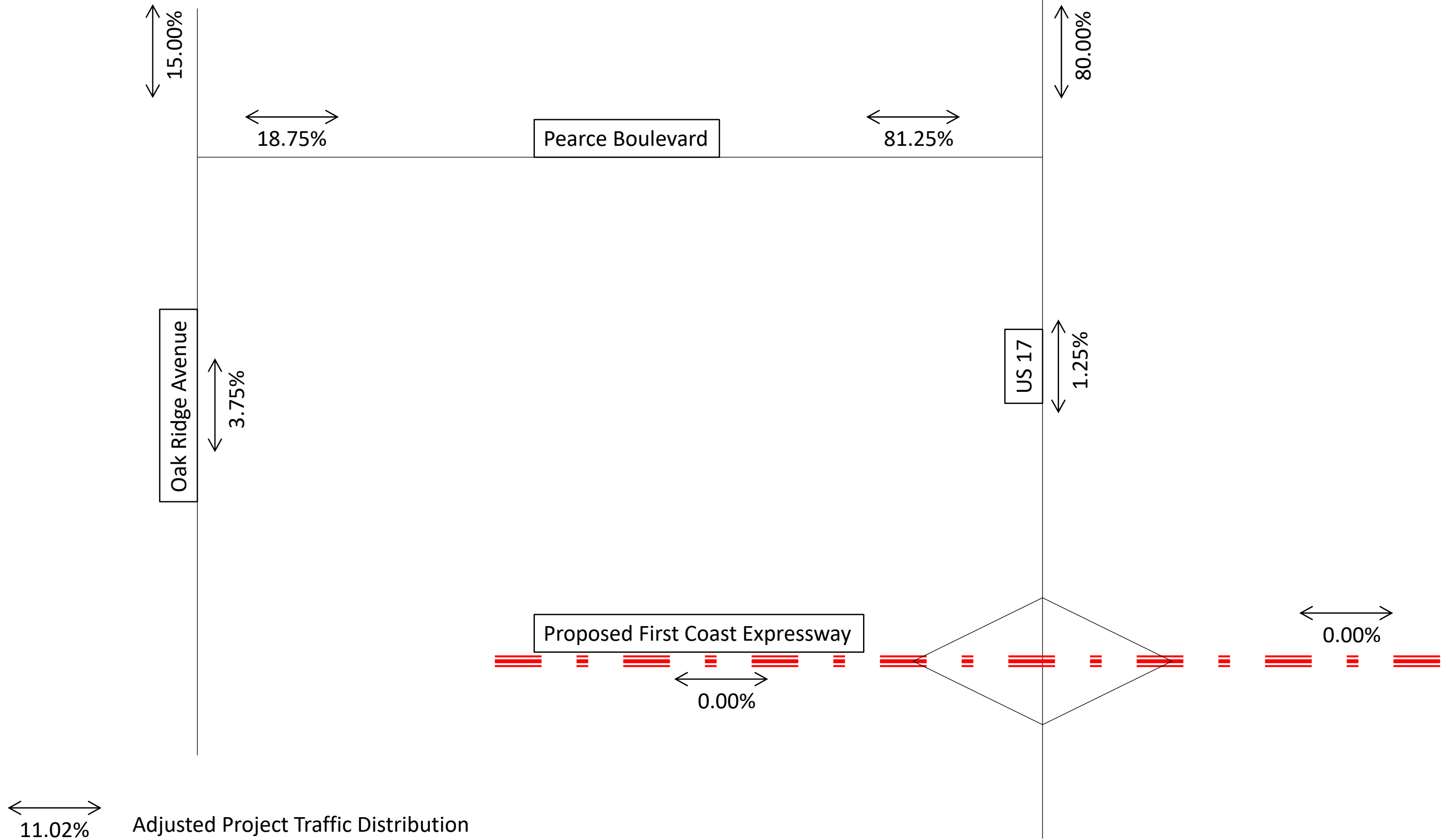
Phase 03 and Phase 04 Adjusted
Project Traffic Distribution

Attachment F – Adjusted Project Traffic Distribution (Phase 01)



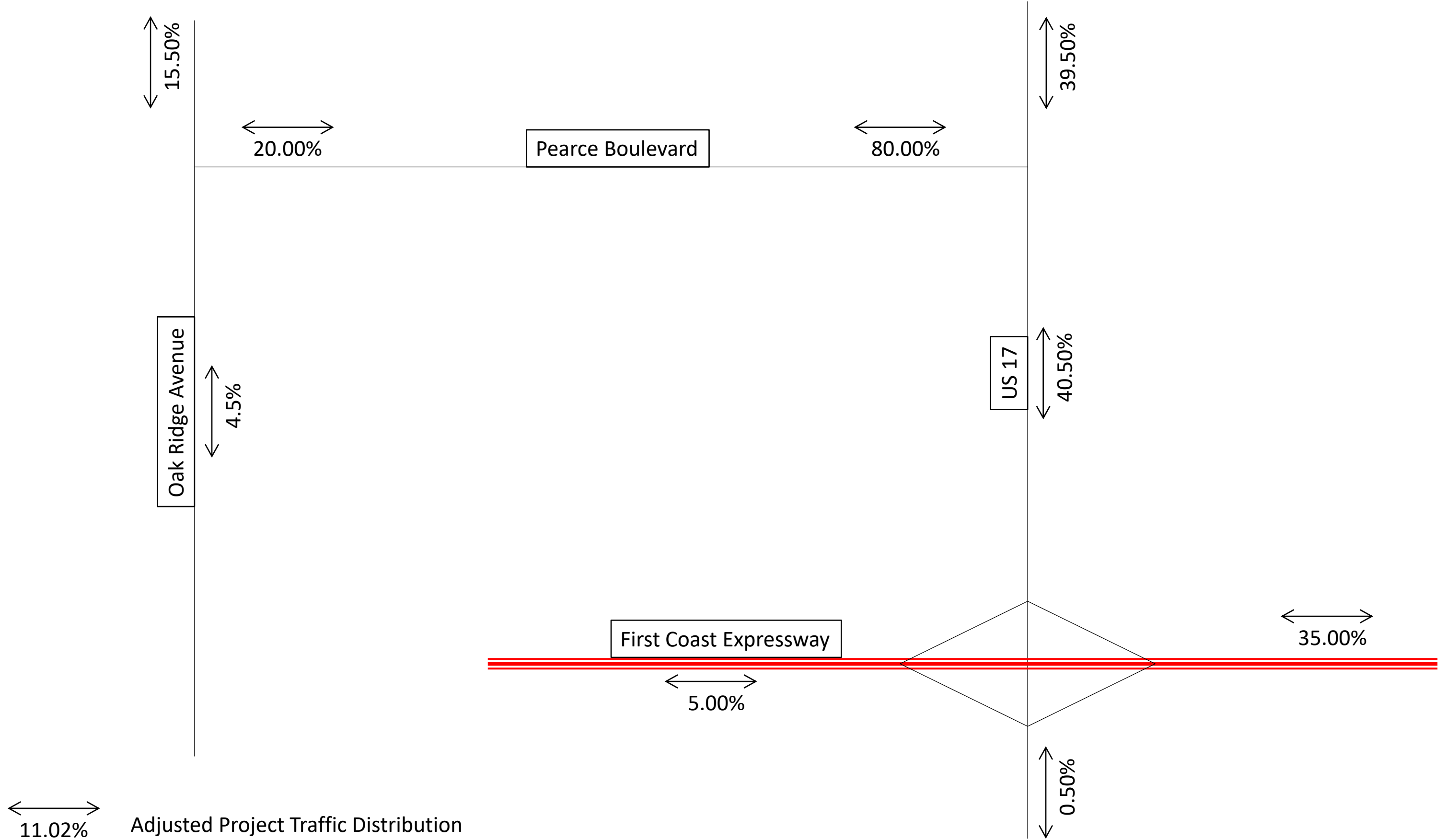
XX.XX% Adjusted Project Traffic Distribution

Attachment F – Adjusted Project Traffic Distribution (Phase 02)



Adjusted Distribution Based on FDOT's Year 2030 Traffic Projections on US 17 at First Coast Expressway Interchange

Attachment F— Adjusted Project Traffic Distribution (Phase 03 and Phase 04)



Adjusted Distribution Based on FDOT's Year 2030 Traffic Projections on US 17 at First Coast Expressway Interchange

Attachment G

Signal Timing and Phasing Data
(Source: FDOT)

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT TWO
US 17(SR 15)/SR 16 Signal Retiming - Green Cove Springs, Clay County
FIN 211083-2-32

Designed By:	A.C
Date:	11/11/2013
Checked By:	R. A. A
Date:	11/11/2013

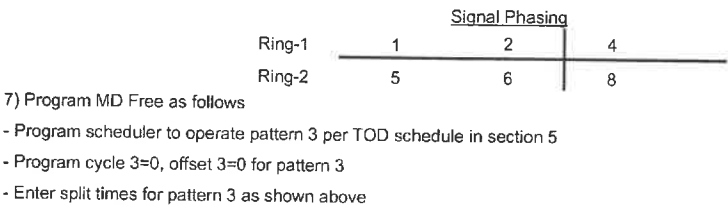
Section	71050	Mile Post	22.490	Node	10
Sig ID	80	Controller	Naztec TS 2 Type 2	System ID	
Maj. Street	SR 16 West/ Ferris St	Orientation	E-W	SOP	7
Min. Street	Oakridge Ave.	Orientation	N-S		

Pedestrians									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	EBL	WB		NB	WBL	EB		SB	
Speed Limit (mph)	35	35		30	35	35		25	
Vehicle Traversed Width	79	62		81	62	58		76	
Ped-X (curb to curb)	/	53		72	/	66		59	
Crossing Time	/	18		24	/	22		20	
Ped-X (ped det to far curb)		79		86		88		85	
Crossing Time	/	27	/	29	/	30	/	29	

Controller Timings (seconds)									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	EBL	WB		NB	WBL	EB		SB	
Turn Type	Prot./Perm.			Perm	Prot./Perm.			Perm	
Min Green	4	22		6	4	22		6	
Ext	3.0	4.5		3.0	3.0	4.5		3.0	
Yellow	4.0	4.0		3.7	4.0	4.0		3.7	
All Red	2.0	2.0		2.0	2.0	2.0		2.0	
Max I	18	50		35	18	50		20	
Max II	15	47		15	15	47		15	
Walk		7		7		7		7	
Flashing Don't Walk		18		24		22		20	Use 3.0 FT/S - Walk speed
Min Splits	10.0	31.0		37.0	10.0	35.0		33.0	
Detector Memory	OFF	ON		OFF	OFF	ON		OFF	
Det. Cross Switch.	ON				ON				
Recall		Min				Min			
CNA									
Coord Phase		YES							

Coordination Timings (seconds)												
Plan	Pattern	Status	Splits								Cycle Length	Offset A
AM	1	Coord.	16	47	-	37	16	47	-	37	100	16
MIDDAY	3	MD Free	20	60	-	47	20	60	-	47	0	0
PM	4	Coord.	16	40	-	34	16	40	-	34	90	20

- Notes:
- 1) Use Fixed Force Offs
 - 2) Use Max II during Coordination
 - 3) Operates FREE except the AM and PM Plans.
 - 4) Short/Long = 5% / 15% for all patterns.
 - 5) Omit phase 5 when phase 6 is on. Omit phase 1 when phase 2 is on.
 - 6) Offset referenced to end of main street green
 - 8) Rest in walk for phases 2&6.



Time of Day Plan

Designed By:	AC
Date:	11/8/2013
Checked By:	R. A. A
Date:	11/8/2013

Section:	71050
Corridor:	SR 16 W
From:	Oak Ridge Ave.
To:	West Street

ALL SEASON PLAN

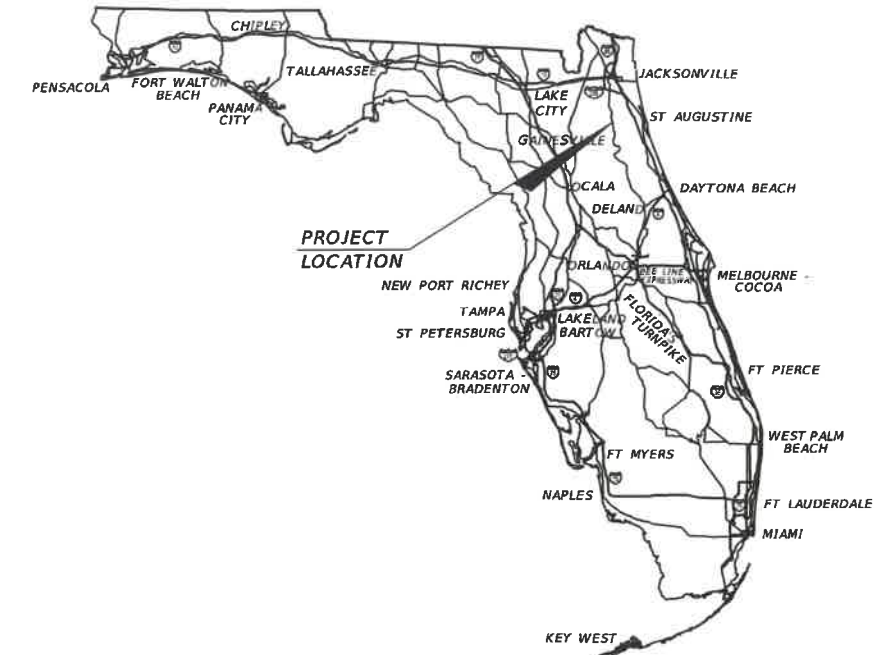
Day	Plan	Time		Pattern (C/S/O)	Cycle Length
Monday Thru Friday	FREE	0:00	5:45	-	FREE
	AM	5:45	9:00	1	100
	FREE	9:00	14:00	-	FREE
	MD FREE	14:00	16:00	3	FREE
	PM	16:00	18:30	4	90
	FREE	18:30	0:00	-	FREE
Saturday	FREE	0:00	0:00	-	FREE
Sunday	FREE	0:00	0:00	-	FREE

**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION**

Final As-Built Plans
~~CONTRACT PLANS~~

FINANCIAL PROJECT ID 436118-1-52-01
(FEDERAL FUNDS)
CLAY COUNTY (71010/71100)
STATE ROAD NO. SR 15

SIGNALIZATION PLANS



INDEX OF SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
T-2 ¹	SIGNATURE SHEET
T-2A - T-2B ³	SIGNATURE SHEET
⁵ T-2C	SIGNATURE SHEET
T-3	TABULATION OF QUANTITIES
T-4	SIGNALIZATION GENERAL NOTES
T-5 - T-8	SIGNALIZATION PLAN
T-9	SPAN MOUNTED EQUIPMENT DETAIL
T-10	STRAIN POLE SCHEDULE
T-11	GUIDE SIGN WORKSHEET
T-12 - T-13	REPORT OF SPT BORINGS STRAIN POLES

**SIGNALIZATION PLANS
ENGINEER OF RECORD:**

RALPH BYRD, P.E.
P.E. NO.: 50706
RS&H, INC.
3125 WEST COMMERCIAL BLVD., SUITE 130
FORT LAUDERDALE, FLORIDA 33309
CONTRACT NO.: C-9M68
VENDOR NO.: F59-2986466
CERTIFICATE OF AUTHORIZATION NO.: EB0005620

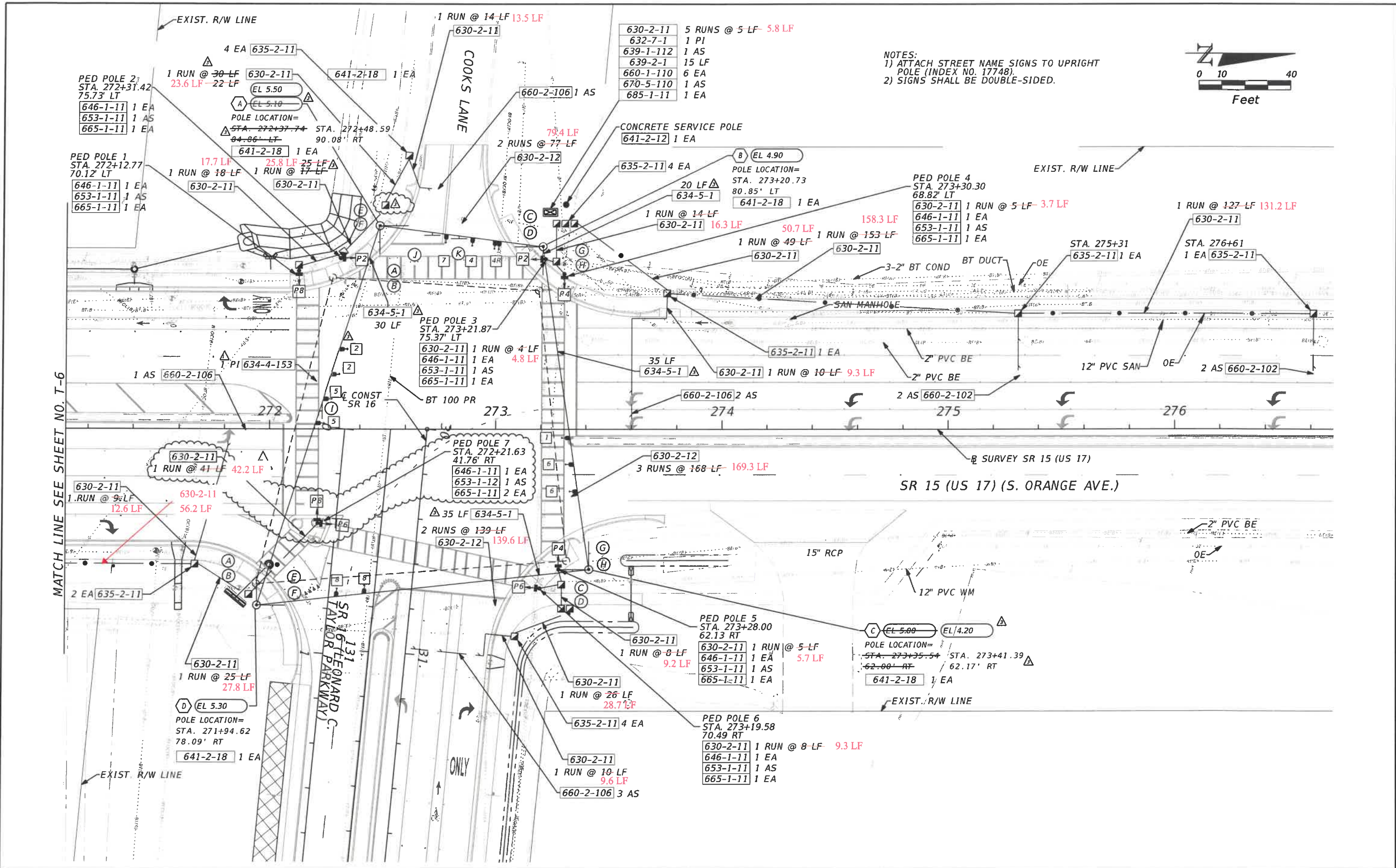
FDOT PROJECT MANAGER:

AMY WILLIAMS, P.E.

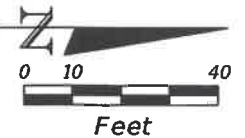
KEY SHEET REVISIONS	
DATE	DESCRIPTION
01-09-18	¹ Added Sheet Number T-2A to index
12-11-18	³ Added Sheet Number T-2B to index
02-21-19	⁵ Added Sheet Number T-2C to index

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T2686	18	T-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



NOTES:
 1) ATTACH STREET NAME SIGNS TO UPRIGHT POLE (INDEX NO. 17748).
 2) SIGNS SHALL BE DOUBLE-SIDED.

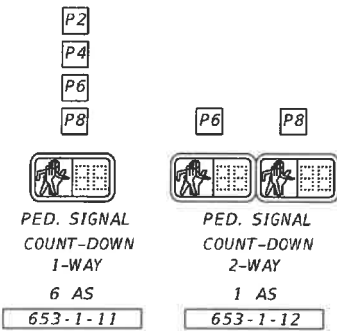


MATCH LINE SEE SHEET NO. T-6

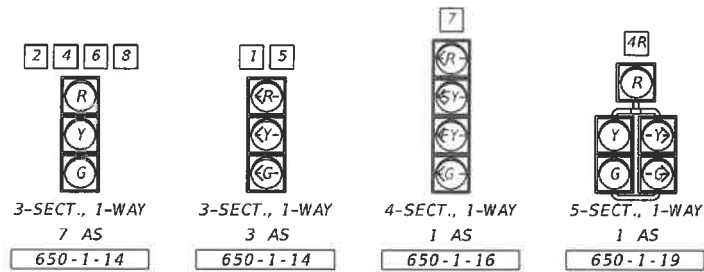
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		REVISIONS		RALPH A. BYRD, P.E. P.E. LICENSE NUMBER 50706 RS&H, INC. 3125 WEST COMMERCIAL BLVD, SUITE 130 FORT LAUDERDALE, FLORIDA 33309 CERTIFICATE OF AUTHORIZATION 5620	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. T-5
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
12-11-18	RELOCATED POLE A AND POLE C. RELOCATED SIGNAL HEADS, SPAN WIRES, AND SIGNS. REVISED POLE A AND POLE C ELEVATIONS. RELOCATED PULL BOX AND CONDUIT. REVISED CONDUIT LENGTHS. ADDED PAY ITEM LABEL AND QUANTITY.	02-21-19	REVISED LOCATION OF PEDESTRIAN POLE		SR 15	CLAY	436118-1-52-01	

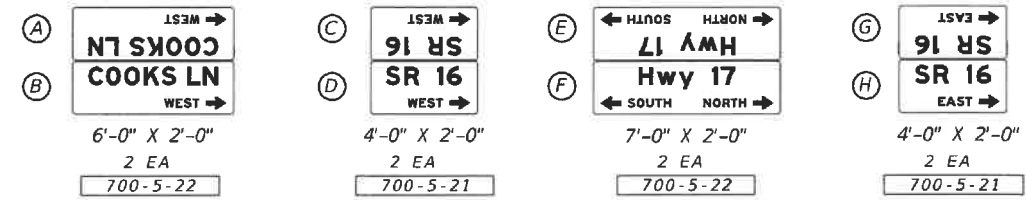
PEDESTRIAN HEAD DETAILS



SIGNAL HEAD DETAILS

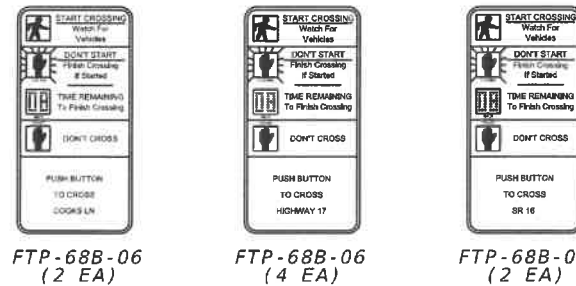


INTERNALLY ILLUMINATED SIGN DETAILS



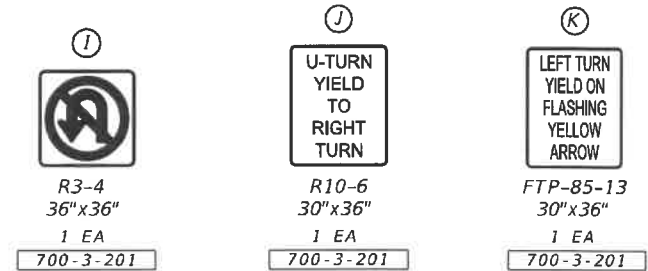
NOTES:
 1) ATTACH STREET NAME SIGNS TO UPRIGHT POLE (INDEX NO. 17748).
 2) SIGNS SHALL BE DOUBLE-SIDED

SIGN DETAILS

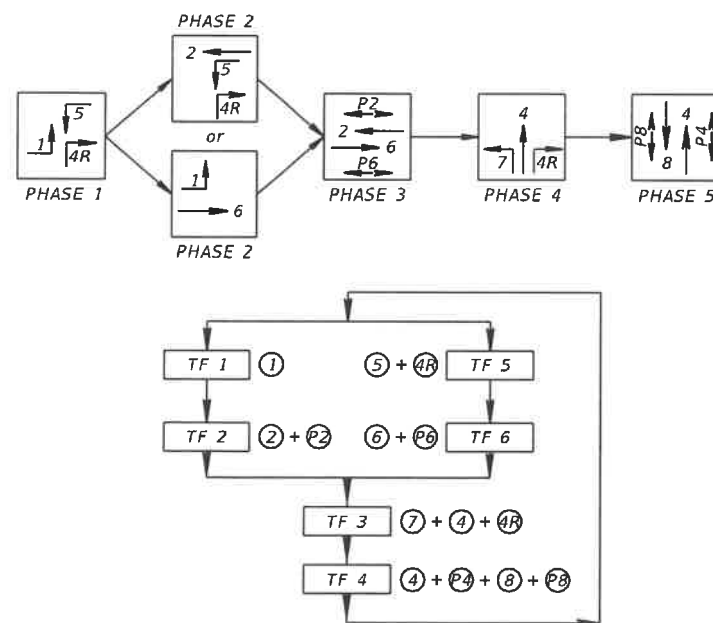


FTP-688-06 (2 EA)
 FTP-688-06 (4 EA)
 FTP-688-06 (2 EA)
 NOTE:
 1) COST OF SIGNS TO BE INCLUDED IN PAY ITEM NO. 665-1-11

SIGN DETAILS



S.O.P. 10 (MODIFIED)



DETECTORS FOR LOOPS

MOVEMENT	LOOP I.D.	LOOP SIZE	DET. I.D.	DET. CHANNEL	DELAY TIME (SEC)
1	L-1	30' X 6"	1	1	0
2	L-2A&B	6' X 6"	1	2	0
2	L-2C&D	6' X 6"	2	1	0
-	-	-	2	2	0
4	L-4	30' X 6"	3	1	0
4	L-4R	30' X 6"	3	2	5
5	L-5I&O	30' X 6"	4	1	0
6	L-6A&B	6' X 6"	4	2	0
6	L-6C&D	6' X 6"	5	1	0
7	L-7	30' X 6"	5	2	0
8	L-8	30' X 6"	6	1	5
-	-	-	6	2	0

DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.

CONTROLLER TIMINGS

TIMING FUNCTION	5	6	8	1	2	3	4
MINIMUM GREEN	4	18	0	6	4	18	4
EXTENSION	3	4	0	6	4	4	3
MAXIMUM GREEN 1	15	45	0	30	45	35	15
MAXIMUM GREEN 2	15	45	0	30	45	35	15
YELLOW CLEARANCE	4.8	4.8	0	4.8	4.8	4.8	4.8
ALL RED	2.3	2.0	0	3.0	2.2	2.0	2.3
PEDESTRIAN WALK	0	7	0	7	0	7	0
PED. CLEARANCE	0	21	0	29	0	25	0
RECALL		MIN			MIN		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RALPH A. BYRD, P.E.
 P.E. LICENSE NUMBER 50706
 RS&H, INC.
 3125 WEST COMMERCIAL BLVD, SUITE 130
 FORT LAUDERDALE, FLORIDA 33309
 CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 15	CLAY	436118-1-52-01

SIGNALIZATION PLAN

SHEET NO.
T-8

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT TWO
US 17(SR 15)/SR 16 Signal Retiming - Green Cove Springs, Clay County
FIN 211083-2-32

Designed By:	A.C
Date:	11/11/2013
Checked By:	R. A. A
Date:	11/11/2013

Section	71020	Mile Post	0.000	Node	2
Sig ID	46	Controller	Naztec TS 2 Type 2	System ID	
Maj. Street	SR 15/US 17	Orientation	N-S	SOP	9
Min. Street	Ferris St.	Orientation	E-W		

Pedestrians									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB		WB	SBL	NB		EB	
Speed Limit (mph)	30	30		25	30	30		30	
Vehicle Traversed Width	79	97		85	79	83		85	
Ped-X (curb to curb)	/	90		72	/	50		72	
Crossing Time	/	26		21	/	15		21	
Ped-X (ped det to far curb)		101		81		72		83	
Crossing Time	/	34	/	27	/	24	/	28	

Controller Timings (seconds)									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB		WB	SBL	NB		EB	
Turn Type	Prot./Perm.			Split	Prot./Perm.			Split	
Min Green	4	10		6	4	10		6	
Ext	3.0	3.0		3.0	3.0	3.0		3.0	
Yellow	3.7	3.7		3.4	3.7	3.7		3.7	
All Red	2.0	2.0		2.0	2.0	2.0		2.0	
Max I	15	45		15	15	45		20	
Max II	24	45		15	13	49		24	
Walk		7		7		7		7	
Flashing Don't Walk		26		21		15		21	
Min Splits	10.0	39.0		34.0	10.0	28.0		34.0	
Detector Memory	OFF	ON		OFF	OFF	ON		OFF	
Det. Cross Switch.	ON				ON				
Recall		Min				Min			
CNA									
Coord Phase		YES							

Coordination Timings (seconds)												
Plan	Pattern	Status	Splits								Cycle Length	Offset A
AM	1	Coord.	20	44	-	15	15	49	-	21	100	47
OFFPK	2	Coord.	19	42	-	18	16	45	-	21	100	2
PM	4	Coord.	14	42	-	32	15	41	-	32	120	117
NT	5	Coord.	14	39	-	13	14	39	-	14	80	0
SATPK	6	Coord.	15	42	-	16	15	42	-	27	100	83
MIDDAY	7	Coord.	14	42	-	32	15	41	-	32	120	117

Notes:

- 1) Use Fixed Force Offs
- 2) Use Max II during Coordination
- 3) Short/Long = 5% / 10% for all patterns except for pattern 5: 0% / 10%
- 4) Omit phase 1 when phase 2 is on. Omit phase 5 when phase 6 is on.
- 5) Offset referenced to end of main street green
- 6) Rest in walk for phases 2&6.

	Signal Phasing			
Ring-1	1	2	4	8
Ring-2	5	6		

Time of Day Plan

Designed By:	A.C
Date:	11/8/2013
Checked By:	R. A. A
Date:	11/8/2013

Section:	71020 & 71010
Corridor:	US 17
From:	Cooks Lane*
To:	Gum Street

TIME OF DAY

Day	Plan	Time		Pattern (C/S/O)	Cycle Length
Monday Thru Friday	FREE	0:00	5:45	-	FREE
	AM	5:45	9:00	1	100
	OFFPK	9:00	11:00	2	100
	MIDDAY	11:00	16:00	7	120/60**
	PM	16:00	18:30	4	120
	NIGHT	18:30	21:30	5	80
	FREE	21:30	0:00	-	FREE
Saturday	FREE	0:00	7:00	-	FREE
	NIGHT	7:00	9:00	5	80
	SATPK	9:00	17:00	6	100
	NIGHT	17:00	21:30	5	80
	FREE	21:30	0:00	-	FREE
Sunday	FREE	0:00	8:00	-	FREE
	NIGHT	8:00	20:00	5	80
	FREE	20:00	0:00	-	FREE

* US17/SR 15 @ Cooks lane, US 17/SR 15 @ Houston Street, and US 17/SR 16 @ Harbor Road operate in FREE mode at all times.

**US 17 @ Ferris street operates 120 sec cycle length while others operate 60 sec

Attachment H

HCM Worksheets

Attachment H1

Existing Conditions - HCM
Worksheets

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	17	10	130	40	45	110
Future Vol, veh/h	17	10	130	40	45	110
Conflicting Peds, #/hr	0	0	0	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	59	80	71	72	75	84
Heavy Vehicles, %	17	9	34	30	0	21
Mvmt Flow	29	13	183	56	60	131

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	462	211	0	0	239	0
Stage 1	211	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2	-
Pot Cap-1 Maneuver	531	812	-	-	1340	-
Stage 1	790	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	506	812	-	-	1340	-
Mov Cap-2 Maneuver	506	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	721	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	571	1340
HCM Lane V/C Ratio	-	-	0.072	0.045
HCM Control Delay (s)	-	-	11.8	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	2	0	3	0	517	4	33	392	0
Future Vol, veh/h	0	0	0	2	0	3	0	517	4	33	392	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	25	92	50	92	84	50	51	81	92
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	8	0	6	0	615	8	65	484	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	922	1237	242	991	1233	312	484	0	0	623	0	0
Stage 1	614	614	-	619	619	-	-	-	-	-	-	-
Stage 2	308	623	-	372	614	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	228	177	765	203	178	690	1089	-	-	968	-	-
Stage 1	451	486	-	448	483	-	-	-	-	-	-	-
Stage 2	683	481	-	626	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	214	165	765	193	166	690	1089	-	-	968	-	-
Mov Cap-2 Maneuver	214	165	-	193	166	-	-	-	-	-	-	-
Stage 1	451	453	-	448	483	-	-	-	-	-	-	-
Stage 2	677	481	-	584	453	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	0		18.6		0		1.1		
HCM LOS	A		C						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1089	-	-	-	279	968	-	-
HCM Lane V/C Ratio	-	-	-	-	0.05	0.067	-	-
HCM Control Delay (s)	0	-	-	0	18.6	9	-	-
HCM Lane LOS	A	-	-	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.2	-	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	29	68	64	359	255	32
Future Vol, veh/h	29	68	64	359	255	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	91	74	83	78	84
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	45	75	86	433	327	38

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	716	164	365	0	0
Stage 1	327	-	-	-	-
Stage 2	389	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	280	798	1059	-	-
Stage 1	583	-	-	-	-
Stage 2	536	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	257	798	1059	-	-
Mov Cap-2 Maneuver	362	-	-	-	-
Stage 1	536	-	-	-	-
Stage 2	536	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1059	-	550	-	-
HCM Lane V/C Ratio	0.082	-	0.217	-	-
HCM Control Delay (s)	8.7	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Existing Conditions Year 2021

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	468	97	27	271	31	86	30	32	11	23	26
Future Volume (veh/h)	61	468	97	27	271	31	86	30	32	11	23	26
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	85	557	128	37	430	41	126	62	35	28	47	45
Peak Hour Factor	0.72	0.84	0.76	0.73	0.63	0.75	0.68	0.48	0.92	0.40	0.49	0.58
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	448	579	133	246	736	639	297	141	71	135	219	185
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1425	327	1570	1811	1572	768	449	227	288	699	593
Grp Volume(v), veh/h	85	0	685	37	430	41	223	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1444	0	0	1580	0	0
Q Serve(g_s), s	2.5	0.0	38.1	1.2	18.5	1.6	6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	38.1	1.2	18.5	1.6	11.6	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.57		0.16	0.23		0.37
Lane Grp Cap(c), veh/h	448	0	712	246	736	639	508	0	0	539	0	0
V/C Ratio(X)	0.19	0.00	0.96	0.15	0.58	0.06	0.44	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	448	0	718	246	743	645	508	0	0	539	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.7	0.0	28.9	20.2	23.1	18.1	27.3	0.0	0.0	25.4	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	24.7	1.3	3.4	0.2	2.7	0.0	0.0	1.0	0.0	0.0
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	1.0	0.0	19.4	0.5	8.0	0.6	4.6	0.0	0.0	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	53.6	21.5	26.5	18.3	30.1	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	B	A	D	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		770			508			223				120
Approach Delay, s/veh		49.4			25.5			30.1				26.4
Approach LOS		D			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	46.6		37.0	16.0	46.6		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.2	40.1		7.3	4.5	20.5		13.6				
Green Ext Time (p_c), s	0.0	0.5		0.6	0.1	4.2		1.2				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Existing Conditions Year 2021

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖		↔		↖	↕		↖	↕	
Traffic Volume (veh/h)	185	11	247	15	15	9	185	583	11	4	650	115
Future Volume (veh/h)	185	11	247	15	15	9	185	583	11	4	650	115
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	279	0	281	19	21	11	213	702	12	12	793	147
Peak Hour Factor	0.69	0.75	0.88	0.80	0.71	0.81	0.87	0.83	0.88	0.34	0.82	0.78
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	64	71	37	407	1474	25	454	1119	207
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	669	740	388	1725	3405	58	1810	2921	542
Grp Volume(v), veh/h	279	0	281	51	0	0	213	349	365	12	471	469
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1797	0	0	1725	1692	1771	1810	1735	1728
Q Serve(g_s), s	7.3	0.0	15.3	2.6	0.0	0.0	6.5	14.7	14.7	0.3	23.0	23.0
Cycle Q Clear(g_c), s	7.3	0.0	15.3	2.6	0.0	0.0	6.5	14.7	14.7	0.3	23.0	23.0
Prop In Lane	1.00		1.00	0.37		0.22	1.00		0.03	1.00		0.31
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	407	733	767	454	664	662
V/C Ratio(X)	0.52	0.00	0.66	0.30	0.00	0.00	0.52	0.48	0.48	0.03	0.71	0.71
Avail Cap(c_a), veh/h	536	0	428	172	0	0	407	733	767	454	664	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	30.8	42.1	0.0	0.0	16.8	20.2	20.3	14.3	26.1	26.1
Incr Delay (d2), s/veh	3.6	0.0	7.6	4.3	0.0	0.0	4.7	2.2	2.1	0.1	6.3	6.3
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	3.4	0.0	6.8	1.4	0.0	0.0	2.9	6.1	6.4	0.2	10.4	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	0.0	38.4	46.4	0.0	0.0	21.5	22.5	22.4	14.4	32.4	32.4
LnGrp LOS	D	A	D	D	A	A	C	C	C	B	C	C
Approach Vol, veh/h		560			51			927			952	
Approach Delay, s/veh		40.5			46.4			22.2			32.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.3	16.7		17.3	8.5	25.0		4.6				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.3	5.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Existing Conditions Year 2021

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



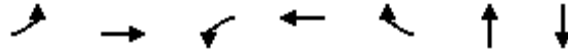
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↗	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	18	77	0	156	19	397	1	336	158	594	284	13
Future Volume (veh/h)	18	77	0	156	19	397	1	336	158	594	284	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	19	80	0	200	38	427	2	395	200	667	299	15
Peak Hour Factor	0.96	0.96	0.75	0.78	0.50	0.93	0.50	0.85	0.79	0.89	0.95	0.86
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	70	264	0	339	565	922	116	751	371	1031	1527	76
Arrive On Green	0.18	0.18	0.00	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	199	1485	0	1485	1900	1535	1810	3328	1309	3401	3280	164
Grp Volume(v), veh/h	99	0	0	200	38	427	2	395	200	667	154	160
Grp Sat Flow(s),veh/h/ln	1683	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	0.0	0.0	0.0	7.2	1.8	19.2	0.1	13.0	16.2	21.2	6.7	6.7
Cycle Q Clear(g_c), s	5.7	0.0	0.0	7.2	1.8	19.2	0.1	13.0	16.2	21.2	6.7	6.7
Prop In Lane	0.19		0.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	333	0	0	339	565	922	116	751	371	1031	788	816
V/C Ratio(X)	0.30	0.00	0.00	0.59	0.07	0.46	0.02	0.53	0.54	0.65	0.20	0.20
Avail Cap(c_a), veh/h	333	0	0	339	565	922	116	751	371	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	44.6	0.0	0.0	41.8	31.5	13.8	54.8	42.5	37.9	37.7	19.6	19.6
Incr Delay (d2), s/veh	2.3	0.0	0.0	7.4	0.2	1.7	0.3	2.6	5.5	2.2	0.4	0.4
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	2.9	0.0	0.0	3.2	0.8	6.5	0.1	5.5	5.6	8.9	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	0.0	0.0	49.2	31.7	15.5	55.1	45.2	43.4	40.0	20.0	20.0
LnGrp LOS	D	A	A	D	C	B	E	D	D	D	C	C
Approach Vol, veh/h		99			665			597			981	
Approach Delay, s/veh		46.9			26.5			44.6			33.6	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	23.2	18.2	9.2	7.7	2.1	8.7		21.2				
Green Ext Time (p_c), s	2.2	2.2	0.0	0.4	0.0	1.7		1.5				

Intersection Summary

HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	85	685	37	430	41	224	120
v/c Ratio	0.19	0.97	0.17	0.59	0.06	0.63	0.24
Control Delay	11.1	56.8	5.8	19.1	1.7	37.0	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	56.8	5.8	19.1	1.7	37.0	20.3
Queue Length 50th (ft)	23	412	4	198	0	116	41
Queue Length 95th (ft)	35	#581	m7	175	m3	87	37
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	440	707	224	734	698	358	493
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.97	0.17	0.59	0.06	0.63	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

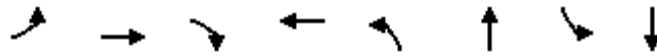
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Conditions Year 2021

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	141	281	51	213	715	12	940
v/c Ratio	0.56	0.55	0.48	0.33	0.60	0.49	0.03	0.72
Control Delay	63.1	62.8	8.8	41.2	19.7	21.9	9.5	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.1	62.8	8.8	41.2	19.7	21.9	9.5	29.3
Queue Length 50th (ft)	103	103	32	24	60	168	3	257
Queue Length 95th (ft)	m109	m110	m34	46	115	198	4	288
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	581	154	356	1446	412	1307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.55	0.48	0.33	0.60	0.49	0.03	0.72

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Existing Conditions Year 2021

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	99	200	38	427	2	395	200	667	314
v/c Ratio	0.32	0.53	0.06	0.38	0.02	0.72	0.35	0.65	0.23
Control Delay	48.1	37.4	28.2	6.1	55.0	57.2	5.7	41.5	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	37.4	28.2	6.1	55.0	57.2	5.7	41.5	24.0
Queue Length 50th (ft)	71	119	20	81	2	162	0	241	85
Queue Length 95th (ft)	125	168	26	152	5	194	32	303	111
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	310	376	677	1130	115	740	572	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.53	0.06	0.38	0.02	0.53	0.35	0.65	0.20

Intersection Summary

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	63	185	25	10	136
Future Vol, veh/h	21	63	185	25	10	136
Conflicting Peds, #/hr	0	0	0	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	75	74	87	73	61	91
Heavy Vehicles, %	22	2	4	0	0	26
Mvmt Flow	28	85	213	34	16	149

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	411	230	0	0	247
Stage 1	230	-	-	-	-
Stage 2	181	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	560	809	-	-	1331
Stage 1	763	-	-	-	-
Stage 2	804	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	553	809	-	-	1331
Mov Cap-2 Maneuver	553	-	-	-	-
Stage 1	763	-	-	-	-
Stage 2	794	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	726	1331
HCM Lane V/C Ratio	-	-	0.156	0.012
HCM Control Delay (s)	-	-	10.9	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	45	0	582	1	8	594	0
Future Vol, veh/h	0	0	0	3	0	45	0	582	1	8	594	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	75	25	50	92	95	25	50	93	25
Heavy Vehicles, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	4	0	90	0	613	4	16	639	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	978	1288	320	967	1286	309	639	0	0	617	0	0
Stage 1	671	671	-	615	615	-	-	-	-	-	-	-
Stage 2	307	617	-	352	671	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	208	165	682	212	166	675	955	-	-	846	-	-
Stage 1	417	458	-	450	485	-	-	-	-	-	-	-
Stage 2	683	484	-	643	458	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	178	162	682	209	163	675	955	-	-	846	-	-
Mov Cap-2 Maneuver	178	162	-	209	163	-	-	-	-	-	-	-
Stage 1	417	449	-	450	485	-	-	-	-	-	-	-
Stage 2	592	484	-	631	449	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		11.9		0		0.2	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	955	-	-	-	-	617	846	-
HCM Lane V/C Ratio	-	-	-	-	0.152	0.019	-	-
HCM Control Delay (s)	0	-	-	0	11.9	9.3	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1	-	-

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	9	100	82	385	482	9
Future Vol, veh/h	9	100	82	385	482	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	96	81	89	93	75
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	16	104	101	433	518	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	937	259	530	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	233	713	1006	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	713	1006	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	615	-	-
HCM Lane V/C Ratio	0.101	-	0.196	-	-
HCM Control Delay (s)	9	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Existing Conditions Year 2021

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	313	82	44	494	26	140	18	52	13	27	46
Future Volume (veh/h)	17	313	82	44	494	26	140	18	52	13	27	46
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	25	329	92	71	588	35	173	23	68	15	47	67
Peak Hour Factor	0.68	0.95	0.89	0.62	0.84	0.75	0.81	0.78	0.77	0.88	0.58	0.69
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	319	479	134	382	648	562	355	54	119	77	210	262
Arrive On Green	0.11	0.35	0.35	0.11	0.35	0.35	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1373	384	1598	1856	1610	919	172	379	102	669	833
Grp Volume(v), veh/h	25	0	421	71	588	35	264	0	0	129	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1757	1598	1856	1610	1470	0	0	1604	0	0
Q Serve(g_s), s	0.7	0.0	18.5	2.3	27.2	1.3	7.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	18.5	2.3	27.2	1.3	12.7	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.66		0.26	0.12		0.52
Lane Grp Cap(c), veh/h	319	0	613	382	648	562	528	0	0	549	0	0
V/C Ratio(X)	0.08	0.00	0.69	0.19	0.91	0.06	0.50	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	319	0	664	382	701	608	528	0	0	549	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	0.0	25.1	15.8	27.9	19.5	25.2	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	3.4	1.1	18.8	0.2	3.4	0.0	0.0	1.0	0.0	0.0
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	0.3	0.0	7.6	0.8	14.3	0.5	5.0	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	28.5	16.9	46.7	19.7	28.6	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	B	A	C	B	D	B	C	A	A	C	A	A
Approach Vol, veh/h		446			694			264			129	
Approach Delay, s/veh		27.9			42.3			28.6			24.0	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	37.4		34.0	16.0	37.4		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.3	20.5		7.3	2.7	29.2		14.7				
Green Ext Time (p_c), s	0.1	3.2		0.7	0.0	2.2		1.3				

Intersection Summary

HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Existing Conditions Year 2021

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	40	212	15	47	17	311	947	17	11	673	164
Future Volume (veh/h)	173	40	212	15	47	17	311	947	17	11	673	164
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	121	147	221	19	58	27	384	1064	22	22	716	178
Peak Hour Factor	0.93	0.72	0.96	0.78	0.81	0.64	0.81	0.89	0.79	0.50	0.94	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	390	416	450	73	222	104	217	1022	21	200	840	209
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	1900	1560	329	1004	467	1739	3476	72	1810	2775	690
Grp Volume(v), veh/h	121	147	221	104	0	0	384	531	555	22	451	443
Grp Sat Flow(s),veh/h/ln	1781	1900	1560	1799	0	0	1739	1735	1813	1810	1749	1717
Q Serve(g_s), s	6.8	7.9	14.1	5.7	0.0	0.0	8.3	35.3	35.3	0.9	29.1	29.1
Cycle Q Clear(g_c), s	6.8	7.9	14.1	5.7	0.0	0.0	8.3	35.3	35.3	0.9	29.1	29.1
Prop In Lane	1.00		1.00	0.18		0.26	1.00		0.04	1.00		0.40
Lane Grp Cap(c), veh/h	390	416	450	399	0	0	217	510	533	200	529	519
V/C Ratio(X)	0.31	0.35	0.49	0.26	0.00	0.00	1.77	1.04	1.04	0.11	0.85	0.85
Avail Cap(c_a), veh/h	390	416	450	399	0	0	217	510	533	200	529	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	39.6	35.4	38.6	0.0	0.0	37.5	42.3	42.4	29.2	39.3	39.3
Incr Delay (d2), s/veh	2.1	2.3	3.8	1.6	0.0	0.0	365.6	50.8	50.0	1.1	15.9	16.2
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	3.2	4.0	5.9	2.7	0.0	0.0	24.6	22.1	23.0	0.5	14.7	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	42.0	39.2	40.2	0.0	0.0	403.1	93.1	92.3	30.3	55.2	55.5
LnGrp LOS	D	D	D	D	A	A	F	F	F	C	E	E
Approach Vol, veh/h		489			104			1470			916	
Approach Delay, s/veh		40.6			40.2			173.8			54.8	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	41.0		32.0	14.0	42.0		32.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 35		* 26	* 8.3	* 36		26.6				
Max Q Clear Time (g_c+I1), s	2.9	37.3		16.1	10.3	31.1		7.7				
Green Ext Time (p_c), s	0.0	0.0		1.5	0.0	2.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay	110.7
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Existing Conditions Year 2021

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↖	↖	↗	↖	↗	↗	↗
Traffic Volume (veh/h)	25	30	1	219	87	762	4	428	197	455	393	20
Future Volume (veh/h)	25	30	1	219	87	762	4	428	197	455	393	20
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	28	41	4	252	116	837	8	504	232	484	418	21
Peak Hour Factor	0.88	0.73	0.25	0.87	0.75	0.91	0.50	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	99	132	11	354	565	922	116	751	371	1031	1527	77
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	335	746	63	1485	1900	1535	1810	3328	1309	3401	3280	164
Grp Volume(v), veh/h	73	0	0	252	116	837	8	504	232	484	215	224
Grp Sat Flow(s),veh/h/ln	1144	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	1.9	0.0	0.0	7.2	5.7	37.2	0.5	17.3	19.3	14.5	9.7	9.8
Cycle Q Clear(g_c), s	5.1	0.0	0.0	7.2	5.7	37.2	0.5	17.3	19.3	14.5	9.7	9.8
Prop In Lane	0.38		0.05	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	243	0	0	354	565	922	116	751	371	1031	788	816
V/C Ratio(X)	0.30	0.00	0.00	0.71	0.21	0.91	0.07	0.67	0.63	0.47	0.27	0.27
Avail Cap(c_a), veh/h	243	0	0	354	565	922	116	751	371	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	44.1	0.0	0.0	43.8	32.8	21.9	55.0	44.2	39.0	35.4	20.4	20.5
Incr Delay (d2), s/veh	3.2	0.0	0.0	11.6	0.8	14.3	1.2	4.7	7.8	0.8	0.5	0.5
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	2.2	0.0	0.0	5.3	2.7	22.6	0.3	7.4	6.8	5.9	3.8	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	0.0	0.0	55.4	33.7	36.2	56.1	48.9	46.8	36.2	20.9	20.9
LnGrp LOS	D	A	A	E	C	D	E	D	D	D	C	C
Approach Vol, veh/h		73			1205			744			923	
Approach Delay, s/veh		47.2			40.0			48.3			28.9	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	16.5	21.3	9.2	7.1	2.5	11.8		39.2				
Green Ext Time (p_c), s	1.6	2.2	0.0	0.4	0.0	2.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Notes

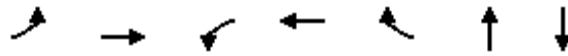
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

Existing Conditions Year 2021

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	25	421	71	588	35	264	129
v/c Ratio	0.08	0.68	0.19	0.89	0.05	0.59	0.22
Control Delay	9.9	29.2	11.0	44.4	0.2	30.2	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	29.2	11.0	44.4	0.2	30.2	13.4
Queue Length 50th (ft)	6	185	18	300	0	118	27
Queue Length 95th (ft)	13	287	25	#406	0	165	33
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	296	656	369	697	675	446	584
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.64	0.19	0.84	0.05	0.59	0.22

Intersection Summary

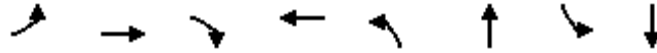
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Existing Conditions Year 2021

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	123	221	104	384	1086	22	894
v/c Ratio	0.32	0.32	0.37	0.27	2.16	1.08	0.11	0.87
Control Delay	42.3	42.2	3.9	35.5	559.3	91.4	21.9	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	42.2	3.9	35.5	559.3	91.4	21.9	48.5
Queue Length 50th (ft)	82	85	0	58	~430	~493	10	335
Queue Length 95th (ft)	141	113	31	96	#545	#617	14	#430
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	368	380	605	390	178	1010	203	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.32	0.37	0.27	2.16	1.08	0.11	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Existing Conditions Year 2021

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	73	252	116	837	8	504	232	484	439
v/c Ratio	0.27	0.68	0.19	0.78	0.07	0.80	0.39	0.47	0.31
Control Delay	46.1	47.1	32.0	18.9	56.5	57.9	5.7	37.3	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	47.1	32.0	18.9	56.5	57.9	5.7	37.3	23.1
Queue Length 50th (ft)	50	165	67	383	6	205	0	163	118
Queue Length 95th (ft)	77	#273	98	650	13	242	45	216	148
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	275	369	627	1077	115	740	593	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.68	0.19	0.78	0.07	0.68	0.39	0.47	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Attachment H2

Year 2025 Background Conditions
- HCM Worksheets

HCM 6th TWSC
4: Oak Ridge Avenue & Green Cove Ave

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	12	151	46	52	128
Future Vol, veh/h	20	12	151	46	52	128
Conflicting Peds, #/hr	0	0	0	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	59	80	71	72	75	84
Heavy Vehicles, %	17	9	34	30	0	21
Mvmt Flow	34	15	213	64	69	152

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	535	245	0	0	277
Stage 1	245	-	-	-	-
Stage 2	290	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1
Critical Hdwy Stg 1	5.57	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2
Pot Cap-1 Maneuver	481	777	-	-	1298
Stage 1	762	-	-	-	-
Stage 2	726	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	453	777	-	-	1298
Mov Cap-2 Maneuver	453	-	-	-	-
Stage 1	762	-	-	-	-
Stage 2	684	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	1298
HCM Lane V/C Ratio	-	-	0.094	0.053
HCM Control Delay (s)	-	-	12.7	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	2	0	3	0	600	5	38	455	0
Future Vol, veh/h	0	0	0	2	0	3	0	600	5	38	455	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	25	92	50	92	84	50	51	81	92
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	8	0	6	0	714	10	75	562	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1069	1436	281	1150	1431	362	562	0	0	724	0	0
Stage 1	712	712	-	719	719	-	-	-	-	-	-	-
Stage 2	357	724	-	431	712	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	178	135	722	156	136	641	1019	-	-	888	-	-
Stage 1	394	439	-	390	436	-	-	-	-	-	-	-
Stage 2	639	433	-	578	439	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	165	124	722	146	125	641	1019	-	-	888	-	-
Mov Cap-2 Maneuver	165	124	-	146	125	-	-	-	-	-	-	-
Stage 1	394	402	-	390	436	-	-	-	-	-	-	-
Stage 2	633	433	-	529	402	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	22.6	0	1.1
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1019	-	-	-	218	888	-
HCM Lane V/C Ratio	-	-	-	-	0.064	0.084	-
HCM Control Delay (s)	0	-	-	0	22.6	9.4	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.3	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	34	79	74	416	296	37
Future Vol, veh/h	34	79	74	416	296	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	91	74	83	78	84
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	52	87	100	501	379	44

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	830	190	423	0	0
Stage 1	379	-	-	-	-
Stage 2	451	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	231	766	1003	-	-
Stage 1	543	-	-	-	-
Stage 2	493	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	208	766	1003	-	-
Mov Cap-2 Maneuver	319	-	-	-	-
Stage 1	489	-	-	-	-
Stage 2	493	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1003	-	502	-	-
HCM Lane V/C Ratio	0.1	-	0.277	-	-
HCM Control Delay (s)	9	-	14.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2025 Background Conditions

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	543	113	31	341	36	100	35	37	13	27	30
Future Volume (veh/h)	71	543	113	31	341	36	100	35	37	13	27	30
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	99	646	149	42	541	48	147	73	40	32	55	52
Peak Hour Factor	0.72	0.84	0.76	0.73	0.63	0.75	0.68	0.48	0.92	0.40	0.49	0.58
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	376	584	135	229	743	645	292	140	68	132	220	184
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1424	328	1570	1811	1572	754	446	218	281	702	587
Grp Volume(v), veh/h	99	0	795	42	541	48	260	0	0	139	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1418	0	0	1570	0	0
Q Serve(g_s), s	2.9	0.0	41.0	1.3	25.1	1.9	8.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	41.0	1.3	25.1	1.9	14.8	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.57		0.15	0.23		0.37
Lane Grp Cap(c), veh/h	376	0	718	229	743	645	500	0	0	536	0	0
V/C Ratio(X)	0.26	0.00	1.11	0.18	0.73	0.07	0.52	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	376	0	718	229	743	645	500	0	0	536	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.3	0.0	29.5	20.7	24.8	18.0	28.5	0.0	0.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	66.7	1.8	6.2	0.2	3.8	0.0	0.0	1.2	0.0	0.0
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	1.2	0.0	28.9	0.5	11.2	0.7	5.6	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	96.2	22.5	31.0	18.2	32.3	0.0	0.0	26.9	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		894			631			260			139	
Approach Delay, s/veh		87.6			29.5			32.3			26.9	
Approach LOS		F			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.3	43.0		8.2	4.9	27.1		16.8				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.1	4.5		1.3				

Intersection Summary

HCM 6th Ctrl Delay	56.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2025 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	13	287	17	17	10	215	676	13	5	754	133
Future Volume (veh/h)	215	13	287	17	17	10	215	676	13	5	754	133
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	324	0	326	21	24	12	247	814	15	15	920	171
Peak Hour Factor	0.69	0.75	0.88	0.80	0.71	0.81	0.87	0.83	0.88	0.34	0.82	0.78
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	64	73	36	368	1472	27	411	1118	208
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	663	757	379	1725	3400	63	1810	2920	543
Grp Volume(v), veh/h	324	0	326	57	0	0	247	405	424	15	546	545
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1799	0	0	1725	1692	1770	1810	1735	1728
Q Serve(g_s), s	8.6	0.0	15.3	3.0	0.0	0.0	7.7	17.8	17.8	0.4	28.4	28.4
Cycle Q Clear(g_c), s	8.6	0.0	15.3	3.0	0.0	0.0	7.7	17.8	17.8	0.4	28.4	28.4
Prop In Lane	1.00		1.00	0.37		0.21	1.00		0.04	1.00		0.31
Lane Grp Cap(c), veh/h	536	0	428	173	0	0	368	733	766	411	664	662
V/C Ratio(X)	0.60	0.00	0.76	0.33	0.00	0.00	0.67	0.55	0.55	0.04	0.82	0.82
Avail Cap(c_a), veh/h	536	0	428	173	0	0	368	733	766	411	664	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	32.0	42.2	0.0	0.0	19.2	21.1	21.1	14.7	27.8	27.8
Incr Delay (d2), s/veh	5.0	0.0	12.0	5.1	0.0	0.0	9.4	3.0	2.9	0.2	11.0	11.1
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	4.1	0.0	8.5	1.6	0.0	0.0	3.8	7.5	7.8	0.2	13.4	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.0	44.0	47.3	0.0	0.0	28.6	24.1	24.0	14.9	38.8	38.9
LnGrp LOS	D	A	D	D	A	A	C	C	C	B	D	D
Approach Vol, veh/h		650			57			1076			1106	
Approach Delay, s/veh		44.3			47.3			25.1			38.5	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.4	19.8		17.3	9.7	30.4		5.0				
Green Ext Time (p_c), s	0.0	5.6		0.0	0.3	4.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2025 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



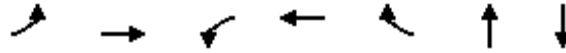
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	21	89	0	173	22	461	1	390	183	689	329	15
Future Volume (veh/h)	21	89	0	173	22	461	1	390	183	689	329	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	22	93	0	222	44	496	2	459	232	774	346	17
Peak Hour Factor	0.96	0.96	0.75	0.78	0.50	0.93	0.50	0.85	0.79	0.89	0.95	0.86
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	69	261	0	330	565	922	116	751	371	1031	1529	75
Arrive On Green	0.18	0.18	0.00	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	193	1467	0	1485	1900	1535	1810	3328	1309	3401	3284	161
Grp Volume(v), veh/h	115	0	0	222	44	496	2	459	232	774	178	185
Grp Sat Flow(s),veh/h/ln	1661	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	0.0	0.0	0.0	7.2	2.1	23.8	0.1	15.5	19.3	25.7	7.8	7.9
Cycle Q Clear(g_c), s	6.7	0.0	0.0	7.2	2.1	23.8	0.1	15.5	19.3	25.7	7.8	7.9
Prop In Lane	0.19		0.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	329	0	0	330	565	922	116	751	371	1031	788	816
V/C Ratio(X)	0.35	0.00	0.00	0.67	0.08	0.54	0.02	0.61	0.63	0.75	0.23	0.23
Avail Cap(c_a), veh/h	329	0	0	330	565	922	116	751	371	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.54	0.54	0.54
Uniform Delay (d), s/veh	45.0	0.0	0.0	43.3	31.6	14.7	54.8	43.5	39.0	39.3	19.9	20.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	10.5	0.3	2.2	0.3	3.7	7.8	2.8	0.4	0.3
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	3.4	0.0	0.0	4.3	1.0	8.1	0.1	6.6	6.8	10.7	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	0.0	0.0	53.8	31.8	17.0	55.1	47.2	46.8	42.1	20.3	20.3
LnGrp LOS	D	A	A	D	C	B	E	D	D	D	C	C
Approach Vol, veh/h		115			762			693			1137	
Approach Delay, s/veh		47.9			28.5			47.1			35.1	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	27.7	21.3	9.2	8.7	2.1	9.9		25.8				
Green Ext Time (p_c), s	2.2	2.1	0.0	0.5	0.0	2.0		1.6				

Intersection Summary

HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	99	795	42	541	48	260	140
v/c Ratio	0.28	1.12	0.19	0.74	0.07	0.75	0.29
Control Delay	12.2	102.7	6.3	25.2	2.4	44.7	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	102.7	6.3	25.2	2.4	44.7	21.9
Queue Length 50th (ft)	27	~585	6	298	1	143	51
Queue Length 95th (ft)	40	#730	m8	244	m4	102	44
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	356	707	219	734	698	348	490
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.12	0.19	0.74	0.07	0.75	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

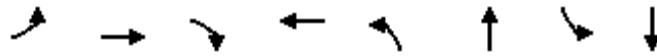
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2025 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	165	164	326	57	247	829	15	1091
v/c Ratio	0.65	0.64	0.58	0.38	0.79	0.57	0.04	0.84
Control Delay	60.7	60.7	12.1	43.4	41.0	23.3	9.6	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	60.7	12.1	43.4	41.0	23.3	9.6	34.3
Queue Length 50th (ft)	121	120	44	28	102	203	4	320
Queue Length 95th (ft)	m111	m111	m38	52	#208	236	5	352
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	563	152	314	1446	367	1306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.64	0.58	0.38	0.79	0.57	0.04	0.84

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2025 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	222	44	496	2	459	232	774	363
v/c Ratio	0.37	0.65	0.07	0.45	0.02	0.77	0.39	0.76	0.26
Control Delay	49.3	44.8	30.1	8.6	55.0	57.2	5.7	45.1	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	44.8	30.1	8.6	55.0	57.2	5.7	45.1	23.1
Queue Length 50th (ft)	83	139	24	129	2	187	0	291	97
Queue Length 95th (ft)	143	193	30	230	5	220	32	360	122
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	309	341	647	1097	115	740	593	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.65	0.07	0.45	0.02	0.62	0.39	0.76	0.23

Intersection Summary

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	73	215	29	12	158
Future Vol, veh/h	24	73	215	29	12	158
Conflicting Peds, #/hr	0	0	0	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	75	74	87	73	61	91
Heavy Vehicles, %	22	2	4	0	0	26
Mvmt Flow	32	99	247	40	20	174

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	481	267	0	0	287
Stage 1	267	-	-	-	-
Stage 2	214	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	509	772	-	-	1287
Stage 1	734	-	-	-	-
Stage 2	776	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	500	772	-	-	1287
Mov Cap-2 Maneuver	500	-	-	-	-
Stage 1	734	-	-	-	-
Stage 2	763	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	681	1287
HCM Lane V/C Ratio	-	-	0.192	0.015
HCM Control Delay (s)	-	-	11.5	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	52	0	675	1	9	689	0
Future Vol, veh/h	0	0	0	3	0	52	0	675	1	9	689	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	75	25	50	92	95	25	50	93	25
Heavy Vehicles, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	4	0	104	0	711	4	18	741	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1133	1492	371	1120	1490	358	741	0	0	715	0	0
Stage 1	777	777	-	713	713	-	-	-	-	-	-	-
Stage 2	356	715	-	407	777	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	160	125	632	164	125	627	875	-	-	772	-	-
Stage 1	360	410	-	394	438	-	-	-	-	-	-	-
Stage 2	640	438	-	597	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	131	122	632	161	122	627	875	-	-	772	-	-
Mov Cap-2 Maneuver	131	122	-	161	122	-	-	-	-	-	-	-
Stage 1	360	401	-	394	438	-	-	-	-	-	-	-
Stage 2	534	438	-	583	401	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.9	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	875	-	-	-	566	772	-	-
HCM Lane V/C Ratio	-	-	-	-	0.191	0.023	-	-
HCM Control Delay (s)	0	-	-	0	12.9	9.8	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.1	-	-

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	10	116	95	447	559	10
Future Vol, veh/h	10	116	95	447	559	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	96	81	89	93	75
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	18	121	117	502	601	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1086	301	614	0	-	0
Stage 1	601	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	184	669	935	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	669	935	-	-	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	567	-	-
HCM Lane V/C Ratio	0.125	-	0.245	-	-
HCM Control Delay (s)	9.4	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	1	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2025 Background Conditions

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	363	95	51	573	30	162	21	60	15	31	53
Future Volume (veh/h)	20	363	95	51	573	30	162	21	60	15	31	53
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	29	382	107	82	682	40	200	27	78	17	53	77
Peak Hour Factor	0.68	0.95	0.89	0.62	0.84	0.75	0.81	0.78	0.77	0.88	0.58	0.69
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	293	518	145	370	701	608	350	48	114	77	212	269
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1372	384	1598	1856	1610	901	153	362	104	673	854
Grp Volume(v), veh/h	29	0	489	82	682	40	305	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1757	1598	1856	1610	1416	0	0	1631	0	0
Q Serve(g_s), s	0.7	0.0	21.6	2.5	32.5	1.4	10.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	21.6	2.5	32.5	1.4	16.7	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.66		0.26	0.12		0.52
Lane Grp Cap(c), veh/h	293	0	664	370	701	608	511	0	0	558	0	0
V/C Ratio(X)	0.10	0.00	0.74	0.22	0.97	0.07	0.60	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	293	0	664	370	701	608	511	0	0	558	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.1	0.0	24.1	15.3	27.5	17.9	26.7	0.0	0.0	23.2	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	4.9	1.4	28.0	0.2	5.1	0.0	0.0	1.2	0.0	0.0
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	0.3	0.0	9.0	0.9	18.4	0.5	6.2	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	0.0	29.0	16.7	55.5	18.1	31.8	0.0	0.0	24.4	0.0	0.0
LnGrp LOS	B	A	C	B	E	B	C	A	A	C	A	A
Approach Vol, veh/h		518			804			305				147
Approach Delay, s/veh		28.4			49.7			31.8				24.4
Approach LOS		C			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	40.0		34.0	16.0	40.0		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.5	23.6		8.1	2.7	34.5		18.7				
Green Ext Time (p_c), s	0.1	3.2		0.8	0.0	0.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2025 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	46	246	17	55	20	361	1099	20	13	781	190
Future Volume (veh/h)	201	46	246	17	55	20	361	1099	20	13	781	190
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	140	170	256	22	68	31	446	1235	25	26	831	207
Peak Hour Factor	0.93	0.72	0.96	0.78	0.81	0.64	0.81	0.89	0.79	0.50	0.94	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	390	416	450	73	224	102	182	1023	21	200	839	209
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	1900	1560	327	1012	461	1739	3477	70	1810	2774	691
Grp Volume(v), veh/h	140	170	256	121	0	0	446	616	644	26	524	514
Grp Sat Flow(s),veh/h/ln	1781	1900	1560	1801	0	0	1739	1735	1813	1810	1749	1716
Q Serve(g_s), s	8.0	9.2	16.8	6.7	0.0	0.0	8.3	35.3	35.3	1.1	35.8	35.8
Cycle Q Clear(g_c), s	8.0	9.2	16.8	6.7	0.0	0.0	8.3	35.3	35.3	1.1	35.8	35.8
Prop In Lane	1.00		1.00	0.18		0.26	1.00		0.04	1.00		0.40
Lane Grp Cap(c), veh/h	390	416	450	399	0	0	182	510	533	200	529	519
V/C Ratio(X)	0.36	0.41	0.57	0.30	0.00	0.00	2.44	1.21	1.21	0.13	0.99	0.99
Avail Cap(c_a), veh/h	390	416	450	399	0	0	182	510	533	200	529	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	40.2	36.4	39.0	0.0	0.0	34.0	42.3	42.4	29.2	41.7	41.7
Incr Delay (d2), s/veh	2.6	2.9	5.2	1.9	0.0	0.0	666.2	110.5	110.1	1.3	36.8	37.2
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	3.8	4.7	7.1	3.2	0.0	0.0	37.5	30.6	31.9	0.5	20.6	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	43.1	41.5	40.9	0.0	0.0	700.2	152.8	152.4	30.6	78.5	78.9
LnGrp LOS	D	D	D	D	A	A	F	F	F	C	E	E
Approach Vol, veh/h		566			121			1706			1064	
Approach Delay, s/veh		42.2			40.9			295.8			77.5	
Approach LOS		D			D			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	41.0		32.0	14.0	42.0		32.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 35		* 26	* 8.3	* 36		26.6				
Max Q Clear Time (g_c+I1), s	3.1	37.3		18.8	10.3	37.8		8.7				
Green Ext Time (p_c), s	0.0	0.0		1.5	0.0	0.0		0.6				

Intersection Summary

HCM 6th Ctrl Delay	178.2
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2025 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖	↗	↗	↕	↗	↗	↕	↖
Traffic Volume (veh/h)	29	35	1	254	101	884	5	496	229	529	456	23
Future Volume (veh/h)	29	35	1	254	101	884	5	496	229	529	456	23
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	33	48	4	292	135	971	10	584	269	563	485	24
Peak Hour Factor	0.88	0.73	0.25	0.87	0.75	0.91	0.50	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	95	124	9	342	565	922	116	751	371	1031	1528	75
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	307	699	50	1485	1900	1535	1810	3328	1309	3401	3283	162
Grp Volume(v), veh/h	85	0	0	292	135	971	10	584	269	563	250	259
Grp Sat Flow(s),veh/h/ln	1056	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	3.8	0.0	0.0	7.2	6.7	37.2	0.7	20.6	23.2	17.3	11.6	11.6
Cycle Q Clear(g_c), s	6.9	0.0	0.0	7.2	6.7	37.2	0.7	20.6	23.2	17.3	11.6	11.6
Prop In Lane	0.39		0.05	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	227	0	0	342	565	922	116	751	371	1031	788	816
V/C Ratio(X)	0.37	0.00	0.00	0.85	0.24	1.05	0.09	0.78	0.73	0.55	0.32	0.32
Avail Cap(c_a), veh/h	227	0	0	342	565	922	116	751	371	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	44.6	0.0	0.0	46.6	33.2	25.0	55.1	45.5	40.4	36.4	20.9	21.0
Incr Delay (d2), s/veh	4.6	0.0	0.0	22.7	1.0	44.6	1.5	7.8	11.7	0.7	0.4	0.3
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	2.6	0.0	0.0	8.0	3.2	35.2	0.3	9.1	8.4	7.1	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	0.0	0.0	69.3	34.2	69.5	56.5	53.2	52.2	37.1	21.3	21.3
LnGrp LOS	D	A	A	E	C	F	E	D	D	D	C	C
Approach Vol, veh/h		85			1398			863			1072	
Approach Delay, s/veh		49.2			66.1			52.9			29.6	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	19.3	25.2	9.2	8.9	2.7	13.6		39.2				
Green Ext Time (p_c), s	1.9	1.4	0.0	0.5	0.0	2.9		0.0				

Intersection Summary

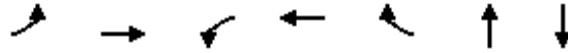
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	29	489	82	682	40	305	147
v/c Ratio	0.10	0.75	0.24	0.98	0.06	0.75	0.27
Control Delay	10.2	31.7	11.5	58.6	0.2	39.0	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	31.7	11.5	58.6	0.2	39.0	14.7
Queue Length 50th (ft)	7	228	20	376	0	145	34
Queue Length 95th (ft)	14	351	28	#541	0	199	39
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	656	344	697	675	408	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.75	0.24	0.98	0.06	0.75	0.27

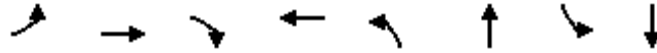
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Year 2025 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	142	256	121	446	1260	26	1038
v/c Ratio	0.38	0.37	0.41	0.31	2.51	1.25	0.13	1.01
Control Delay	43.4	43.3	4.0	37.3	712.3	156.4	22.2	70.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	43.3	4.0	37.3	712.3	156.4	22.2	70.3
Queue Length 50th (ft)	96	98	0	70	~532	~643	12	~418
Queue Length 95th (ft)	162	128	32	111	#645	#768	16	#570
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	368	380	629	387	178	1010	203	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.37	0.41	0.31	2.51	1.25	0.13	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2025 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	292	135	971	10	584	269	563	509
v/c Ratio	0.31	0.86	0.23	0.93	0.09	0.85	0.44	0.55	0.34
Control Delay	47.4	64.9	33.7	33.7	57.0	60.2	5.8	38.9	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	64.9	33.7	33.7	57.0	60.2	5.8	38.9	22.6
Queue Length 50th (ft)	59	207	82	643	8	235	0	196	132
Queue Length 95th (ft)	87	#383	112	#1019	15	283	47	254	173
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	270	338	596	1046	115	740	617	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.86	0.23	0.93	0.09	0.79	0.44	0.55	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Attachment H3

Year 2027 Background Conditions
- HCM Worksheets

HCM 6th TWSC
 4: Oak Ridge Avenue & Green Cove Ave

Year 2027 Background Conditions
 Timing Plan: AM Peak

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	13	163	50	56	138
Future Vol, veh/h	21	13	163	50	56	138
Conflicting Peds, #/hr	0	0	0	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	59	80	71	72	75	84
Heavy Vehicles, %	17	9	34	30	0	21
Mvmt Flow	36	16	230	69	75	164

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	579	265	0	0	299
Stage 1	265	-	-	-	-
Stage 2	314	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1
Critical Hdwy Stg 1	5.57	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2
Pot Cap-1 Maneuver	453	757	-	-	1274
Stage 1	746	-	-	-	-
Stage 2	708	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	424	757	-	-	1274
Mov Cap-2 Maneuver	424	-	-	-	-
Stage 1	746	-	-	-	-
Stage 2	662	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	492	1274
HCM Lane V/C Ratio	-	-	0.105	0.059
HCM Control Delay (s)	-	-	13.2	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	3	0	646	5	41	490	0
Future Vol, veh/h	0	0	0	3	0	3	0	646	5	41	490	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	25	92	50	92	84	50	51	81	92
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	12	0	6	0	769	10	80	605	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1150	1544	303	1237	1539	390	605	0	0	779	0	0
Stage 1	765	765	-	774	774	-	-	-	-	-	-	-
Stage 2	385	779	-	463	765	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	156	116	699	134	117	614	983	-	-	847	-	-
Stage 1	366	415	-	362	411	-	-	-	-	-	-	-
Stage 2	615	409	-	554	415	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	143	105	699	124	106	614	983	-	-	847	-	-
Mov Cap-2 Maneuver	143	105	-	124	106	-	-	-	-	-	-	-
Stage 1	366	376	-	362	411	-	-	-	-	-	-	-
Stage 2	609	409	-	502	376	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	28.8	0	1.1
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	983	-	-	-	169	847	-
HCM Lane V/C Ratio	-	-	-	-	0.107	0.095	-
HCM Control Delay (s)	0	-	-	0	28.8	9.7	-
HCM Lane LOS	A	-	-	A	D	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.3	-

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	36	85	80	449	319	40
Future Vol, veh/h	36	85	80	449	319	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	91	74	83	78	84
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	55	93	108	541	409	48

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	896	205	457	0	0
Stage 1	409	-	-	-	-
Stage 2	487	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	207	749	971	-	-
Stage 1	522	-	-	-	-
Stage 2	469	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	184	749	971	-	-
Mov Cap-2 Maneuver	297	-	-	-	-
Stage 1	464	-	-	-	-
Stage 2	469	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	971	-	478	-	-
HCM Lane V/C Ratio	0.111	-	0.311	-	-
HCM Control Delay (s)	9.2	-	15.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.3	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2027 Background Conditions

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	585	121	34	339	39	108	38	40	14	29	33
Future Volume (veh/h)	76	585	121	34	339	39	108	38	40	14	29	33
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	106	696	159	47	538	52	159	79	43	35	59	57
Peak Hour Factor	0.72	0.84	0.76	0.73	0.63	0.75	0.68	0.48	0.92	0.40	0.49	0.58
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	378	585	134	229	743	645	289	138	67	132	216	184
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1427	326	1570	1811	1572	744	440	214	281	691	589
Grp Volume(v), veh/h	106	0	855	47	538	52	281	0	0	151	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1398	0	0	1561	0	0
Q Serve(g_s), s	3.2	0.0	41.0	1.5	24.9	2.0	10.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	41.0	1.5	24.9	2.0	16.9	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.57		0.15	0.23		0.38
Lane Grp Cap(c), veh/h	378	0	718	229	743	645	494	0	0	533	0	0
V/C Ratio(X)	0.28	0.00	1.19	0.21	0.72	0.08	0.57	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	378	0	718	229	743	645	494	0	0	533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.4	0.0	29.5	20.8	24.8	18.0	29.2	0.0	0.0	25.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	99.0	2.0	6.1	0.2	4.7	0.0	0.0	1.3	0.0	0.0
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	1.3	0.0	35.4	0.6	11.1	0.7	6.3	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	0.0	128.5	22.8	30.8	18.2	33.9	0.0	0.0	27.3	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		961			637			281			151	
Approach Delay, s/veh		116.4			29.2			33.9			27.3	
Approach LOS		F			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.5	43.0		8.9	5.2	26.9		18.9				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.1	4.5		1.4				

Intersection Summary

HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E

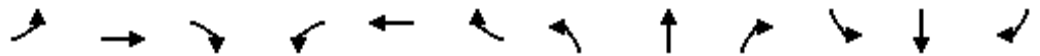
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	14	309	19	19	11	231	729	14	5	813	144
Future Volume (veh/h)	231	14	309	19	19	11	231	729	14	5	813	144
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	349	0	351	24	27	14	266	878	16	15	991	185
Peak Hour Factor	0.69	0.75	0.88	0.80	0.71	0.81	0.87	0.83	0.88	0.34	0.82	0.78
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	64	72	37	349	1472	27	389	1118	208
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	664	747	387	1725	3401	62	1810	2919	544
Grp Volume(v), veh/h	349	0	351	65	0	0	266	437	457	15	588	588
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1797	0	0	1725	1692	1770	1810	1735	1728
Q Serve(g_s), s	9.4	0.0	15.3	3.4	0.0	0.0	8.6	19.7	19.7	0.4	31.7	31.8
Cycle Q Clear(g_c), s	9.4	0.0	15.3	3.4	0.0	0.0	8.6	19.7	19.7	0.4	31.7	31.8
Prop In Lane	1.00		1.00	0.37		0.22	1.00		0.04	1.00		0.31
Lane Grp Cap(c), veh/h	536	0	428	173	0	0	349	733	767	389	664	662
V/C Ratio(X)	0.65	0.00	0.82	0.38	0.00	0.00	0.76	0.60	0.60	0.04	0.89	0.89
Avail Cap(c_a), veh/h	536	0	428	173	0	0	349	733	767	389	664	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	0.0	32.7	42.4	0.0	0.0	20.7	21.7	21.7	15.0	28.8	28.8
Incr Delay (d2), s/veh	6.0	0.0	16.0	6.2	0.0	0.0	14.6	3.6	3.4	0.2	16.0	16.3
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	4.4	0.0	9.7	1.8	0.0	0.0	4.6	8.3	8.6	0.2	15.6	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	0.0	48.7	48.6	0.0	0.0	35.3	25.2	25.1	15.1	44.8	45.1
LnGrp LOS	D	A	D	D	A	A	D	C	C	B	D	D
Approach Vol, veh/h		700			65			1160			1191	
Approach Delay, s/veh		47.3			48.6			27.5			44.6	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.4	21.7		17.3	10.6	33.8		5.4				
Green Ext Time (p_c), s	0.0	6.0		0.0	0.3	2.9		0.1				

Intersection Summary

HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖	↗	↗	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	23	96	0	186	24	496	1	420	198	743	355	16
Future Volume (veh/h)	23	96	0	186	24	496	1	420	198	743	355	16
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	24	100	0	238	48	533	2	494	251	835	374	19
Peak Hour Factor	0.96	0.96	0.75	0.78	0.50	0.93	0.50	0.85	0.79	0.89	0.95	0.86
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	69	258	0	325	565	922	116	751	371	1031	1526	77
Arrive On Green	0.18	0.18	0.00	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	194	1450	0	1485	1900	1535	1810	3328	1309	3401	3278	166
Grp Volume(v), veh/h	124	0	0	238	48	533	2	494	251	835	193	200
Grp Sat Flow(s),veh/h/ln	1644	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	0.0	0.0	0.0	7.2	2.3	26.5	0.1	16.9	21.3	28.3	8.6	8.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	7.2	2.3	26.5	0.1	16.9	21.3	28.3	8.6	8.6
Prop In Lane	0.19		0.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	326	0	0	325	565	922	116	751	371	1031	788	816
V/C Ratio(X)	0.38	0.00	0.00	0.73	0.08	0.58	0.02	0.66	0.68	0.81	0.24	0.25
Avail Cap(c_a), veh/h	326	0	0	325	565	922	116	751	371	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43
Uniform Delay (d), s/veh	45.2	0.0	0.0	44.4	31.6	15.3	54.8	44.0	39.7	40.2	20.1	20.2
Incr Delay (d2), s/veh	3.3	0.0	0.0	13.6	0.3	2.6	0.3	4.5	9.6	3.1	0.3	0.3
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	3.7	0.0	0.0	5.1	1.1	9.1	0.1	7.2	7.6	11.9	3.3	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	0.0	0.0	58.0	31.9	17.9	55.1	48.5	49.3	43.3	20.5	20.5
LnGrp LOS	D	A	A	E	C	B	E	D	D	D	C	C
Approach Vol, veh/h		124			819			747			1228	
Approach Delay, s/veh		48.6			30.4			48.8			36.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	30.3	23.3	9.2	9.2	2.1	10.6		28.5				
Green Ext Time (p_c), s	2.1	1.8	0.0	0.5	0.0	2.2		1.5				

Intersection Summary

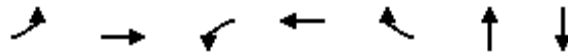
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	106	855	47	538	52	281	151
v/c Ratio	0.30	1.21	0.21	0.73	0.07	0.82	0.31
Control Delay	12.4	135.7	6.0	24.1	2.7	51.9	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	135.7	6.0	24.1	2.7	51.9	22.5
Queue Length 50th (ft)	29	~667	6	289	2	160	56
Queue Length 95th (ft)	42	#811	m8	242	m5	111	47
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	358	707	219	734	698	342	488
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	1.21	0.21	0.73	0.07	0.82	0.31

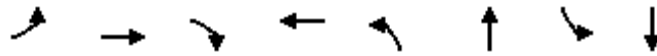
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2027 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	178	176	351	65	266	894	15	1176
v/c Ratio	0.71	0.69	0.63	0.43	0.85	0.62	0.04	0.90
Control Delay	61.1	60.9	14.8	45.8	48.3	24.2	9.6	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	60.9	14.8	45.8	48.3	24.2	9.6	39.3
Queue Length 50th (ft)	129	128	54	33	116	225	4	358
Queue Length 95th (ft)	m112	m111	m40	58	#237	258	5	391
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	553	151	314	1446	343	1306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.69	0.63	0.43	0.85	0.62	0.04	0.90

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2027 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	124	238	48	533	2	494	251	835	393
v/c Ratio	0.40	0.73	0.08	0.49	0.02	0.79	0.42	0.82	0.27
Control Delay	50.1	51.2	30.9	9.9	55.0	57.7	7.0	48.1	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	51.2	30.9	9.9	55.0	57.7	7.0	48.1	22.8
Queue Length 50th (ft)	90	153	27	158	2	202	8	322	104
Queue Length 95th (ft)	152	#226	32	264	5	237	41	395	132
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	307	324	632	1081	115	740	595	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.73	0.08	0.49	0.02	0.67	0.42	0.82	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	79	231	32	13	170
Future Vol, veh/h	26	79	231	32	13	170
Conflicting Peds, #/hr	0	0	0	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	75	74	87	73	61	91
Heavy Vehicles, %	22	2	4	0	0	26
Mvmt Flow	35	107	266	44	21	187

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	517	288	0	0	310
Stage 1	288	-	-	-	-
Stage 2	229	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	485	751	-	-	1262
Stage 1	717	-	-	-	-
Stage 2	764	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	476	751	-	-	1262
Mov Cap-2 Maneuver	476	-	-	-	-
Stage 1	717	-	-	-	-
Stage 2	749	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	658	1262
HCM Lane V/C Ratio	-	-	0.215	0.017
HCM Control Delay (s)	-	-	12	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	54	0	728	1	10	743	0
Future Vol, veh/h	0	0	0	3	0	54	0	728	1	10	743	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	75	25	50	92	95	25	50	93	25
Heavy Vehicles, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	4	0	108	0	766	4	20	799	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1222	1609	400	1208	1607	385	799	0	0	770	0	0
Stage 1	839	839	-	768	768	-	-	-	-	-	-	-
Stage 2	383	770	-	440	839	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	138	106	605	141	106	602	833	-	-	732	-	-
Stage 1	331	384	-	365	414	-	-	-	-	-	-	-
Stage 2	617	413	-	571	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	103	605	138	103	602	833	-	-	732	-	-
Mov Cap-2 Maneuver	111	103	-	138	103	-	-	-	-	-	-	-
Stage 1	331	374	-	365	414	-	-	-	-	-	-	-
Stage 2	506	413	-	555	374	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	13.5	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	833	-	-	-	537	732	-
HCM Lane V/C Ratio	-	-	-	-	0.209	0.027	-
HCM Control Delay (s)	0	-	-	0	13.5	10.1	-
HCM Lane LOS	A	-	-	A	B	B	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.1	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	11	125	103	481	603	11
Future Vol, veh/h	11	125	103	481	603	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	96	81	89	93	75
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	20	130	127	540	648	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1172	324	663	0	-	0
Stage 1	648	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	161	646	895	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	138	646	895	-	-	-
Mov Cap-2 Maneuver	258	-	-	-	-	-
Stage 1	375	-	-	-	-	-
Stage 2	510	-	-	-	-	-

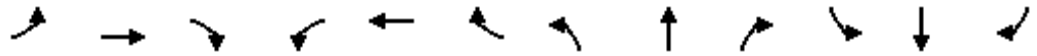
Approach	EB	NB	SB
HCM Control Delay, s	14.3	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	895	-	538	-	-
HCM Lane V/C Ratio	0.142	-	0.279	-	-
HCM Control Delay (s)	9.7	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.1	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2027 Background Conditions

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	391	103	55	618	33	175	23	65	16	34	58
Future Volume (veh/h)	21	391	103	55	618	33	175	23	65	16	34	58
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	31	412	116	89	736	44	216	29	84	18	59	84
Peak Hour Factor	0.68	0.95	0.89	0.62	0.84	0.75	0.81	0.78	0.77	0.88	0.58	0.69
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	281	518	146	344	701	608	344	43	110	76	215	269
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1371	386	1598	1856	1610	885	136	350	100	685	856
Grp Volume(v), veh/h	31	0	528	89	736	44	329	0	0	161	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1756	1598	1856	1610	1371	0	0	1641	0	0
Q Serve(g_s), s	0.8	0.0	24.1	2.7	34.0	1.6	12.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	24.1	2.7	34.0	1.6	19.6	0.0	0.0	6.7	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.66		0.26	0.11		0.52
Lane Grp Cap(c), veh/h	281	0	664	344	701	608	497	0	0	561	0	0
V/C Ratio(X)	0.11	0.00	0.80	0.26	1.05	0.07	0.66	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	281	0	664	344	701	608	497	0	0	561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	24.9	16.1	28.0	17.9	27.9	0.0	0.0	23.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	7.3	1.8	47.8	0.2	6.8	0.0	0.0	1.3	0.0	0.0
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	0.4	0.0	10.4	1.0	22.8	0.6	7.1	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	32.2	17.9	75.8	18.1	34.7	0.0	0.0	24.7	0.0	0.0
LnGrp LOS	B	A	C	B	F	B	C	A	A	C	A	A
Approach Vol, veh/h		559			869			329				161
Approach Delay, s/veh		31.5			67.0			34.7				24.7
Approach LOS		C			E			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	40.0		34.0	16.0	40.0		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.7	26.1		8.7	2.8	36.0		21.6				
Green Ext Time (p_c), s	0.1	2.9		0.8	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	50	265	19	59	21	389	1184	21	14	841	205
Future Volume (veh/h)	216	50	265	19	59	21	389	1184	21	14	841	205
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	150	183	276	24	73	33	480	1330	27	28	895	223
Peak Hour Factor	0.93	0.72	0.96	0.78	0.81	0.64	0.81	0.89	0.79	0.50	0.94	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	390	416	450	74	224	101	180	1023	21	200	839	209
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	1900	1560	333	1011	457	1739	3477	71	1810	2774	691
Grp Volume(v), veh/h	150	183	276	130	0	0	480	663	694	28	564	554
Grp Sat Flow(s),veh/h/ln	1781	1900	1560	1801	0	0	1739	1735	1813	1810	1749	1716
Q Serve(g_s), s	8.6	10.0	18.4	7.3	0.0	0.0	8.3	35.3	35.3	1.2	36.3	36.3
Cycle Q Clear(g_c), s	8.6	10.0	18.4	7.3	0.0	0.0	8.3	35.3	35.3	1.2	36.3	36.3
Prop In Lane	1.00		1.00	0.18		0.25	1.00		0.04	1.00		0.40
Lane Grp Cap(c), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
V/C Ratio(X)	0.38	0.44	0.61	0.33	0.00	0.00	2.66	1.30	1.30	0.14	1.07	1.07
Avail Cap(c_a), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	40.5	36.9	39.2	0.0	0.0	33.7	42.3	42.4	29.3	41.8	41.9
Incr Delay (d2), s/veh	2.8	3.3	6.1	2.2	0.0	0.0	763.8	148.7	148.7	1.5	57.8	58.7
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	4.1	5.1	7.8	3.5	0.0	0.0	41.9	36.0	37.6	0.6	23.9	23.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	43.8	43.1	41.3	0.0	0.0	797.5	191.0	191.1	30.7	99.7	100.6
LnGrp LOS	D	D	D	D	A	A	F	F	F	C	F	F
Approach Vol, veh/h		609			130			1837			1146	
Approach Delay, s/veh		43.2			41.3			349.5			98.4	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	41.0		32.0	14.0	42.0		32.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 35		* 26	* 8.3	* 36		26.6				
Max Q Clear Time (g_c+I1), s	3.2	37.3		20.4	10.3	38.3		9.3				
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	0.0		0.6				

Intersection Summary

HCM 6th Ctrl Delay	211.3
HCM 6th LOS	F

Notes

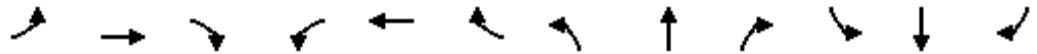
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2027 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



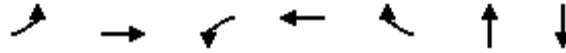
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖	↗	↗	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	29	35	1	254	101	884	5	496	229	529	456	23
Future Volume (veh/h)	29	35	1	254	101	884	5	496	229	529	456	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	33	48	4	292	135	971	10	584	269	563	485	24
Peak Hour Factor	0.88	0.73	0.25	0.87	0.75	0.91	0.50	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	89	116	8	347	565	922	116	751	392	1031	1528	75
Arrive On Green	0.16	0.16	0.16	0.07	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	302	716	50	1485	1900	1535	1810	3328	1309	3401	3283	162
Grp Volume(v), veh/h	85	0	0	292	135	971	10	584	269	563	250	259
Grp Sat Flow(s),veh/h/ln	1069	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1752
Q Serve(g_s), s	4.0	0.0	0.0	9.2	6.7	37.2	0.7	20.6	22.7	17.3	11.6	11.6
Cycle Q Clear(g_c), s	7.1	0.0	0.0	9.2	6.7	37.2	0.7	20.6	22.7	17.3	11.6	11.6
Prop In Lane	0.39		0.05	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	213	0	0	347	565	922	116	751	392	1031	788	816
V/C Ratio(X)	0.40	0.00	0.00	0.84	0.24	1.05	0.09	0.78	0.69	0.55	0.32	0.32
Avail Cap(c_a), veh/h	213	0	0	347	565	922	116	751	392	1031	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.20	0.20	0.20
Uniform Delay (d), s/veh	46.4	0.0	0.0	46.1	33.2	25.0	55.1	45.5	38.6	36.4	20.9	21.0
Incr Delay (d2), s/veh	5.5	0.0	0.0	21.2	1.0	44.6	1.5	7.8	9.5	0.4	0.2	0.2
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	2.7	0.0	0.0	7.0	3.2	35.2	0.3	9.1	8.1	7.0	4.4	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	0.0	0.0	67.3	34.2	69.5	56.5	53.2	48.1	36.8	21.1	21.2
LnGrp LOS	D	A	A	E	C	F	E	D	D	D	C	C
Approach Vol, veh/h		85			1398			863			1072	
Approach Delay, s/veh		51.9			65.7			51.7			29.4	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	17.0	28.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	9.2	20.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	19.3	24.7	11.2	9.1	2.7	13.6		39.2				
Green Ext Time (p_c), s	1.9	1.6	0.0	0.4	0.0	2.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	528	89	736	44	329	161
v/c Ratio	0.11	0.80	0.28	1.06	0.07	0.83	0.29
Control Delay	10.2	35.5	12.1	79.1	0.2	46.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	35.5	12.1	79.1	0.2	46.1	15.6
Queue Length 50th (ft)	7	255	22	~463	0	162	40
Queue Length 95th (ft)	15	#427	30	#605	0	#226	44
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	656	318	697	675	398	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.80	0.28	1.06	0.07	0.83	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

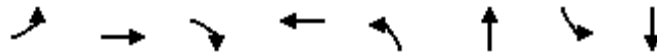
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2027 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	153	276	130	480	1357	28	1118
v/c Ratio	0.40	0.40	0.43	0.34	2.70	1.34	0.14	1.08
Control Delay	44.0	43.9	4.1	38.1	796.7	196.1	22.3	92.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	43.9	4.1	38.1	796.7	196.1	22.3	92.5
Queue Length 50th (ft)	104	107	0	76	~588	~726	13	~503
Queue Length 95th (ft)	172	136	33	120	#699	#852	17	#641
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	368	380	644	386	178	1010	203	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.40	0.43	0.34	2.70	1.34	0.14	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2027 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	292	135	971	10	584	269	563	509
v/c Ratio	0.35	0.85	0.23	0.93	0.09	0.85	0.42	0.55	0.34
Control Delay	50.1	62.8	33.7	33.7	57.0	60.2	5.5	38.9	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	62.8	33.7	33.7	57.0	60.2	5.5	38.9	22.6
Queue Length 50th (ft)	60	207	82	643	8	235	0	196	132
Queue Length 95th (ft)	89	#370	112	#1019	15	283	46	254	173
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	244	343	596	1046	115	740	634	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.85	0.23	0.93	0.09	0.79	0.42	0.55	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Attachment H4

Year 2030 Background Conditions
- HCM Worksheets

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	13	167	52	58	142
Future Vol, veh/h	22	13	167	52	58	142
Conflicting Peds, #/hr	0	0	0	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	59	80	71	72	75	84
Heavy Vehicles, %	17	9	34	30	0	21
Mvmt Flow	37	16	235	72	77	169

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	594	271	0	0	307	0
Stage 1	271	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2	-
Pot Cap-1 Maneuver	444	751	-	-	1265	-
Stage 1	741	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	751	-	-	1265	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	654	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	479	1265
HCM Lane V/C Ratio	-	-	0.112	0.061
HCM Control Delay (s)	-	-	13.5	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	3	0	832	5	42	841	0
Future Vol, veh/h	0	0	0	3	0	3	0	832	5	42	841	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	25	92	50	92	84	50	51	81	92
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	12	0	6	0	990	10	82	1038	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1697	2202	519	1678	2197	500	1038	0	0	1000	0	0
Stage 1	1202	1202	-	995	995	-	-	-	-	-	-	-
Stage 2	495	1000	-	683	1202	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	61	45	507	63	46	522	678	-	-	700	-	-
Stage 1	199	260	-	266	325	-	-	-	-	-	-	-
Stage 2	530	324	-	410	260	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	55	40	507	57	41	522	678	-	-	700	-	-
Mov Cap-2 Maneuver	55	40	-	57	41	-	-	-	-	-	-	-
Stage 1	199	230	-	266	325	-	-	-	-	-	-	-
Stage 2	524	324	-	362	230	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	61.7	0	0.8
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	678	-	-	-	81	700	-
HCM Lane V/C Ratio	-	-	-	-	0.222	0.118	-
HCM Control Delay (s)	0	-	-	0	61.7	10.8	-
HCM Lane LOS	A	-	-	A	F	B	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.4	-

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	37	88	82	462	328	41
Future Vol, veh/h	37	88	82	462	328	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	91	74	83	78	84
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	57	97	111	557	421	49

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	922	211	470	0	0
Stage 1	421	-	-	-	-
Stage 2	501	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	198	742	959	-	-
Stage 1	513	-	-	-	-
Stage 2	460	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	175	742	959	-	-
Mov Cap-2 Maneuver	288	-	-	-	-
Stage 1	453	-	-	-	-
Stage 2	460	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.4	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	959	-	468	-	-
HCM Lane V/C Ratio	0.116	-	0.328	-	-
HCM Control Delay (s)	9.2	-	16.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.4	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2030 Background Conditions

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	603	125	35	349	40	111	39	41	14	30	33
Future Volume (veh/h)	79	603	125	35	349	40	111	39	41	14	30	33
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	110	718	164	48	554	53	163	81	45	35	61	57
Peak Hour Factor	0.72	0.84	0.76	0.73	0.63	0.75	0.68	0.48	0.92	0.40	0.49	0.58
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	367	585	134	229	743	645	288	135	68	131	220	182
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1427	326	1570	1811	1572	741	433	217	276	703	582
Grp Volume(v), veh/h	110	0	882	48	554	53	289	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1391	0	0	1562	0	0
Q Serve(g_s), s	3.3	0.0	41.0	1.5	26.0	2.1	10.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	41.0	1.5	26.0	2.1	17.7	0.0	0.0	7.0	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.56		0.16	0.23		0.37
Lane Grp Cap(c), veh/h	367	0	718	229	743	645	492	0	0	533	0	0
V/C Ratio(X)	0.30	0.00	1.23	0.21	0.75	0.08	0.59	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	367	0	718	229	743	645	492	0	0	533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.7	0.0	29.5	20.8	25.1	18.0	29.5	0.0	0.0	26.0	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	114.5	2.1	6.7	0.2	5.1	0.0	0.0	1.4	0.0	0.0
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	1.4	0.0	38.5	0.6	11.6	0.7	6.6	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	144.0	22.9	31.8	18.3	34.6	0.0	0.0	27.3	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		992			655			289				153
Approach Delay, s/veh		130.1			30.1			34.6				27.3
Approach LOS		F			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.5	43.0		9.0	5.3	28.0		19.7				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.1	4.5		1.4				

Intersection Summary

HCM 6th Ctrl Delay	78.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2030 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	14	318	19	19	12	238	751	14	5	837	148
Future Volume (veh/h)	238	14	318	19	19	12	238	751	14	5	837	148
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	359	0	361	24	27	15	274	905	16	15	1021	190
Peak Hour Factor	0.69	0.75	0.88	0.80	0.71	0.81	0.87	0.83	0.88	0.34	0.82	0.78
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	63	70	39	341	1473	26	381	1119	208
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	652	734	408	1725	3403	60	1810	2920	542
Grp Volume(v), veh/h	359	0	361	66	0	0	274	450	471	15	606	605
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1794	0	0	1725	1692	1771	1810	1735	1728
Q Serve(g_s), s	9.7	0.0	15.3	3.5	0.0	0.0	9.7	20.5	20.5	0.4	33.1	33.3
Cycle Q Clear(g_c), s	9.7	0.0	15.3	3.5	0.0	0.0	9.7	20.5	20.5	0.4	33.1	33.3
Prop In Lane	1.00		1.00	0.36		0.23	1.00		0.03	1.00		0.31
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	341	733	767	381	664	662
V/C Ratio(X)	0.67	0.00	0.84	0.38	0.00	0.00	0.80	0.61	0.61	0.04	0.91	0.91
Avail Cap(c_a), veh/h	536	0	428	172	0	0	341	733	767	381	664	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	33.0	42.4	0.0	0.0	23.1	21.9	21.9	15.1	29.2	29.3
Incr Delay (d2), s/veh	6.5	0.0	18.0	6.3	0.0	0.0	17.9	3.8	3.7	0.2	18.9	19.4
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	4.6	0.0	10.3	1.8	0.0	0.0	5.4	8.7	9.0	0.2	16.8	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	0.0	51.0	48.8	0.0	0.0	41.0	25.7	25.6	15.3	48.2	48.7
LnGrp LOS	D	A	D	D	A	A	D	C	C	B	D	D
Approach Vol, veh/h		720			66			1195			1226	
Approach Delay, s/veh		48.7			48.8			29.2			48.0	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.4	22.5		17.3	11.7	35.3		5.5				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.2	2.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2030 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	23	50	50	96	12	256	13	689	102	382	748	17
Future Volume (veh/h)	23	50	50	96	12	256	13	689	102	382	748	17
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	24	52	67	123	24	275	26	811	129	429	787	20
Peak Hour Factor	0.96	0.96	0.75	0.78	0.50	0.93	0.50	0.85	0.79	0.89	0.95	0.86
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	63	125	135	306	565	812	116	991	465	786	1570	40
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.30	0.30	0.23	0.47	0.47
Sat Flow, veh/h	164	701	763	1485	1900	1535	1810	3328	1309	3401	3373	86
Grp Volume(v), veh/h	143	0	0	123	24	275	26	811	129	429	395	412
Grp Sat Flow(s),veh/h/ln	1628	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1766
Q Serve(g_s), s	1.0	0.0	0.0	7.2	1.1	12.9	1.7	28.3	8.8	13.9	20.3	20.3
Cycle Q Clear(g_c), s	9.3	0.0	0.0	7.2	1.1	12.9	1.7	28.3	8.8	13.9	20.3	20.3
Prop In Lane	0.17		0.47	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	323	0	0	306	565	812	116	991	465	786	788	822
V/C Ratio(X)	0.44	0.00	0.00	0.40	0.04	0.34	0.22	0.82	0.28	0.55	0.50	0.50
Avail Cap(c_a), veh/h	323	0	0	306	565	812	116	991	465	786	788	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	46.1	0.0	0.0	38.3	31.2	16.9	55.6	40.8	28.8	42.3	23.3	23.3
Incr Delay (d2), s/veh	4.4	0.0	0.0	3.9	0.1	1.1	4.4	7.5	1.5	1.0	0.9	0.8
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	4.4	0.0	0.0	3.3	0.5	4.5	0.9	12.2	2.9	5.8	7.9	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	0.0	0.0	42.2	31.4	18.0	60.0	48.3	30.3	43.3	24.1	24.1
LnGrp LOS	D	A	A	D	C	B	E	D	C	D	C	C
Approach Vol, veh/h		143			422			966			1236	
Approach Delay, s/veh		50.4			25.8			46.2			30.8	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	44.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 29	37.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	15.9	30.3	9.2	11.3	3.7	22.3		14.9				
Green Ext Time (p_c), s	1.2	3.1	0.0	0.5	0.0	5.1		1.0				

Intersection Summary

HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

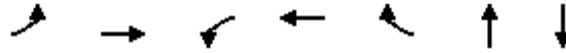
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

Year 2030 Background Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: AM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	110	882	48	554	53	289	153
v/c Ratio	0.32	1.25	0.22	0.75	0.08	0.85	0.31
Control Delay	12.7	151.2	6.0	24.8	2.7	54.9	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	151.2	6.0	24.8	2.7	54.9	22.8
Queue Length 50th (ft)	30	~704	6	301	2	166	58
Queue Length 95th (ft)	43	#847	m7	250	m5	114	49
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	346	707	219	734	698	341	488
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	1.25	0.22	0.75	0.08	0.85	0.31

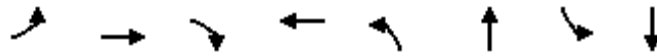
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2030 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	183	181	361	66	274	921	15	1211
v/c Ratio	0.73	0.71	0.66	0.43	0.87	0.64	0.05	0.93
Control Delay	61.3	61.0	15.7	45.3	52.1	24.6	9.8	42.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	61.0	15.7	45.3	52.1	24.6	9.8	42.3
Queue Length 50th (ft)	133	131	58	33	122	235	4	376
Queue Length 95th (ft)	m112	m111	m40	58	#249	268	5	407
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	551	152	314	1446	332	1306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.71	0.66	0.43	0.87	0.64	0.05	0.93

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2030 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	143	123	24	275	26	811	129	429	807
v/c Ratio	0.45	0.43	0.04	0.29	0.23	0.88	0.20	0.55	0.54
Control Delay	40.9	38.9	31.5	11.5	60.6	54.8	2.2	45.5	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	38.9	31.5	11.5	60.6	54.8	2.2	45.5	26.3
Queue Length 50th (ft)	81	76	14	91	20	322	0	158	235
Queue Length 95th (ft)	149	111	20	142	28	372	8	209	295
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	317	283	597	939	115	976	630	778	1552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.43	0.04	0.29	0.23	0.83	0.20	0.55	0.52

Intersection Summary

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	81	238	32	13	175
Future Vol, veh/h	27	81	238	32	13	175
Conflicting Peds, #/hr	0	0	0	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	75	74	87	73	61	91
Heavy Vehicles, %	22	2	4	0	0	26
Mvmt Flow	36	109	274	44	21	192

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	530	296	0	0	318
Stage 1	296	-	-	-	-
Stage 2	234	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	476	743	-	-	1253
Stage 1	711	-	-	-	-
Stage 2	760	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	467	743	-	-	1253
Mov Cap-2 Maneuver	467	-	-	-	-
Stage 1	711	-	-	-	-
Stage 2	746	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	648	1253
HCM Lane V/C Ratio	-	-	0.224	0.017
HCM Control Delay (s)	-	-	12.2	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	4	0	58	0	1169	1	10	936	0
Future Vol, veh/h	0	0	0	4	0	58	0	1169	1	10	936	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	75	25	50	92	95	25	50	93	25
Heavy Vehicles, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	5	0	116	0	1231	4	20	1006	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1662	2281	503	1776	2279	618	1006	0	0	1235	0	0
Stage 1	1046	1046	-	1233	1233	-	-	-	-	-	-	-
Stage 2	616	1235	-	543	1046	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	65	40	519	53	40	423	697	-	-	470	-	-
Stage 1	248	308	-	191	251	-	-	-	-	-	-	-
Stage 2	450	251	-	497	308	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	46	38	519	51	38	423	697	-	-	470	-	-
Mov Cap-2 Maneuver	46	38	-	51	38	-	-	-	-	-	-	-
Stage 1	248	295	-	191	251	-	-	-	-	-	-	-
Stage 2	327	251	-	476	295	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	0		23		0		0.3		
HCM LOS	A		C						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	697	-	-	-	320	470	-	-
HCM Lane V/C Ratio	-	-	-	-	0.379	0.043	-	-
HCM Control Delay (s)	0	-	-	0	23	13	-	-
HCM Lane LOS	A	-	-	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0.1	-	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	12	129	106	496	621	12
Future Vol, veh/h	12	129	106	496	621	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	96	81	89	93	75
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	22	134	131	557	668	16

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1209	334	684	0	-	0
Stage 1	668	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	151	636	879	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	636	879	-	-	-
Mov Cap-2 Maneuver	249	-	-	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	500	-	-	-	-	-

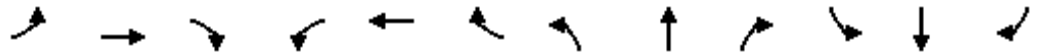
Approach	EB	NB	SB
HCM Control Delay, s	14.8	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	879	-	523	-	-
HCM Lane V/C Ratio	0.149	-	0.299	-	-
HCM Control Delay (s)	9.8	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.2	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2030 Background Conditions

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	403	106	57	636	33	180	23	67	17	35	59
Future Volume (veh/h)	22	403	106	57	636	33	180	23	67	17	35	59
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	32	424	119	92	757	44	222	29	87	19	60	86
Peak Hour Factor	0.68	0.95	0.89	0.62	0.84	0.75	0.81	0.78	0.77	0.88	0.58	0.69
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	281	518	145	334	701	608	343	40	110	78	215	269
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1372	385	1598	1856	1610	880	127	349	105	682	857
Grp Volume(v), veh/h	32	0	543	92	757	44	338	0	0	165	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1757	1598	1856	1610	1357	0	0	1644	0	0
Q Serve(g_s), s	0.8	0.0	25.1	2.8	34.0	1.6	13.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	25.1	2.8	34.0	1.6	20.6	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.66		0.26	0.12		0.52
Lane Grp Cap(c), veh/h	281	0	664	334	701	608	493	0	0	561	0	0
V/C Ratio(X)	0.11	0.00	0.82	0.28	1.08	0.07	0.69	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	281	0	664	334	701	608	493	0	0	561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	25.2	16.4	28.0	17.9	28.3	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	8.5	2.0	57.6	0.2	7.6	0.0	0.0	1.3	0.0	0.0
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	0.4	0.0	11.0	1.1	24.7	0.6	7.5	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	33.7	18.5	85.6	18.1	35.9	0.0	0.0	24.8	0.0	0.0
LnGrp LOS	B	A	C	B	F	B	D	A	A	C	A	A
Approach Vol, veh/h		575			893			338				165
Approach Delay, s/veh		32.9			75.4			35.9				24.8
Approach LOS		C			E			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	40.0		34.0	16.0	40.0		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.8	27.1		8.9	2.8	36.0		22.6				
Green Ext Time (p_c), s	0.1	2.7		0.9	0.0	0.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2030 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	52	273	19	61	22	400	1219	22	14	866	211
Future Volume (veh/h)	223	52	273	19	61	22	400	1219	22	14	866	211
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	156	190	284	24	75	34	494	1370	28	28	921	229
Peak Hour Factor	0.93	0.72	0.96	0.78	0.81	0.64	0.81	0.89	0.79	0.50	0.94	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	390	416	450	72	225	102	180	1023	21	200	840	209
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	1900	1560	325	1016	460	1739	3477	71	1810	2776	689
Grp Volume(v), veh/h	156	190	284	133	0	0	494	683	715	28	580	570
Grp Sat Flow(s),veh/h/ln	1781	1900	1560	1801	0	0	1739	1735	1813	1810	1749	1717
Q Serve(g_s), s	9.0	10.4	19.0	7.4	0.0	0.0	8.3	35.3	35.3	1.2	36.3	36.3
Cycle Q Clear(g_c), s	9.0	10.4	19.0	7.4	0.0	0.0	8.3	35.3	35.3	1.2	36.3	36.3
Prop In Lane	1.00		1.00	0.18		0.26	1.00		0.04	1.00		0.40
Lane Grp Cap(c), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
V/C Ratio(X)	0.40	0.46	0.63	0.33	0.00	0.00	2.74	1.34	1.34	0.14	1.10	1.10
Avail Cap(c_a), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	40.6	37.2	39.2	0.0	0.0	33.7	42.3	42.4	29.3	41.8	41.9
Incr Delay (d2), s/veh	3.0	3.6	6.6	2.2	0.0	0.0	798.5	165.3	165.5	1.5	67.9	69.0
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	4.3	5.3	8.1	3.6	0.0	0.0	43.7	38.3	40.1	0.6	25.4	25.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	44.2	43.7	41.5	0.0	0.0	832.2	207.6	207.8	30.7	109.7	110.9
LnGrp LOS	D	D	D	D	A	A	F	F	F	C	F	F
Approach Vol, veh/h		630			133			1892			1178	
Approach Delay, s/veh		43.7			41.5			370.8			108.4	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	41.0		32.0	14.0	42.0		32.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 35		* 26	* 8.3	* 36		26.6				
Max Q Clear Time (g_c+I1), s	3.2	37.3		21.0	10.3	38.3		9.4				
Green Ext Time (p_c), s	0.0	0.0		1.3	0.0	0.0		0.6				

Intersection Summary

HCM 6th Ctrl Delay	225.0
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2030 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	32	19	20	141	56	491	61	1042	127	293	799	26
Future Volume (veh/h)	32	19	20	141	56	491	61	1042	127	293	799	26
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	36	26	80	162	75	540	122	1226	149	312	850	28
Peak Hour Factor	0.88	0.73	0.25	0.87	0.75	0.91	0.50	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	80	66	142	305	565	457	116	751	371	1031	1557	51
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	248	370	797	1485	1900	1535	1810	3328	1309	3401	3344	110
Grp Volume(v), veh/h	142	0	0	162	75	540	122	1226	149	312	430	448
Grp Sat Flow(s),veh/h/ln	1415	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1762
Q Serve(g_s), s	4.9	0.0	0.0	7.2	3.6	37.2	8.0	28.2	11.5	8.8	22.8	22.8
Cycle Q Clear(g_c), s	10.5	0.0	0.0	7.2	3.6	37.2	8.0	28.2	11.5	8.8	22.8	22.8
Prop In Lane	0.25		0.56	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	287	0	0	305	565	457	116	751	371	1031	788	820
V/C Ratio(X)	0.49	0.00	0.00	0.53	0.13	1.18	1.05	1.63	0.40	0.30	0.55	0.55
Avail Cap(c_a), veh/h	287	0	0	305	565	457	116	751	371	1031	788	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.14	0.14	0.14
Uniform Delay (d), s/veh	46.3	0.0	0.0	40.5	32.1	43.9	58.5	48.4	36.2	33.4	23.9	23.9
Incr Delay (d2), s/veh	6.0	0.0	0.0	6.5	0.5	102.5	98.7	290.8	3.2	0.1	0.4	0.4
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	4.5	0.0	0.0	1.9	1.7	26.5	6.8	41.6	3.9	3.6	8.7	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	0.0	0.0	46.9	32.6	146.4	157.2	339.2	39.5	33.5	24.3	24.3
LnGrp LOS	D	A	A	D	C	F	F	F	D	C	C	C
Approach Vol, veh/h		142			777			1497			1190	
Approach Delay, s/veh		52.3			114.7			294.5			26.7	
Approach LOS		D			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	10.8	30.2	9.2	12.5	10.0	24.8		39.2				
Green Ext Time (p_c), s	1.0	0.0	0.0	0.5	0.0	5.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	157.8
HCM 6th LOS	F

Notes

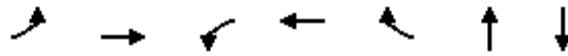
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

Year 2030 Background Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	32	543	92	757	44	338	165
v/c Ratio	0.11	0.83	0.30	1.09	0.07	0.86	0.30
Control Delay	10.2	37.2	12.4	88.9	0.2	49.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	37.2	12.4	88.9	0.2	49.6	15.8
Queue Length 50th (ft)	8	267	23	~488	0	169	42
Queue Length 95th (ft)	15	#447	30	#630	0	#249	45
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	656	308	697	675	395	548
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.83	0.30	1.09	0.07	0.86	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

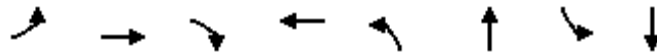
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2030 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	158	284	133	494	1398	28	1150
v/c Ratio	0.42	0.41	0.44	0.35	2.78	1.38	0.14	1.11
Control Delay	44.4	44.2	4.1	38.4	831.5	213.1	22.3	103.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	44.2	4.1	38.4	831.5	213.1	22.3	103.3
Queue Length 50th (ft)	108	111	0	78	~611	~762	13	~531
Queue Length 95th (ft)	178	141	34	122	#722	#888	17	#669
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	368	381	649	385	178	1010	203	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.41	0.44	0.35	2.78	1.38	0.14	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2030 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	142	162	75	540	122	1226	149	312	878
v/c Ratio	0.46	0.60	0.13	0.65	1.06	1.66	0.27	0.31	0.57
Control Delay	36.6	46.3	33.0	6.9	156.3	333.5	4.6	34.5	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	46.3	33.0	6.9	156.3	333.5	4.6	34.5	25.9
Queue Length 50th (ft)	70	103	44	0	~108	~757	0	100	264
Queue Length 95th (ft)	101	161	68	93	90	#827	30	139	328
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	308	269	565	832	115	740	548	1020	1550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.60	0.13	0.65	1.06	1.66	0.27	0.31	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Attachment H5

Year 2035 Background Conditions
- HCM Worksheets

HCM 6th TWSC
4: Oak Ridge Avenue & Green Cove Ave

Year 2035 Background Conditions
Timing Plan: AM Peak

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	14	176	54	61	149
Future Vol, veh/h	23	14	176	54	61	149
Conflicting Peds, #/hr	0	0	0	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	59	80	71	72	75	84
Heavy Vehicles, %	17	9	34	30	0	21
Mvmt Flow	39	18	248	75	81	177

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	625	286	0	0	323
Stage 1	286	-	-	-	-
Stage 2	339	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1
Critical Hdwy Stg 1	5.57	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2
Pot Cap-1 Maneuver	425	737	-	-	1248
Stage 1	729	-	-	-	-
Stage 2	689	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	394	737	-	-	1248
Mov Cap-2 Maneuver	394	-	-	-	-
Stage 1	729	-	-	-	-
Stage 2	639	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	460	1248
HCM Lane V/C Ratio	-	-	0.123	0.065
HCM Control Delay (s)	-	-	13.9	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	3	0	872	5	42	881	0
Future Vol, veh/h	0	0	0	3	0	3	0	872	5	42	881	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	25	92	50	92	84	50	51	81	92
Heavy Vehicles, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	12	0	6	0	1038	10	82	1088	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1771	2300	544	1751	2295	524	1088	0	0	1048	0	0
Stage 1	1252	1252	-	1043	1043	-	-	-	-	-	-	-
Stage 2	519	1048	-	708	1252	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	54	39	488	56	39	503	649	-	-	672	-	-
Stage 1	185	246	-	249	309	-	-	-	-	-	-	-
Stage 2	513	307	-	396	246	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	48	34	488	51	34	503	649	-	-	672	-	-
Mov Cap-2 Maneuver	48	34	-	51	34	-	-	-	-	-	-	-
Stage 1	185	216	-	249	309	-	-	-	-	-	-	-
Stage 2	507	307	-	348	216	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	69.8	0	0.8
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	649	-	-	-	73	672	-
HCM Lane V/C Ratio	-	-	-	-	0.247	0.123	-
HCM Control Delay (s)	0	-	-	0	69.8	11.1	-
HCM Lane LOS	A	-	-	A	F	B	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.4	-

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	39	92	86	485	344	43
Future Vol, veh/h	39	92	86	485	344	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	91	74	83	78	84
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	60	101	116	584	441	51

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	965	221	492	0	0
Stage 1	441	-	-	-	-
Stage 2	524	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	184	730	939	-	-
Stage 1	499	-	-	-	-
Stage 2	445	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	161	730	939	-	-
Mov Cap-2 Maneuver	275	-	-	-	-
Stage 1	437	-	-	-	-
Stage 2	445	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	939	-	452	-	-
HCM Lane V/C Ratio	0.124	-	0.356	-	-
HCM Control Delay (s)	9.4	-	17.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.6	-	-

HCM 6th Signalized Intersection Summary
 3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Year 2035 Background Conditions

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	632	131	36	366	42	116	41	43	15	31	35
Future Volume (veh/h)	82	632	131	36	366	42	116	41	43	15	31	35
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	114	752	172	49	581	56	171	85	47	38	63	60
Peak Hour Factor	0.72	0.84	0.76	0.73	0.63	0.75	0.68	0.48	0.92	0.40	0.49	0.58
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	350	585	134	229	743	645	287	132	66	134	215	181
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1426	326	1570	1811	1572	737	420	212	286	687	578
Grp Volume(v), veh/h	114	0	924	49	581	56	303	0	0	161	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1370	0	0	1551	0	0
Q Serve(g_s), s	3.4	0.0	41.0	1.6	27.9	2.2	12.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	41.0	1.6	27.9	2.2	19.4	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.56		0.16	0.24		0.37
Lane Grp Cap(c), veh/h	350	0	718	229	743	645	485	0	0	530	0	0
V/C Ratio(X)	0.33	0.00	1.29	0.21	0.78	0.09	0.62	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	350	0	718	229	743	645	485	0	0	530	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.4	0.0	29.5	20.8	25.6	18.0	30.2	0.0	0.0	26.1	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.0	139.2	2.1	8.1	0.3	6.0	0.0	0.0	1.5	0.0	0.0
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	1.5	0.0	43.4	0.6	12.6	0.8	7.1	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	168.7	22.9	33.7	18.3	36.2	0.0	0.0	27.6	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	D	A	A	C	A	A
Approach Vol, veh/h		1038			686			303			161	
Approach Delay, s/veh		152.3			31.7			36.2			27.6	
Approach LOS		F			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.6	43.0		9.4	5.4	29.9		21.4				
Green Ext Time (p_c), s	0.0	0.0		0.9	0.1	4.3		1.3				

Intersection Summary

HCM 6th Ctrl Delay	89.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2035 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	15	333	20	20	12	250	787	15	5	878	155
Future Volume (veh/h)	250	15	333	20	20	12	250	787	15	5	878	155
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	376	0	378	25	28	15	287	948	17	15	1071	199
Peak Hour Factor	0.69	0.75	0.88	0.80	0.71	0.81	0.87	0.83	0.88	0.34	0.82	0.78
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	63	71	38	329	1473	26	367	1119	207
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	660	739	396	1725	3402	61	1810	2922	541
Grp Volume(v), veh/h	376	0	378	68	0	0	287	472	493	15	635	635
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1796	0	0	1725	1692	1770	1810	1735	1728
Q Serve(g_s), s	10.2	0.0	15.3	3.6	0.0	0.0	11.4	21.9	21.9	0.4	35.6	35.9
Cycle Q Clear(g_c), s	10.2	0.0	15.3	3.6	0.0	0.0	11.4	21.9	21.9	0.4	35.6	35.9
Prop In Lane	1.00		1.00	0.37		0.22	1.00		0.03	1.00		0.31
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	329	733	767	367	664	662
V/C Ratio(X)	0.70	0.00	0.88	0.39	0.00	0.00	0.87	0.64	0.64	0.04	0.96	0.96
Avail Cap(c_a), veh/h	536	0	428	172	0	0	329	733	767	367	664	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	0.0	33.5	42.5	0.0	0.0	26.7	22.3	22.3	15.3	30.0	30.1
Incr Delay (d2), s/veh	7.5	0.0	22.2	6.6	0.0	0.0	25.8	4.3	4.1	0.2	25.5	26.4
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	4.9	0.0	11.3	1.9	0.0	0.0	9.1	9.3	9.7	0.2	18.9	19.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	0.0	55.8	49.1	0.0	0.0	52.5	26.6	26.4	15.5	55.5	56.5
LnGrp LOS	D	A	E	D	A	A	D	C	C	B	E	E
Approach Vol, veh/h		754			68			1252			1285	
Approach Delay, s/veh		51.7			49.1			32.5			55.5	
Approach LOS		D			D			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.4	23.9		17.3	13.4	37.9		5.6				
Green Ext Time (p_c), s	0.0	6.3		0.0	0.1	0.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

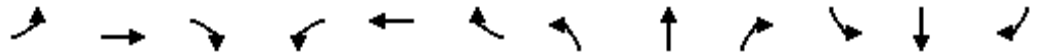
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2035 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



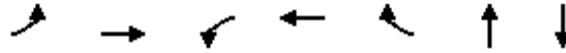
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖	↗	↗	↕	↗	↖	↕	↖
Traffic Volume (veh/h)	24	52	52	101	12	268	14	722	107	401	784	18
Future Volume (veh/h)	24	52	52	101	12	268	14	722	107	401	784	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	25	54	69	129	24	288	28	849	135	451	825	21
Peak Hour Factor	0.96	0.96	0.75	0.78	0.50	0.93	0.50	0.85	0.79	0.89	0.95	0.86
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	63	124	134	303	565	812	116	991	465	786	1570	40
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.30	0.30	0.23	0.47	0.47
Sat Flow, veh/h	167	700	757	1485	1900	1535	1810	3328	1309	3401	3373	86
Grp Volume(v), veh/h	148	0	0	129	24	288	28	849	135	451	414	432
Grp Sat Flow(s),veh/h/ln	1623	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1766
Q Serve(g_s), s	1.6	0.0	0.0	7.2	1.1	13.6	1.8	30.1	9.3	14.7	21.6	21.6
Cycle Q Clear(g_c), s	9.7	0.0	0.0	7.2	1.1	13.6	1.8	30.1	9.3	14.7	21.6	21.6
Prop In Lane	0.17		0.47	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	322	0	0	303	565	812	116	991	465	786	788	822
V/C Ratio(X)	0.46	0.00	0.00	0.43	0.04	0.35	0.24	0.86	0.29	0.57	0.53	0.53
Avail Cap(c_a), veh/h	322	0	0	303	565	812	116	991	465	786	788	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.30	0.30	0.30
Uniform Delay (d), s/veh	46.2	0.0	0.0	38.6	31.2	17.1	55.6	41.4	29.0	42.6	23.6	23.6
Incr Delay (d2), s/veh	4.7	0.0	0.0	4.3	0.1	1.2	4.9	9.5	1.6	0.9	0.8	0.7
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	4.6	0.0	0.0	3.6	0.5	4.8	1.0	13.2	3.0	6.1	8.4	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	43.0	31.4	18.3	60.5	50.9	30.6	43.5	24.4	24.4
LnGrp LOS	D	A	A	D	C	B	E	D	C	D	C	C
Approach Vol, veh/h		148			441			1012			1297	
Approach Delay, s/veh		50.9			26.2			48.4			31.0	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	44.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 29	37.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	16.7	32.1	9.2	11.7	3.8	23.6		15.6				
Green Ext Time (p_c), s	1.3	2.6	0.0	0.5	0.0	5.4		1.0				

Intersection Summary

HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	114	924	49	581	56	303	161
v/c Ratio	0.35	1.31	0.22	0.79	0.08	0.90	0.33
Control Delay	13.3	175.9	6.0	26.5	2.9	62.7	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	175.9	6.0	26.5	2.9	62.7	23.4
Queue Length 50th (ft)	31	~761	6	322	3	178	62
Queue Length 95th (ft)	45	#902	m7	266	m5	121	51
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	327	707	219	734	698	337	483
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.31	0.22	0.79	0.08	0.90	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

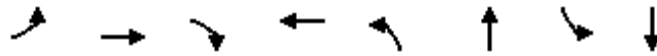
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2035 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	192	190	378	68	287	965	15	1270
v/c Ratio	0.76	0.75	0.69	0.45	0.91	0.67	0.05	0.97
Control Delay	61.7	61.4	17.4	46.8	59.3	25.4	9.8	49.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	61.4	17.4	46.8	59.3	25.4	9.8	49.7
Queue Length 50th (ft)	140	138	67	35	131	251	4	405
Queue Length 95th (ft)	m112	m112	m42	60	#269	285	5	#452
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	546	150	314	1446	318	1306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.75	0.69	0.45	0.91	0.67	0.05	0.97

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Year 2035 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	148	129	24	288	28	849	135	451	846
v/c Ratio	0.47	0.48	0.04	0.31	0.24	0.90	0.21	0.58	0.56
Control Delay	41.6	40.7	31.6	12.0	61.1	56.5	2.6	46.1	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	40.7	31.6	12.0	61.1	56.5	2.6	46.1	26.3
Queue Length 50th (ft)	85	80	14	97	22	342	0	168	251
Queue Length 95th (ft)	154	116	20	151	30	393	11	220	313
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	317	271	585	930	115	976	630	778	1552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.48	0.04	0.31	0.24	0.87	0.21	0.58	0.55

Intersection Summary

HCM 6th TWSC
 4: Oak Ridge Avenue & Green Cove Ave

Year 2035 Background Conditions
 Timing Plan: PM Peak

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	85	250	34	14	184
Future Vol, veh/h	28	85	250	34	14	184
Conflicting Peds, #/hr	0	0	0	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	75	74	87	73	61	91
Heavy Vehicles, %	22	2	4	0	0	26
Mvmt Flow	37	115	287	47	23	202

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	559	311	0	0	334	0
Stage 1	311	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	458	729	-	-	1237	-
Stage 1	700	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	448	729	-	-	1237	-
Mov Cap-2 Maneuver	448	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	632	1237
HCM Lane V/C Ratio	-	-	0.241	0.019
HCM Control Delay (s)	-	-	12.5	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	4	0	61	0	1226	1	11	981	0
Future Vol, veh/h	0	0	0	4	0	61	0	1226	1	11	981	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	75	25	50	92	95	25	50	93	25
Heavy Vehicles, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	5	0	122	0	1291	4	22	1055	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1745	2394	528	1865	2392	648	1055	0	0	1295	0	0
Stage 1	1099	1099	-	1293	1293	-	-	-	-	-	-	-
Stage 2	646	1295	-	572	1099	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	56	34	500	46	34	404	668	-	-	444	-	-
Stage 1	230	291	-	175	235	-	-	-	-	-	-	-
Stage 2	431	235	-	477	291	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	38	32	500	44	32	404	668	-	-	444	-	-
Mov Cap-2 Maneuver	38	32	-	44	32	-	-	-	-	-	-	-
Stage 1	230	276	-	175	235	-	-	-	-	-	-	-
Stage 2	301	235	-	453	276	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	25.5	0	0.3
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	668	-	-	-	301	444	-	-
HCM Lane V/C Ratio	-	-	-	-	0.423	0.05	-	-
HCM Control Delay (s)	0	-	-	0	25.5	13.5	-	-
HCM Lane LOS	A	-	-	A	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	2	0.2	-	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	12	135	111	520	651	12
Future Vol, veh/h	12	135	111	520	651	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	96	81	89	93	75
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	22	141	137	584	700	16

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1266	350	716	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	138	621	854	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	621	854	-	-	-
Mov Cap-2 Maneuver	234	-	-	-	-	-
Stage 1	344	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	854	-	508	-	-
HCM Lane V/C Ratio	0.16	-	0.32	-	-
HCM Control Delay (s)	10	-	15.4	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	1.4	-	-

HCM 6th Signalized Intersection Summary

Year 2035 Background Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	423	111	59	667	35	189	24	70	18	36	62
Future Volume (veh/h)	23	423	111	59	667	35	189	24	70	18	36	62
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	34	445	125	95	794	47	233	31	91	20	62	90
Peak Hour Factor	0.68	0.95	0.89	0.62	0.84	0.75	0.81	0.78	0.77	0.88	0.58	0.69
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	281	518	146	317	701	608	340	38	107	78	214	271
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1371	385	1598	1856	1610	872	120	342	107	679	863
Grp Volume(v), veh/h	34	0	570	95	794	47	355	0	0	172	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1757	1598	1856	1610	1334	0	0	1649	0	0
Q Serve(g_s), s	0.9	0.0	26.9	2.9	34.0	1.7	15.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	26.9	2.9	34.0	1.7	22.6	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.66		0.26	0.12		0.52
Lane Grp Cap(c), veh/h	281	0	664	317	701	608	486	0	0	563	0	0
V/C Ratio(X)	0.12	0.00	0.86	0.30	1.13	0.08	0.73	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	281	0	664	317	701	608	486	0	0	563	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	25.8	17.1	28.0	17.9	29.2	0.0	0.0	23.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	11.5	2.4	76.8	0.2	9.4	0.0	0.0	1.4	0.0	0.0
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	0.4	0.0	12.2	1.1	28.5	0.6	8.2	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	0.0	37.3	19.5	104.8	18.2	38.5	0.0	0.0	25.0	0.0	0.0
LnGrp LOS	B	A	D	B	F	B	D	A	A	C	A	A
Approach Vol, veh/h		604			936			355				172
Approach Delay, s/veh		36.3			91.8			38.5				25.0
Approach LOS		D			F			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	40.0		34.0	16.0	40.0		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.9	28.9		9.2	2.9	36.0		24.6				
Green Ext Time (p_c), s	0.1	2.2		0.9	0.0	0.0		0.8				

Intersection Summary

HCM 6th Ctrl Delay	60.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2035 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	54	286	20	63	23	420	1278	23	15	909	221
Future Volume (veh/h)	234	54	286	20	63	23	420	1278	23	15	909	221
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	164	199	298	26	78	36	519	1436	29	30	967	240
Peak Hour Factor	0.93	0.72	0.96	0.78	0.81	0.64	0.81	0.89	0.79	0.50	0.94	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	390	416	450	74	222	103	180	1023	21	200	840	208
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1781	1900	1560	334	1003	463	1739	3478	70	1810	2778	688
Grp Volume(v), veh/h	164	199	298	140	0	0	519	716	749	30	608	599
Grp Sat Flow(s),veh/h/ln	1781	1900	1560	1800	0	0	1739	1735	1813	1810	1749	1717
Q Serve(g_s), s	9.5	11.0	20.2	7.9	0.0	0.0	8.3	35.3	35.3	1.3	36.3	36.3
Cycle Q Clear(g_c), s	9.5	11.0	20.2	7.9	0.0	0.0	8.3	35.3	35.3	1.3	36.3	36.3
Prop In Lane	1.00		1.00	0.19		0.26	1.00		0.04	1.00		0.40
Lane Grp Cap(c), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
V/C Ratio(X)	0.42	0.48	0.66	0.35	0.00	0.00	2.88	1.40	1.40	0.15	1.15	1.15
Avail Cap(c_a), veh/h	390	416	450	399	0	0	180	510	533	200	529	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	40.9	37.6	39.4	0.0	0.0	33.7	42.3	42.4	29.3	41.8	41.9
Incr Delay (d2), s/veh	3.3	3.9	7.5	2.4	0.0	0.0	860.5	192.7	193.3	1.6	87.3	89.3
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	4.5	5.6	8.7	3.8	0.0	0.0	46.8	42.2	44.2	0.6	28.3	28.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	44.8	45.1	41.8	0.0	0.0	894.2	235.0	235.6	30.9	129.1	131.1
LnGrp LOS	D	D	D	D	A	A	F	F	F	C	F	F
Approach Vol, veh/h		661			140			1984			1237	
Approach Delay, s/veh		44.6			41.8			407.7			127.7	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	41.0		32.0	14.0	42.0		32.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 35		* 26	* 8.3	* 36		26.6				
Max Q Clear Time (g_c+I1), s	3.3	37.3		22.2	10.3	38.3		9.9				
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	249.2
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Year 2035 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



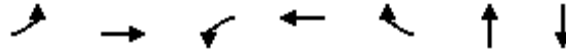
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖	↕	
Traffic Volume (veh/h)	34	20	21	148	59	514	64	1092	133	307	838	27
Future Volume (veh/h)	34	20	21	148	59	514	64	1092	133	307	838	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	39	27	84	170	79	565	128	1285	156	327	891	29
Peak Hour Factor	0.88	0.73	0.25	0.87	0.75	0.91	0.50	0.85	0.85	0.94	0.94	0.94
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	81	64	139	299	565	457	116	751	371	1031	1558	51
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	253	361	782	1485	1900	1535	1810	3328	1309	3401	3345	109
Grp Volume(v), veh/h	150	0	0	170	79	565	128	1285	156	327	451	469
Grp Sat Flow(s),veh/h/ln	1396	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1762
Q Serve(g_s), s	6.0	0.0	0.0	7.2	3.8	37.2	8.0	28.2	12.1	9.3	24.3	24.3
Cycle Q Clear(g_c), s	11.5	0.0	0.0	7.2	3.8	37.2	8.0	28.2	12.1	9.3	24.3	24.3
Prop In Lane	0.26		0.56	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	284	0	0	299	565	457	116	751	371	1031	788	820
V/C Ratio(X)	0.53	0.00	0.00	0.57	0.14	1.24	1.11	1.71	0.42	0.32	0.57	0.57
Avail Cap(c_a), veh/h	284	0	0	299	565	457	116	751	371	1031	788	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	46.6	0.0	0.0	41.1	32.2	43.9	58.5	48.4	36.5	33.6	24.3	24.3
Incr Delay (d2), s/veh	6.9	0.0	0.0	7.6	0.5	124.3	114.7	325.8	3.5	0.1	0.3	0.3
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	4.8	0.0	0.0	2.3	1.8	29.3	7.3	45.3	4.1	3.7	9.3	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	0.0	0.0	48.7	32.7	168.2	173.2	374.2	39.9	33.6	24.6	24.6
LnGrp LOS	D	A	A	D	C	F	F	F	D	C	C	C
Approach Vol, veh/h		150			814			1569			1247	
Approach Delay, s/veh		53.5			130.1			324.5			27.0	
Approach LOS		D			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	11.3	30.2	9.2	13.5	10.0	26.3		39.2				
Green Ext Time (p_c), s	1.1	0.0	0.0	0.5	0.0	6.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	173.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	34	570	95	794	47	355	172
v/c Ratio	0.12	0.87	0.33	1.14	0.07	0.91	0.31
Control Delay	10.3	41.1	13.0	107.9	0.2	57.9	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	41.1	13.0	107.9	0.2	57.9	16.3
Queue Length 50th (ft)	8	287	24	~532	0	183	45
Queue Length 95th (ft)	16	#483	31	#675	0	#273	48
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	656	290	697	675	390	548
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.87	0.33	1.14	0.07	0.91	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

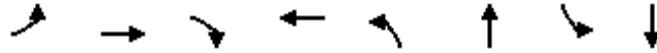
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2035 Background Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	166	298	140	519	1465	30	1207
v/c Ratio	0.44	0.44	0.45	0.37	2.92	1.45	0.15	1.17
Control Delay	44.9	44.7	4.2	39.0	893.7	241.2	22.5	124.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	44.7	4.2	39.0	893.7	241.2	22.5	124.1
Queue Length 50th (ft)	114	117	0	84	~652	~820	14	~580
Queue Length 95th (ft)	186	147	35	128	#762	#945	18	#719
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	368	380	659	383	178	1010	203	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.44	0.45	0.37	2.92	1.45	0.15	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Year 2035 Background Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	150	170	79	565	128	1285	156	327	920
v/c Ratio	0.49	0.64	0.14	0.66	1.11	1.74	0.28	0.32	0.59
Control Delay	38.2	48.6	33.1	7.0	170.2	367.8	5.1	34.7	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	48.6	33.1	7.0	170.2	367.8	5.1	34.7	26.6
Queue Length 50th (ft)	76	109	47	0	~118	~809	0	105	281
Queue Length 95th (ft)	108	170	72	96	94	#876	34	146	348
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	306	265	565	850	115	740	548	1020	1550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.64	0.14	0.66	1.11	1.74	0.28	0.32	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Attachment H6

Year 2025 (Analysis Phase 01)
Build-Out Conditions - HCM
Worksheets

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	12	227	84	52	154
Future Vol, veh/h	33	12	227	84	52	154
Conflicting Peds, #/hr	0	0	0	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, %	10	9	10	10	0	10
Mvmt Flow	36	13	247	91	57	167

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	574	293	0	0	338
Stage 1	293	-	-	-	-
Stage 2	281	-	-	-	-
Critical Hdwy	6.5	6.29	-	-	4.1
Critical Hdwy Stg 1	5.5	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-
Follow-up Hdwy	3.59	3.381	-	-	2.2
Pot Cap-1 Maneuver	467	730	-	-	1232
Stage 1	739	-	-	-	-
Stage 2	749	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	443	730	-	-	1232
Mov Cap-2 Maneuver	443	-	-	-	-
Stage 1	739	-	-	-	-
Stage 2	711	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	495	1232
HCM Lane V/C Ratio	-	-	0.099	0.046
HCM Control Delay (s)	-	-	13.1	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	2	0	2	0	600	5	38	455	0
Future Vol, veh/h	0	0	0	2	0	2	0	600	5	38	455	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	-	-	-	-	-	-	150	-	-	150	-	-
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, %	0	0	0	0	0	0	0	13	0	0	14	0
Mvmt Flow	0	0	0	2	0	2	0	652	5	41	495	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	903	1234	248	985	1232	329	495	0	0	657	0	0
Stage 1	577	577	-	655	655	-	-	-	-	-	-	-
Stage 2	326	657	-	330	577	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	236	178	758	205	179	673	1079	-	-	940	-	-
Stage 1	474	505	-	426	466	-	-	-	-	-	-	-
Stage 2	666	465	-	663	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	228	170	758	198	171	673	1079	-	-	940	-	-
Mov Cap-2 Maneuver	228	170	-	198	171	-	-	-	-	-	-	-
Stage 1	474	483	-	426	466	-	-	-	-	-	-	-
Stage 2	664	465	-	634	483	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	16.9	0	0.7
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	-	306	940	-
HCM Lane V/C Ratio	-	-	-	-	0.014	0.044	-
HCM Control Delay (s)	0	-	-	0	16.9	9	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0.1	-

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↖		↙	↗
Traffic Vol, veh/h	6	114	111	2	39	113
Future Vol, veh/h	6	114	111	2	39	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	240	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	124	121	2	42	123

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	329	122	0	0	123	0
Stage 1	122	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	665	929	-	-	1464	-
Stage 1	903	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	646	929	-	-	1464	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	646	929	1464	-
HCM Lane V/C Ratio	-	-	0.01	0.133	0.029	-
HCM Control Delay (s)	-	-	10.6	9.5	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.5	0.1	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	34	85	76	416	296	37
Future Vol, veh/h	34	85	76	416	296	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	37	92	83	452	322	40

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	714	161	362	0	-	0
Stage 1	322	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-	-
Pot Cap-1 Maneuver	281	802	1062	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	802	1062	-	-	-
Mov Cap-2 Maneuver	363	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	1.3	0
HCM LOS	B		

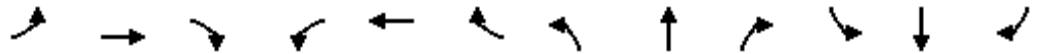
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1062	-	596	-	-
HCM Lane V/C Ratio	0.078	-	0.217	-	-
HCM Control Delay (s)	8.7	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	543	119	51	314	36	118	35	96	13	27	30
Future Volume (veh/h)	71	543	119	51	314	36	118	35	96	13	27	30
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	77	590	129	55	341	39	128	38	104	14	29	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	517	590	129	229	743	645	249	81	173	108	215	215
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1440	315	1570	1811	1572	624	257	552	209	686	687
Grp Volume(v), veh/h	77	0	719	55	341	39	270	0	0	76	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1754	1570	1811	1572	1434	0	0	1581	0	0
Q Serve(g_s), s	2.3	0.0	41.0	1.8	13.7	1.5	12.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	41.0	1.8	13.7	1.5	15.5	0.0	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	0.47		0.39	0.18		0.43
Lane Grp Cap(c), veh/h	517	0	719	229	743	645	502	0	0	538	0	0
V/C Ratio(X)	0.15	0.00	1.00	0.24	0.46	0.06	0.54	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	517	0	719	229	743	645	502	0	0	538	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.6	0.0	29.5	20.8	21.4	17.8	28.7	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	33.4	2.5	2.0	0.2	4.1	0.0	0.0	0.6	0.0	0.0
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	0.9	0.0	22.3	0.7	5.8	0.5	5.9	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	62.9	23.3	23.5	18.0	32.8	0.0	0.0	25.3	0.0	0.0
LnGrp LOS	B	A	E	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		796			435			270				76
Approach Delay, s/veh		58.2			23.0			32.8				25.3
Approach LOS		E			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.8	43.0		5.3	4.3	15.7		17.5				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	3.4		1.4				

Intersection Summary

HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	13	314	17	17	10	224	687	13	5	758	144
Future Volume (veh/h)	247	13	314	17	17	10	224	687	13	5	758	144
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	278	0	341	18	18	11	243	747	14	5	824	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	66	66	40	396	1472	28	436	1113	212
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	686	686	419	1725	3399	64	1810	2907	554
Grp Volume(v), veh/h	278	0	341	47	0	0	243	372	389	5	492	489
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1790	0	0	1725	1692	1770	1810	1735	1726
Q Serve(g_s), s	7.3	0.0	15.3	2.4	0.0	0.0	7.6	16.0	16.0	0.1	24.4	24.4
Cycle Q Clear(g_c), s	7.3	0.0	15.3	2.4	0.0	0.0	7.6	16.0	16.0	0.1	24.4	24.4
Prop In Lane	1.00		1.00	0.38		0.23	1.00		0.04	1.00		0.32
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	396	733	766	436	664	661
V/C Ratio(X)	0.52	0.00	0.80	0.27	0.00	0.00	0.61	0.51	0.51	0.01	0.74	0.74
Avail Cap(c_a), veh/h	536	0	428	172	0	0	396	733	766	436	664	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	32.4	42.0	0.0	0.0	18.0	20.6	20.6	14.4	26.6	26.6
Incr Delay (d2), s/veh	3.6	0.0	14.2	3.9	0.0	0.0	7.0	2.5	2.4	0.0	7.3	7.3
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	3.4	0.0	9.2	1.3	0.0	0.0	3.6	6.6	6.9	0.1	11.1	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	0.0	46.6	45.9	0.0	0.0	25.0	23.1	23.0	14.4	33.8	33.9
LnGrp LOS	D	A	D	D	A	A	C	C	C	B	C	C
Approach Vol, veh/h		619			47			1004			986	
Approach Delay, s/veh		44.8			45.9			23.5			33.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.1	18.0		17.3	9.6	26.4		4.4				
Green Ext Time (p_c), s	0.0	5.2		0.0	0.3	5.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

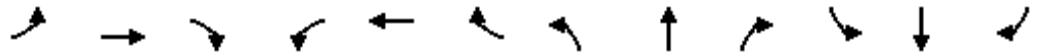
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



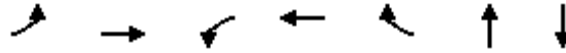
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↖	↖	↕	↖	↖↗	↖↗	↖↗
Traffic Volume (veh/h)	32	116	0	173	31	470	1	390	183	716	329	19
Future Volume (veh/h)	32	116	0	173	31	470	1	390	183	716	329	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	35	126	0	188	34	511	1	424	199	778	358	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	76	245	0	301	565	922	116	751	371	1031	1513	88
Arrive On Green	0.18	0.18	0.00	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	233	1380	0	1485	1900	1535	1810	3328	1309	3401	3250	190
Grp Volume(v), veh/h	161	0	0	188	34	511	1	424	199	778	186	193
Grp Sat Flow(s),veh/h/ln	1613	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1747
Q Serve(g_s), s	4.1	0.0	0.0	7.2	1.6	24.9	0.1	14.1	16.1	25.8	8.2	8.3
Cycle Q Clear(g_c), s	10.5	0.0	0.0	7.2	1.6	24.9	0.1	14.1	16.1	25.8	8.2	8.3
Prop In Lane	0.22		0.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	322	0	0	301	565	922	116	751	371	1031	788	814
V/C Ratio(X)	0.50	0.00	0.00	0.62	0.06	0.55	0.01	0.56	0.54	0.75	0.24	0.24
Avail Cap(c_a), veh/h	322	0	0	301	565	922	116	751	371	1031	788	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	46.3	0.0	0.0	42.3	31.4	14.9	54.8	43.0	37.9	39.3	20.1	20.1
Incr Delay (d2), s/veh	5.5	0.0	0.0	9.4	0.2	2.4	0.1	3.1	5.5	3.3	0.5	0.4
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	5.0	0.0	0.0	3.1	0.8	8.5	0.0	6.0	5.6	10.9	3.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	0.0	0.0	51.8	31.6	17.3	54.9	46.0	43.4	42.7	20.5	20.5
LnGrp LOS	D	A	A	D	C	B	D	D	D	D	C	C
Approach Vol, veh/h		161			733			624			1157	
Approach Delay, s/veh		51.8			26.8			45.2			35.4	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	27.8	18.1	9.2	12.5	2.1	10.3		26.9				
Green Ext Time (p_c), s	2.2	2.4	0.0	0.6	0.0	2.1		1.6				

Intersection Summary

HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	77	719	55	341	39	270	76
v/c Ratio	0.15	1.02	0.25	0.46	0.06	0.70	0.15
Control Delay	10.7	68.0	5.4	14.0	2.6	38.0	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	68.0	5.4	14.0	2.6	38.0	16.3
Queue Length 50th (ft)	21	~461	4	132	1	133	19
Queue Length 95th (ft)	42	#709	m5	m223	m4	#237	53
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	510	708	219	734	698	383	503
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	1.02	0.25	0.46	0.06	0.70	0.15

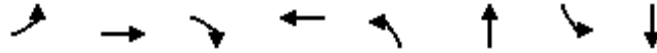
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Phase 01 Year 2025 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	139	143	341	47	243	761	5	981
v/c Ratio	0.55	0.56	0.59	0.31	0.71	0.53	0.01	0.75
Control Delay	59.5	59.6	11.6	40.0	28.2	22.4	9.4	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	59.6	11.6	40.0	28.2	22.4	9.4	30.4
Queue Length 50th (ft)	101	104	39	22	76	182	1	273
Queue Length 95th (ft)	m108	m110	m43	58	#178	238	6	351
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	578	153	343	1446	394	1307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.56	0.59	0.31	0.71	0.53	0.01	0.75

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	161	188	34	511	1	424	199	778	379
v/c Ratio	0.53	0.57	0.05	0.46	0.01	0.74	0.35	0.76	0.27
Control Delay	53.9	40.7	29.2	8.0	55.0	56.7	5.7	45.3	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	40.7	29.2	8.0	55.0	56.7	5.7	45.3	23.9
Queue Length 50th (ft)	119	112	18	123	1	173	0	293	103
Queue Length 95th (ft)	193	#207	45	226	7	218	53	368	129
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	303	327	661	1113	115	740	571	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.57	0.05	0.46	0.01	0.57	0.35	0.76	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	73	268	54	12	248
Future Vol, veh/h	68	73	268	54	12	248
Conflicting Peds, #/hr	0	0	0	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, %	22	2	4	0	0	26
Mvmt Flow	74	79	291	59	13	270

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	617	321	0	0	350
Stage 1	321	-	-	-	-
Stage 2	296	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	423	720	-	-	1220
Stage 1	692	-	-	-	-
Stage 2	711	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	418	720	-	-	1220
Mov Cap-2 Maneuver	418	-	-	-	-
Stage 1	692	-	-	-	-
Stage 2	702	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	534	1220
HCM Lane V/C Ratio	-	-	0.287	0.011
HCM Control Delay (s)	-	-	14.4	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	52	0	675	1	9	689	0
Future Vol, veh/h	0	0	0	3	0	52	0	675	1	9	689	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	-	-	-	-	-	-	150	-	-	150	-	-
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, %	0	0	0	0	0	6	0	8	100	20	5	0
Mvmt Flow	0	0	0	3	0	57	0	734	1	10	749	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1136	1504	375	1130	1504	368	749	0	0	735	0	0
Stage 1	769	769	-	735	735	-	-	-	-	-	-	-
Stage 2	367	735	-	395	769	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.02	4.1	-	-	4.5	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.36	2.2	-	-	2.4	-	-
Pot Cap-1 Maneuver	159	123	628	161	123	618	869	-	-	757	-	-
Stage 1	364	413	-	382	428	-	-	-	-	-	-	-
Stage 2	630	428	-	607	413	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	143	121	628	159	121	618	869	-	-	757	-	-
Mov Cap-2 Maneuver	143	121	-	159	121	-	-	-	-	-	-	-
Stage 1	364	408	-	382	428	-	-	-	-	-	-	-
Stage 2	572	428	-	599	408	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.6	0	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	869	-	-	-	534	757	-
HCM Lane V/C Ratio	-	-	-	-	0.112	0.013	-
HCM Control Delay (s)	0	-	-	0	12.6	9.8	-
HCM Lane LOS	A	-	-	A	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0	-

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↖		↘	↗
Traffic Vol, veh/h	4	78	105	7	134	126
Future Vol, veh/h	4	78	105	7	134	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	240	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	85	114	8	146	137

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	547	118	0	0	122	0
Stage 1	118	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	498	934	-	-	1465	-
Stage 1	907	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	448	934	-	-	1465	-
Mov Cap-2 Maneuver	448	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	448	934	1465	-
HCM Lane V/C Ratio	-	-	0.01	0.091	0.099	-
HCM Control Delay (s)	-	-	13.1	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.3	0.3	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	10	120	102	447	559	10
Future Vol, veh/h	10	120	102	447	559	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	11	130	111	486	608	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1073	304	619	0	-	0
Stage 1	608	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	188	666	931	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	166	666	931	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	549	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	931	-	604	-	-
HCM Lane V/C Ratio	0.119	-	0.234	-	-
HCM Control Delay (s)	9.4	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	363	116	120	573	30	174	21	100	15	31	53
Future Volume (veh/h)	20	363	116	120	573	30	174	21	100	15	31	53
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	22	395	126	130	623	33	189	23	109	16	34	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	312	480	153	330	672	583	332	44	161	93	187	272
Arrive On Green	0.11	0.36	0.36	0.11	0.36	0.36	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1327	423	1598	1856	1610	852	141	510	150	596	865
Grp Volume(v), veh/h	22	0	521	130	623	33	321	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1750	1598	1856	1610	1503	0	0	1612	0	0
Q Serve(g_s), s	0.6	0.0	24.3	4.2	29.0	1.2	11.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	24.3	4.2	29.0	1.2	16.1	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.24	1.00		1.00	0.59		0.34	0.15		0.54
Lane Grp Cap(c), veh/h	312	0	633	330	672	583	536	0	0	553	0	0
V/C Ratio(X)	0.07	0.00	0.82	0.39	0.93	0.06	0.60	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	312	0	661	330	701	608	536	0	0	553	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	0.0	26.1	17.5	27.6	18.7	26.3	0.0	0.0	22.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	8.7	3.5	20.9	0.2	4.9	0.0	0.0	0.8	0.0	0.0
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	0.3	0.0	10.7	1.7	15.5	0.4	6.5	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	34.8	21.1	48.5	18.9	31.2	0.0	0.0	23.4	0.0	0.0
LnGrp LOS	B	A	C	C	D	B	C	A	A	C	A	A
Approach Vol, veh/h		543			786			321			108	
Approach Delay, s/veh		34.1			42.7			31.2			23.4	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	38.6		34.0	16.0	38.6		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	6.2	26.3		6.4	2.6	31.0		18.1				
Green Ext Time (p_c), s	0.1	2.8		0.5	0.0	1.5		1.4				

Intersection Summary

HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	46	264	17	55	20	393	1106	20	13	793	227
Future Volume (veh/h)	223	46	264	17	55	20	393	1106	20	13	793	227
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	278	0	287	18	60	22	427	1202	22	14	862	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	514	0	463	48	159	58	360	1548	28	270	990	284
Arrive On Green	0.14	0.00	0.14	0.15	0.15	0.15	0.15	0.44	0.44	0.08	0.37	0.37
Sat Flow, veh/h	3563	0	1560	326	1087	399	1739	3485	64	1810	2683	768
Grp Volume(v), veh/h	278	0	287	100	0	0	427	598	626	14	562	547
Grp Sat Flow(s),veh/h/ln	1781	0	1560	1812	0	0	1739	1735	1814	1810	1749	1702
Q Serve(g_s), s	8.7	0.0	17.3	6.0	0.0	0.0	18.3	35.1	35.1	0.5	35.8	35.9
Cycle Q Clear(g_c), s	8.7	0.0	17.3	6.0	0.0	0.0	18.3	35.1	35.1	0.5	35.8	35.9
Prop In Lane	1.00		1.00	0.18		0.22	1.00		0.04	1.00		0.45
Lane Grp Cap(c), veh/h	514	0	463	266	0	0	360	770	806	270	646	628
V/C Ratio(X)	0.54	0.00	0.62	0.38	0.00	0.00	1.19	0.78	0.78	0.05	0.87	0.87
Avail Cap(c_a), veh/h	514	0	463	266	0	0	360	770	806	270	646	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	36.4	46.2	0.0	0.0	33.4	28.3	28.3	21.4	35.2	35.2
Incr Delay (d2), s/veh	4.1	0.0	6.1	4.0	0.0	0.0	108.4	7.5	7.2	0.4	14.9	15.3
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	4.2	0.0	8.1	3.0	0.0	0.0	21.5	15.9	16.6	0.2	17.7	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	0.0	42.5	50.3	0.0	0.0	141.8	35.8	35.5	21.8	50.0	50.5
LnGrp LOS	D	A	D	D	A	A	F	D	D	C	D	D
Approach Vol, veh/h		565			100			1651			1123	
Approach Delay, s/veh		47.0			50.3			63.1			49.9	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	59.0		23.0	24.0	50.0		23.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 53		* 17	* 18	* 44		17.6				
Max Q Clear Time (g_c+I1), s	2.5	37.1		19.3	20.3	37.9		8.0				
Green Ext Time (p_c), s	0.0	7.7		0.0	0.0	3.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 01 Year 2025 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↖	↖	↗	↖	↗	↗	↖
Traffic Volume (veh/h)	36	53	1	254	133	916	5	496	229	547	456	35
Future Volume (veh/h)	36	53	1	254	133	916	5	496	229	547	456	35
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	39	58	1	276	145	996	5	539	249	595	496	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	95	126	2	331	565	922	116	751	371	1031	1484	113
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	307	709	10	1485	1900	1535	1810	3328	1309	3401	3187	243
Grp Volume(v), veh/h	98	0	0	276	145	996	5	539	249	595	263	271
Grp Sat Flow(s),veh/h/ln	1026	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1738
Q Serve(g_s), s	5.9	0.0	0.0	7.2	7.3	37.2	0.3	18.7	21.1	18.5	12.3	12.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	7.2	7.3	37.2	0.3	18.7	21.1	18.5	12.3	12.4
Prop In Lane	0.40		0.01	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	223	0	0	331	565	922	116	751	371	1031	788	809
V/C Ratio(X)	0.44	0.00	0.00	0.83	0.26	1.08	0.04	0.72	0.67	0.58	0.33	0.34
Avail Cap(c_a), veh/h	223	0	0	331	565	922	116	751	371	1031	788	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	45.2	0.0	0.0	46.3	33.4	25.0	54.9	44.7	39.7	36.8	21.1	21.1
Incr Delay (d2), s/veh	6.2	0.0	0.0	21.2	1.1	53.7	0.7	5.8	9.3	1.2	0.6	0.6
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	3.1	0.0	0.0	7.3	3.4	37.6	0.2	8.1	7.5	7.6	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	0.0	0.0	67.6	34.5	78.7	55.6	50.6	49.0	38.0	21.7	21.7
LnGrp LOS	D	A	A	E	C	F	E	D	D	D	C	C
Approach Vol, veh/h		98			1417			793			1129	
Approach Delay, s/veh		51.4			72.0			50.1			30.3	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	20.5	23.1	9.2	10.9	2.3	14.4		39.2				
Green Ext Time (p_c), s	2.0	1.9	0.0	0.5	0.0	3.1		0.0				

Intersection Summary

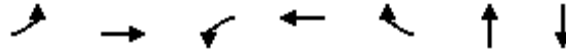
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	22	521	130	623	33	321	108
v/c Ratio	0.08	0.82	0.42	0.92	0.05	0.71	0.20
Control Delay	9.9	36.4	14.4	47.4	0.1	34.7	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	36.4	14.4	47.4	0.1	34.7	12.7
Queue Length 50th (ft)	5	249	34	327	0	146	20
Queue Length 95th (ft)	16	#417	62	#534	0	#268	58
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	284	654	313	697	675	453	552
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.80	0.42	0.89	0.05	0.71	0.20

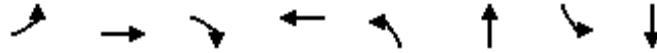
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Phase 01 Year 2025 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	147	287	100	427	1224	14	1109
v/c Ratio	0.60	0.59	0.43	0.39	1.33	0.80	0.06	0.88
Control Delay	59.4	58.8	4.1	46.6	197.6	33.8	12.9	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	58.8	4.1	46.6	197.6	33.8	12.9	44.0
Queue Length 50th (ft)	112	113	0	64	~381	421	4	408
Queue Length 95th (ft)	186	187	40	119	#586	514	14	#514
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	242	248	662	258	322	1525	219	1255
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.59	0.43	0.39	1.33	0.80	0.06	0.88

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Phase 01 Year 2025 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	98	276	145	996	5	539	249	595	534
v/c Ratio	0.37	0.80	0.24	0.94	0.04	0.82	0.41	0.58	0.37
Control Delay	49.9	56.6	33.3	34.3	56.0	58.8	5.8	39.6	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	56.6	33.3	34.3	56.0	58.8	5.8	39.6	23.4
Queue Length 50th (ft)	71	187	86	635	4	220	0	209	145
Queue Length 95th (ft)	126	#381	146	#1059	18	279	59	270	182
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	265	346	614	1063	115	740	604	1020	1544
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.80	0.24	0.94	0.04	0.73	0.41	0.58	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Attachment H7

Year 2027 (Analysis Phase 02)
Build-Out Conditions - HCM
Worksheets

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	13	207	69	56	154
Future Vol, veh/h	28	13	207	69	56	154
Conflicting Peds, #/hr	0	0	0	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, %	17	9	34	30	0	21
Mvmt Flow	30	14	225	75	61	167

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	552	263	0	0	300	0
Stage 1	263	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2	-
Pot Cap-1 Maneuver	470	759	-	-	1273	-
Stage 1	747	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	445	759	-	-	1273	-
Mov Cap-2 Maneuver	445	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	512	1273
HCM Lane V/C Ratio	-	-	0.087	0.048
HCM Control Delay (s)	-	-	12.7	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	63	120	1	23	121
Future Vol, veh/h	3	63	120	1	23	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	68	130	1	25	132

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	313	131	0	0	131	0
Stage 1	131	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	680	919	-	-	1454	-
Stage 1	895	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	668	919	-	-	1454	-
Mov Cap-2 Maneuver	668	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	668	919	1454	-
HCM Lane V/C Ratio	-	-	0.005	0.075	0.017	-
HCM Control Delay (s)	-	-	10.4	9.2	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.2	0.1	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	36	88	81	452	328	40
Future Vol, veh/h	36	88	81	452	328	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	39	96	88	491	357	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	779	179	400	0	-	0
Stage 1	357	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-	-
Pot Cap-1 Maneuver	252	780	1024	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	230	780	1024	-	-	-
Mov Cap-2 Maneuver	339	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1024	-	566	-	-
HCM Lane V/C Ratio	0.086	-	0.238	-	-
HCM Control Delay (s)	8.8	-	13.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	-	-

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	585	134	37	339	39	144	38	48	14	29	33
Future Volume (veh/h)	76	585	134	37	339	39	144	38	48	14	29	33
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	83	636	146	40	368	42	157	41	52	15	32	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	497	584	134	229	743	645	323	85	92	107	219	217
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1425	327	1570	1811	1572	844	271	293	207	700	694
Grp Volume(v), veh/h	83	0	782	40	368	42	250	0	0	83	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1752	1570	1811	1572	1408	0	0	1601	0	0
Q Serve(g_s), s	2.4	0.0	41.0	1.3	15.0	1.6	10.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	41.0	1.3	15.0	1.6	14.2	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.63		0.21	0.18		0.43
Lane Grp Cap(c), veh/h	497	0	718	229	743	645	499	0	0	543	0	0
V/C Ratio(X)	0.17	0.00	1.09	0.17	0.50	0.07	0.50	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	497	0	718	229	743	645	499	0	0	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	29.5	20.7	21.8	17.9	28.2	0.0	0.0	24.8	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	60.2	1.7	2.4	0.2	3.6	0.0	0.0	0.6	0.0	0.0
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	1.0	0.0	27.6	0.5	6.4	0.6	5.4	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	0.0	89.7	22.4	24.2	18.1	31.8	0.0	0.0	25.4	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		865			450			250				83
Approach Delay, s/veh		82.5			23.5			31.8				25.4
Approach LOS		F			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.3	43.0		5.6	4.4	17.0		16.2				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	3.7		1.3				

Intersection Summary

HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	14	309	19	19	11	231	796	14	5	839	147
Future Volume (veh/h)	239	14	309	19	19	11	231	796	14	5	839	147
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	271	0	336	21	21	12	251	865	15	5	912	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	67	67	38	373	1474	26	394	1130	198
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	697	697	399	1725	3404	59	1810	2950	517
Grp Volume(v), veh/h	271	0	336	54	0	0	251	430	450	5	536	536
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1793	0	0	1725	1692	1771	1810	1735	1733
Q Serve(g_s), s	7.1	0.0	15.3	2.8	0.0	0.0	7.9	19.3	19.3	0.1	27.6	27.6
Cycle Q Clear(g_c), s	7.1	0.0	15.3	2.8	0.0	0.0	7.9	19.3	19.3	0.1	27.6	27.6
Prop In Lane	1.00		1.00	0.39		0.22	1.00		0.03	1.00		0.30
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	373	733	767	394	664	664
V/C Ratio(X)	0.51	0.00	0.78	0.31	0.00	0.00	0.67	0.59	0.59	0.01	0.81	0.81
Avail Cap(c_a), veh/h	536	0	428	172	0	0	373	733	767	394	664	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	32.3	42.1	0.0	0.0	19.1	21.6	21.6	14.8	27.5	27.6
Incr Delay (d2), s/veh	3.4	0.0	13.4	4.7	0.0	0.0	9.3	3.4	3.3	0.1	10.1	10.2
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	3.3	0.0	9.0	1.5	0.0	0.0	3.9	8.1	8.4	0.1	12.9	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	0.0	45.7	46.8	0.0	0.0	28.4	25.0	24.8	14.9	37.7	37.7
LnGrp LOS	D	A	D	D	A	A	C	C	C	B	D	D
Approach Vol, veh/h		607			54			1131			1077	
Approach Delay, s/veh		44.2			46.8			25.7			37.6	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.1	21.3		17.3	9.9	29.6		4.8				
Green Ext Time (p_c), s	0.0	5.9		0.0	0.3	4.5		0.1				

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

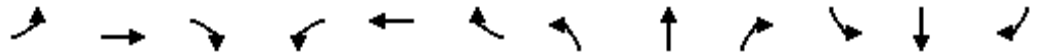
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↗	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	31	107	0	220	28	496	1	487	294	743	378	19
Future Volume (veh/h)	31	107	0	220	28	496	1	487	294	743	378	19
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	34	116	0	239	30	539	1	529	320	808	411	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	78	241	0	308	565	922	116	751	371	1031	1526	78
Arrive On Green	0.18	0.18	0.00	0.06	0.30	0.30	0.06	0.23	0.23	0.30	0.47	0.47
Sat Flow, veh/h	238	1357	0	1485	1900	1535	1810	3328	1309	3401	3277	167
Grp Volume(v), veh/h	150	0	0	239	30	539	1	529	320	808	212	220
Grp Sat Flow(s),veh/h/ln	1595	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1751
Q Serve(g_s), s	3.2	0.0	0.0	7.2	1.4	27.0	0.1	18.3	28.2	27.1	9.6	9.6
Cycle Q Clear(g_c), s	9.6	0.0	0.0	7.2	1.4	27.0	0.1	18.3	28.2	27.1	9.6	9.6
Prop In Lane	0.23		0.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	319	0	0	308	565	922	116	751	371	1031	788	815
V/C Ratio(X)	0.47	0.00	0.00	0.78	0.05	0.58	0.01	0.70	0.86	0.78	0.27	0.27
Avail Cap(c_a), veh/h	319	0	0	308	565	922	116	751	371	1031	788	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	46.0	0.0	0.0	45.3	31.3	15.4	54.8	44.6	42.5	39.8	20.4	20.4
Incr Delay (d2), s/veh	4.9	0.0	0.0	17.2	0.2	2.7	0.1	5.5	22.5	3.4	0.5	0.4
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	4.6	0.0	0.0	5.6	0.7	9.2	0.0	7.9	11.3	11.4	3.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	62.5	31.5	18.1	54.9	50.1	65.0	43.2	20.9	20.9
LnGrp LOS	D	A	A	E	C	B	D	D	E	D	C	C
Approach Vol, veh/h		150			808			850			1240	
Approach Delay, s/veh		50.9			31.7			55.7			35.4	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	45.0	35.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 38	28.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	29.1	30.2	9.2	11.6	2.1	11.6		29.0				
Green Ext Time (p_c), s	2.2	0.0	0.0	0.6	0.0	2.4		1.5				

Intersection Summary

HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D





















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 14: S. Orange Ave/US 17 & Hall Park Rd

Phase 02 Year 2027 Build-Out Conditions

Timing Plan: AM Peak

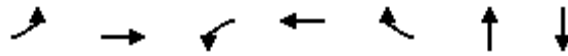
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	0	9	3	0	3	3	646	5	41	490	57
Future Volume (veh/h)	163	0	9	3	0	3	3	646	5	41	490	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1707	1900	1900	1693	1900
Adj Flow Rate, veh/h	177	0	10	3	0	3	3	702	5	45	533	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	13	0	0	14	0
Cap, veh/h	489	0	424	132	0	15	380	1101	8	357	1276	607
Arrive On Green	0.12	0.00	0.26	0.02	0.00	0.02	0.00	0.33	0.33	0.05	0.38	0.38
Sat Flow, veh/h	1810	0	1610	757	0	757	1810	3302	24	1810	3385	1610
Grp Volume(v), veh/h	177	0	10	6	0	0	3	345	362	45	533	62
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1513	0	0	1810	1622	1703	1810	1693	1610
Q Serve(g_s), s	4.1	0.0	0.2	0.2	0.0	0.0	0.1	8.3	8.4	0.7	5.4	1.2
Cycle Q Clear(g_c), s	4.1	0.0	0.2	0.2	0.0	0.0	0.1	8.3	8.4	0.7	5.4	1.2
Prop In Lane	1.00		1.00	0.50		0.50	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	489	0	424	147	0	0	380	541	568	357	1276	607
V/C Ratio(X)	0.36	0.00	0.02	0.04	0.00	0.00	0.01	0.64	0.64	0.13	0.42	0.10
Avail Cap(c_a), veh/h	985	0	1475	720	0	0	665	1801	1891	641	3904	1857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	12.7	22.4	0.0	0.0	10.3	13.1	13.1	9.9	10.7	9.4
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.0	0.0	1.3	1.2	0.2	0.2	0.1
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	1.5	0.0	0.1	0.1	0.0	0.0	0.0	2.7	2.8	0.2	1.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	0.0	12.7	22.5	0.0	0.0	10.3	14.3	14.3	10.1	10.9	9.4
LnGrp LOS	B	A	B	C	A	A	B	B	B	B	B	A
Approach Vol, veh/h		187			6			710			640	
Approach Delay, s/veh		17.2			22.5			14.3			10.7	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	21.0		17.7	5.7	23.0	11.3	6.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	51.5		42.5	7.5	53.5	18.5	18.5				
Max Q Clear Time (g_c+I1), s	2.7	10.4		2.2	2.1	7.4	6.1	2.2				
Green Ext Time (p_c), s	0.0	5.1		0.0	0.0	4.4	0.4	0.0				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	83	782	40	368	42	250	83
v/c Ratio	0.17	1.11	0.18	0.50	0.06	0.70	0.16
Control Delay	10.8	96.1	3.7	15.3	3.2	40.8	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	96.1	3.7	15.3	3.2	40.8	16.2
Queue Length 50th (ft)	22	~568	3	162	2	132	21
Queue Length 95th (ft)	44	#799	m3	m228	m5	#243	57
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	488	707	219	734	698	356	506
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	1.11	0.18	0.50	0.06	0.70	0.16

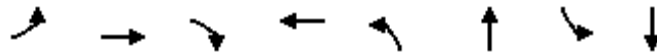
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Phase 02 Year 2027 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	137	336	54	251	880	5	1072
v/c Ratio	0.55	0.54	0.60	0.35	0.79	0.61	0.01	0.82
Control Delay	59.8	59.7	12.7	42.3	39.9	24.0	9.4	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	59.7	12.7	42.3	39.9	24.0	9.4	33.5
Queue Length 50th (ft)	100	100	48	26	101	221	1	312
Queue Length 95th (ft)	m96	m95	m42	65	#223	285	6	398
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	564	153	319	1446	347	1307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.54	0.60	0.35	0.79	0.61	0.01	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	150	239	30	539	1	529	320	808	432
v/c Ratio	0.50	0.79	0.05	0.51	0.01	0.81	0.55	0.79	0.30
Control Delay	52.7	57.8	31.0	10.7	55.0	58.4	14.8	46.7	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	57.8	31.0	10.7	55.0	58.4	14.8	46.7	22.6
Queue Length 50th (ft)	110	156	17	172	1	216	63	308	114
Queue Length 95th (ft)	181	#330	41	275	7	273	159	386	146
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	303	301	617	1066	115	740	581	1020	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.79	0.05	0.51	0.01	0.71	0.55	0.79	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
14: S. Orange Ave/US 17 & Hall Park Rd

Phase 02 Year 2027 Build-Out Conditions
Timing Plan: AM Peak



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	177	10	6	3	707	45	539	56
v/c Ratio	0.42	0.02	0.02	0.01	0.52	0.10	0.34	0.07
Control Delay	21.6	0.0	0.2	8.3	16.0	8.0	10.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	0.0	0.2	8.3	16.0	8.0	10.8	0.2
Queue Length 50th (ft)	47	0	0	0	92	5	40	0
Queue Length 95th (ft)	116	0	0	5	215	27	162	0
Internal Link Dist (ft)		824	1792		1197		1450	
Turn Bay Length (ft)				350		150		350
Base Capacity (vph)	674	1367	709	560	2879	525	2770	1354
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.01	0.01	0.01	0.25	0.09	0.19	0.04

Intersection Summary

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	79	262	45	13	223
Future Vol, veh/h	49	79	262	45	13	223
Conflicting Peds, #/hr	0	0	0	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, %	22	2	4	0	0	26
Mvmt Flow	53	86	285	49	14	242

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	580	310	0	0	334
Stage 1	310	-	-	-	-
Stage 2	270	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	445	730	-	-	1237
Stage 1	701	-	-	-	-
Stage 2	731	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	439	730	-	-	1237
Mov Cap-2 Maneuver	439	-	-	-	-
Stage 1	701	-	-	-	-
Stage 2	721	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	582	1237
HCM Lane V/C Ratio	-	-	0.239	0.011
HCM Control Delay (s)	-	-	13.1	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↖		↘	↗
Traffic Vol, veh/h	2	45	114	4	76	136
Future Vol, veh/h	2	45	114	4	76	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	49	124	4	83	148

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	440	126	0	0	128
Stage 1	126	-	-	-	-
Stage 2	314	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	574	924	-	-	1458
Stage 1	900	-	-	-	-
Stage 2	741	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	541	924	-	-	1458
Mov Cap-2 Maneuver	541	-	-	-	-
Stage 1	900	-	-	-	-
Stage 2	699	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	2.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	541	924	1458	-
HCM Lane V/C Ratio	-	-	0.004	0.053	0.057	-
HCM Control Delay (s)	-	-	11.7	9.1	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.2	0.2	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	11	127	107	492	609	11
Future Vol, veh/h	11	127	107	492	609	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	12	138	116	535	662	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1162	331	674	0	-	0
Stage 1	662	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	163	639	887	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	142	639	887	-	-	-
Mov Cap-2 Maneuver	261	-	-	-	-	-
Stage 1	373	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	1.7	0
HCM LOS	B		

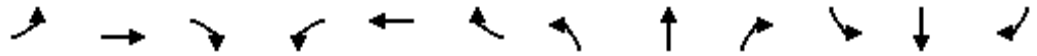
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	887	-	573	-	-
HCM Lane V/C Ratio	0.131	-	0.262	-	-
HCM Control Delay (s)	9.7	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1	-	-

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	391	146	65	618	33	200	23	71	16	34	58
Future Volume (veh/h)	21	391	146	65	618	33	200	23	71	16	34	58
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	23	425	159	71	672	36	217	25	77	17	37	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	299	478	179	304	700	607	374	41	111	92	189	274
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1267	474	1598	1856	1610	976	129	352	147	601	873
Grp Volume(v), veh/h	23	0	584	71	672	36	319	0	0	117	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1741	1598	1856	1610	1457	0	0	1621	0	0
Q Serve(g_s), s	0.6	0.0	28.3	2.1	31.8	1.3	12.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	28.3	2.1	31.8	1.3	16.8	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.68		0.24	0.15		0.54
Lane Grp Cap(c), veh/h	299	0	656	304	700	607	525	0	0	555	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.23	0.96	0.06	0.61	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	299	0	658	304	701	608	525	0	0	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.7	0.0	26.3	17.3	27.4	17.9	26.6	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	14.7	1.8	25.6	0.2	5.1	0.0	0.0	0.9	0.0	0.0
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	0.3	0.0	13.2	0.8	17.6	0.5	6.5	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	41.0	19.1	53.0	18.0	31.8	0.0	0.0	23.6	0.0	0.0
LnGrp LOS	B	A	D	B	D	B	C	A	A	C	A	A
Approach Vol, veh/h		607			779			319				117
Approach Delay, s/veh		40.1			48.3			31.8				23.6
Approach LOS		D			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	39.9		34.0	16.0	39.9		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.1	30.3		6.7	2.6	33.8		18.8				
Green Ext Time (p_c), s	0.1	1.7		0.6	0.0	0.1		1.4				

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	50	265	19	59	21	389	1231	21	14	930	215
Future Volume (veh/h)	222	50	265	19	59	21	389	1231	21	14	930	215
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	280	0	288	21	64	23	423	1338	23	15	1011	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	514	0	463	52	158	57	332	1550	27	240	1042	240
Arrive On Green	0.14	0.00	0.14	0.15	0.15	0.15	0.15	0.44	0.44	0.08	0.37	0.37
Sat Flow, veh/h	3563	0	1560	353	1074	386	1739	3490	60	1810	2821	651
Grp Volume(v), veh/h	280	0	288	108	0	0	423	665	696	15	625	620
Grp Sat Flow(s),veh/h/ln	1781	0	1560	1813	0	0	1739	1735	1815	1810	1749	1724
Q Serve(g_s), s	8.8	0.0	17.3	6.5	0.0	0.0	18.3	41.4	41.5	0.6	42.2	42.5
Cycle Q Clear(g_c), s	8.8	0.0	17.3	6.5	0.0	0.0	18.3	41.4	41.5	0.6	42.2	42.5
Prop In Lane	1.00		1.00	0.19		0.21	1.00		0.03	1.00		0.38
Lane Grp Cap(c), veh/h	514	0	463	266	0	0	332	770	806	240	646	636
V/C Ratio(X)	0.55	0.00	0.62	0.41	0.00	0.00	1.27	0.86	0.86	0.06	0.97	0.97
Avail Cap(c_a), veh/h	514	0	463	266	0	0	332	770	806	240	646	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	36.4	46.5	0.0	0.0	37.9	30.1	30.1	23.1	37.2	37.3
Incr Delay (d2), s/veh	4.1	0.0	6.2	4.6	0.0	0.0	145.1	12.3	11.8	0.5	28.6	29.8
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	4.2	0.0	8.1	3.3	0.0	0.0	23.2	19.5	20.3	0.3	22.8	22.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	0.0	42.6	51.0	0.0	0.0	183.0	42.3	41.9	23.6	65.7	67.1
LnGrp LOS	D	A	D	D	A	A	F	D	D	C	E	E
Approach Vol, veh/h		568			108			1784			1260	
Approach Delay, s/veh		47.1			51.0			75.5			65.9	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	59.0		23.0	24.0	50.0		23.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 53		* 17	* 18	* 44		17.6				
Max Q Clear Time (g_c+I1), s	2.6	43.5		19.3	20.3	44.5		8.5				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	67.2
HCM 6th LOS	E

Notes

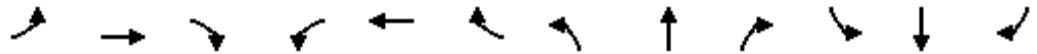
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 02 Year 2027 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↖	↖	↗	↖	↗	↗	↖
Traffic Volume (veh/h)	37	46	1	389	122	953	5	582	314	570	570	35
Future Volume (veh/h)	37	46	1	389	122	953	5	582	314	570	570	35
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	40	50	1	423	133	1036	5	633	341	620	620	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	93	102	2	446	702	934	87	724	475	814	1327	81
Arrive On Green	0.16	0.16	0.16	0.15	0.37	0.37	0.05	0.22	0.22	0.24	0.41	0.41
Sat Flow, veh/h	318	632	11	1485	1900	1535	1810	3328	1309	3401	3240	198
Grp Volume(v), veh/h	91	0	0	423	133	1036	5	633	341	620	324	334
Grp Sat Flow(s),veh/h/ln	961	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1746
Q Serve(g_s), s	6.8	0.0	0.0	18.2	5.9	46.2	0.3	23.0	27.2	21.2	17.4	17.5
Cycle Q Clear(g_c), s	9.3	0.0	0.0	18.2	5.9	46.2	0.3	23.0	27.2	21.2	17.4	17.5
Prop In Lane	0.44		0.01	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	197	0	0	446	702	934	87	724	475	814	693	715
V/C Ratio(X)	0.46	0.00	0.00	0.95	0.19	1.11	0.06	0.87	0.72	0.76	0.47	0.47
Avail Cap(c_a), veh/h	197	0	0	446	702	934	87	724	475	814	693	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	47.0	0.0	0.0	42.3	26.7	24.5	56.8	47.2	34.3	44.2	26.9	26.9
Incr Delay (d2), s/veh	7.6	0.0	0.0	31.4	0.6	64.0	1.3	13.9	9.0	2.4	0.8	0.7
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	3.0	0.0	0.0	9.4	2.7	40.5	0.2	10.6	9.7	8.9	6.9	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	0.0	73.8	27.3	88.4	58.1	61.1	43.3	46.6	27.7	27.7
LnGrp LOS	D	A	A	E	C	F	E	E	D	D	C	C
Approach Vol, veh/h		91			1592			979			1278	
Approach Delay, s/veh		54.7			79.4			54.9			36.9	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	34.0	26.0	28.0	13.0	58.0		54.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 30	27.2	18.2	20.2	* 6	51.2		46.2				
Max Q Clear Time (g_c+I1), s	23.2	29.2	20.2	11.3	2.3	19.5		48.2				
Green Ext Time (p_c), s	1.4	0.0	0.0	0.4	0.0	3.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E





















Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 14: S. Orange Ave/US 17 & Hall Park Rd

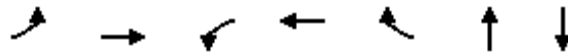
Phase 02 Year 2027 Build-Out Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	0	6	4	0	56	12	728	1	6	743	194
Future Volume (veh/h)	115	0	6	4	0	56	12	728	1	6	743	194
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1811	1900	1781	418	1604	1826	1900
Adj Flow Rate, veh/h	125	0	7	4	0	61	13	791	1	7	808	211
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	6	0	8	100	20	5	0
Cap, veh/h	470	0	417	83	1	96	291	1375	2	289	1350	627
Arrive On Green	0.08	0.00	0.26	0.06	0.00	0.06	0.02	0.40	0.40	0.01	0.39	0.39
Sat Flow, veh/h	1810	0	1610	76	23	1506	1810	3469	4	1527	3469	1610
Grp Volume(v), veh/h	125	0	7	65	0	0	13	386	406	7	808	211
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1604	0	0	1810	1692	1781	1527	1735	1610
Q Serve(g_s), s	3.0	0.0	0.2	1.2	0.0	0.0	0.2	8.8	8.8	0.1	9.1	4.5
Cycle Q Clear(g_c), s	3.0	0.0	0.2	1.9	0.0	0.0	0.2	8.8	8.8	0.1	9.1	4.5
Prop In Lane	1.00		1.00	0.06		0.94	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	0	417	180	0	0	291	671	706	289	1350	627
V/C Ratio(X)	0.27	0.00	0.02	0.36	0.00	0.00	0.04	0.58	0.58	0.02	0.60	0.34
Avail Cap(c_a), veh/h	503	0	1113	842	0	0	445	2065	2173	570	4550	2112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	13.6	22.5	0.0	0.0	9.6	11.6	11.6	9.7	12.0	10.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.0	0.1	0.8	0.7	0.0	0.4	0.3
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	1.1	0.0	0.1	0.7	0.0	0.0	0.1	2.8	3.0	0.0	3.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	0.0	13.6	23.7	0.0	0.0	9.7	12.4	12.3	9.7	12.4	10.9
LnGrp LOS	B	A	B	C	A	A	A	B	B	A	B	B
Approach Vol, veh/h		132			65			805			1026	
Approach Delay, s/veh		17.5			23.7			12.3			12.1	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	25.0		18.2	6.3	24.6	9.6	8.6				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	60.0		34.0	5.0	64.5	5.0	23.5				
Max Q Clear Time (g_c+I1), s	2.1	10.8		2.2	2.2	11.1	5.0	3.9				
Green Ext Time (p_c), s	0.0	6.0		0.0	0.0	8.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				12.9								
HCM 6th LOS				B								

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	23	584	71	672	36	319	117
v/c Ratio	0.08	0.90	0.25	0.96	0.05	0.75	0.22
Control Delay	9.9	44.5	12.0	55.5	0.2	38.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	44.5	12.0	55.5	0.2	38.9	12.7
Queue Length 50th (ft)	6	297	18	367	0	152	22
Queue Length 95th (ft)	16	#503	37	#597	0	#282	61
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	650	281	697	675	425	541
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.90	0.25	0.96	0.05	0.75	0.22

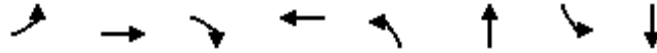
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Phase 02 Year 2027 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	147	148	288	108	423	1361	15	1245
v/c Ratio	0.61	0.60	0.44	0.42	1.31	0.89	0.07	0.99
Control Delay	59.8	59.0	4.6	47.9	192.6	39.5	13.1	60.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	59.0	4.6	47.9	192.6	39.5	13.1	60.4
Queue Length 50th (ft)	113	114	4	70	~374	499	5	492
Queue Length 95th (ft)	188	189	45	129	#578	607	15	#655
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	242	248	655	255	322	1525	203	1257
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.60	0.44	0.42	1.31	0.89	0.07	0.99

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Phase 02 Year 2027 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	91	423	133	1036	5	633	341	620	658
v/c Ratio	0.38	0.97	0.19	1.00	0.06	0.91	0.46	0.77	0.49
Control Delay	52.3	73.9	27.4	47.1	58.4	66.3	4.5	51.8	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	73.9	27.4	47.1	58.4	66.3	4.5	51.8	28.8
Queue Length 50th (ft)	67	301	72	~767	4	263	0	242	201
Queue Length 95th (ft)	122	#557	121	#1123	18	#365	59	311	257
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	237	435	713	1041	86	714	742	805	1360
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.97	0.19	1.00	0.06	0.89	0.46	0.77	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
14: S. Orange Ave/US 17 & Hall Park Rd

Phase 02 Year 2027 Build-Out Conditions
Timing Plan: PM Peak



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	125	7	65	13	792	7	808	211
v/c Ratio	0.39	0.01	0.22	0.03	0.40	0.02	0.40	0.20
Control Delay	20.8	0.0	3.2	6.6	9.9	6.5	9.7	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	0.0	3.2	6.6	9.9	6.5	9.7	2.4
Queue Length 50th (ft)	23	0	0	2	80	1	81	0
Queue Length 95th (ft)	86	0	9	8	172	5	169	32
Internal Link Dist (ft)		830	1792		1197		1450	
Turn Bay Length (ft)				350		150		350
Base Capacity (vph)	318	1250	855	462	3256	497	3398	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.01	0.08	0.03	0.24	0.01	0.24	0.13
Intersection Summary								

Attachment H8

Year 2030 (Analysis Phase 03)
Build-Out Conditions - HCM
Worksheets

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	13	220	64	58	164
Future Vol, veh/h	30	13	220	64	58	164
Conflicting Peds, #/hr	0	0	0	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, %	17	9	34	30	0	21
Mvmt Flow	33	14	239	70	63	178

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	578	274	0	0	309
Stage 1	274	-	-	-	-
Stage 2	304	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1
Critical Hdwy Stg 1	5.57	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2
Pot Cap-1 Maneuver	454	748	-	-	1263
Stage 1	739	-	-	-	-
Stage 2	716	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	429	748	-	-	1263
Mov Cap-2 Maneuver	429	-	-	-	-
Stage 1	739	-	-	-	-
Stage 2	677	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	492	1263
HCM Lane V/C Ratio	-	-	0.095	0.05
HCM Control Delay (s)	-	-	13.1	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	39	149	4	18	137
Future Vol, veh/h	12	39	149	4	18	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	42	162	4	20	149

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	353	164	0	0	166
Stage 1	164	-	-	-	-
Stage 2	189	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	645	881	-	-	1412
Stage 1	865	-	-	-	-
Stage 2	843	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	636	881	-	-	1412
Mov Cap-2 Maneuver	636	-	-	-	-
Stage 1	865	-	-	-	-
Stage 2	831	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	636	881	1412	-
HCM Lane V/C Ratio	-	-	0.021	0.048	0.014	-
HCM Control Delay (s)	-	-	10.8	9.3	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	26	127	3	12	137
Future Vol, veh/h	8	26	127	3	12	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	28	138	3	13	149

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	315	140	0	0	141
Stage 1	140	-	-	-	-
Stage 2	175	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	678	908	-	-	1442
Stage 1	887	-	-	-	-
Stage 2	855	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	672	908	-	-	1442
Mov Cap-2 Maneuver	672	-	-	-	-
Stage 1	887	-	-	-	-
Stage 2	847	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	839	1442
HCM Lane V/C Ratio	-	-	0.044	0.009
HCM Control Delay (s)	-	-	9.5	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	37	108	89	463	330	41
Future Vol, veh/h	37	108	89	463	330	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	40	117	97	503	359	45

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	805	180	404	0	0
Stage 1	359	-	-	-	-
Stage 2	446	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-
Pot Cap-1 Maneuver	241	778	1021	-	-
Stage 1	558	-	-	-	-
Stage 2	496	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	218	778	1021	-	-
Mov Cap-2 Maneuver	328	-	-	-	-
Stage 1	505	-	-	-	-
Stage 2	496	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1021	-	576	-	-
HCM Lane V/C Ratio	0.095	-	0.274	-	-
HCM Control Delay (s)	8.9	-	13.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	603	141	41	349	40	156	39	49	14	30	33
Future Volume (veh/h)	79	603	141	41	349	40	156	39	49	14	30	33
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	86	655	153	45	379	43	170	42	53	15	33	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	488	582	136	229	743	645	329	82	88	106	223	215
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1420	332	1570	1811	1572	862	262	281	204	713	687
Grp Volume(v), veh/h	86	0	808	45	379	43	265	0	0	84	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1751	1570	1811	1572	1404	0	0	1603	0	0
Q Serve(g_s), s	2.5	0.0	41.0	1.4	15.6	1.7	11.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	41.0	1.4	15.6	1.7	15.4	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.19	1.00		1.00	0.64		0.20	0.18		0.43
Lane Grp Cap(c), veh/h	488	0	718	229	743	645	499	0	0	544	0	0
V/C Ratio(X)	0.18	0.00	1.13	0.20	0.51	0.07	0.53	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	488	0	718	229	743	645	499	0	0	544	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	0.0	29.5	20.8	22.0	17.9	28.6	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	73.6	1.9	2.5	0.2	4.0	0.0	0.0	0.6	0.0	0.0
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	1.0	0.0	30.3	0.6	6.7	0.6	5.8	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	103.1	22.7	24.5	18.1	32.6	0.0	0.0	25.5	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		894			467			265				84
Approach Delay, s/veh		94.6			23.7			32.6				25.5
Approach LOS		F			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.4	43.0		5.7	4.5	17.6		17.4				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	3.8		1.3				

Intersection Summary

HCM 6th Ctrl Delay	62.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖		↔		↖	↕		↖	↕	
Traffic Volume (veh/h)	246	14	318	19	19	12	238	892	14	5	887	154
Future Volume (veh/h)	246	14	318	19	19	12	238	892	14	5	887	154
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	278	0	346	21	21	13	259	970	15	5	964	167
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	66	66	41	359	1477	23	361	1132	196
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	683	683	423	1725	3412	53	1810	2957	512
Grp Volume(v), veh/h	278	0	346	55	0	0	259	481	504	5	565	566
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1790	0	0	1725	1692	1772	1810	1735	1734
Q Serve(g_s), s	7.3	0.0	15.3	2.9	0.0	0.0	8.1	22.5	22.5	0.1	29.8	29.9
Cycle Q Clear(g_c), s	7.3	0.0	15.3	2.9	0.0	0.0	8.1	22.5	22.5	0.1	29.8	29.9
Prop In Lane	1.00		1.00	0.38		0.24	1.00		0.03	1.00		0.30
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	359	733	767	361	664	664
V/C Ratio(X)	0.52	0.00	0.81	0.32	0.00	0.00	0.72	0.66	0.66	0.01	0.85	0.85
Avail Cap(c_a), veh/h	536	0	428	172	0	0	359	733	767	361	664	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	32.6	42.2	0.0	0.0	19.7	22.5	22.5	15.3	28.2	28.3
Incr Delay (d2), s/veh	3.6	0.0	15.1	4.9	0.0	0.0	11.8	4.6	4.4	0.1	13.0	13.0
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	3.4	0.0	9.5	1.5	0.0	0.0	4.2	9.6	10.0	0.1	14.3	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	0.0	47.6	47.0	0.0	0.0	31.5	27.0	26.8	15.4	41.2	41.3
LnGrp LOS	D	A	D	D	A	A	C	C	C	B	D	D
Approach Vol, veh/h		624			55			1244				1136
Approach Delay, s/veh		45.3			47.0			27.9				41.1
Approach LOS		D			D			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.1	24.5		17.3	10.1	31.9		4.9				
Green Ext Time (p_c), s	0.0	6.4		0.0	0.3	3.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

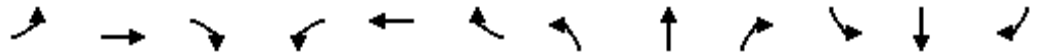
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖↗	↕	↖↗
Traffic Volume (veh/h)	31	54	50	110	14	256	13	830	142	382	792	23
Future Volume (veh/h)	31	54	50	110	14	256	13	830	142	382	792	23
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	34	59	54	120	15	278	14	902	154	415	861	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	80	134	104	308	565	762	116	1097	507	677	1564	45
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.06	0.33	0.33	0.20	0.47	0.47
Sat Flow, veh/h	253	757	587	1485	1900	1535	1810	3328	1309	3401	3359	98
Grp Volume(v), veh/h	147	0	0	120	15	278	14	902	154	415	434	452
Grp Sat Flow(s),veh/h/ln	1597	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1764
Q Serve(g_s), s	3.6	0.0	0.0	7.2	0.7	13.9	0.9	31.2	10.2	13.9	23.0	23.0
Cycle Q Clear(g_c), s	9.8	0.0	0.0	7.2	0.7	13.9	0.9	31.2	10.2	13.9	23.0	23.0
Prop In Lane	0.23		0.37	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	319	0	0	308	565	762	116	1097	507	677	788	821
V/C Ratio(X)	0.46	0.00	0.00	0.39	0.03	0.36	0.12	0.82	0.30	0.61	0.55	0.55
Avail Cap(c_a), veh/h	319	0	0	308	565	762	116	1097	507	677	788	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49
Uniform Delay (d), s/veh	46.2	0.0	0.0	38.2	31.1	19.3	55.2	38.5	26.6	45.7	24.0	24.0
Incr Delay (d2), s/veh	4.7	0.0	0.0	3.7	0.1	1.3	2.1	7.0	1.5	2.0	1.4	1.3
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	4.5	0.0	0.0	3.2	0.3	5.0	0.5	13.2	3.3	5.9	9.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	41.9	31.2	20.7	57.3	45.5	28.1	47.7	25.4	25.3
LnGrp LOS	D	A	A	D	C	C	E	D	C	D	C	C
Approach Vol, veh/h		147			413			1070			1301	
Approach Delay, s/veh		50.9			27.2			43.2			32.5	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	48.0	15.0	30.0	15.0	65.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 25	41.2	7.2	22.2	* 8	58.2		37.2				
Max Q Clear Time (g_c+I1), s	15.9	33.2	9.2	11.8	2.9	25.0		15.9				
Green Ext Time (p_c), s	1.0	3.8	0.0	0.5	0.0	5.7		0.9				

Intersection Summary

HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

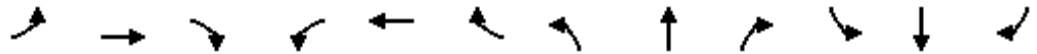
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

14: S. Orange Ave/US 17 & Ayrshire Boulevard/Hall Park Rd

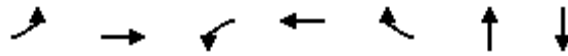
Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	0	181	3	0	3	64	832	5	42	841	58
Future Volume (veh/h)	181	0	181	3	0	3	64	832	5	42	841	58
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1707	1900	1900	1693	1900
Adj Flow Rate, veh/h	197	0	197	3	0	3	70	904	5	46	914	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	13	0	0	14	0
Cap, veh/h	494	0	424	140	26	66	358	1459	8	360	1373	688
Arrive On Green	0.09	0.00	0.26	0.09	0.00	0.09	0.06	0.44	0.44	0.05	0.43	0.43
Sat Flow, veh/h	1810	0	1610	455	296	751	1810	3308	18	1810	3216	1610
Grp Volume(v), veh/h	197	0	197	6	0	0	70	443	466	46	914	63
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1502	0	0	1810	1622	1704	1810	1608	1610
Q Serve(g_s), s	5.0	0.0	5.6	0.0	0.0	0.0	1.1	11.4	11.4	0.7	12.3	1.3
Cycle Q Clear(g_c), s	5.0	0.0	5.6	0.2	0.0	0.0	1.1	11.4	11.4	0.7	12.3	1.3
Prop In Lane	1.00		1.00	0.50		0.50	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	494	0	424	232	0	0	358	715	752	360	1373	688
V/C Ratio(X)	0.40	0.00	0.46	0.03	0.00	0.00	0.20	0.62	0.62	0.13	0.67	0.09
Avail Cap(c_a), veh/h	494	0	833	582	0	0	417	2127	2235	528	4366	2186
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	16.7	22.6	0.0	0.0	9.0	11.6	11.6	8.8	12.4	9.2
Incr Delay (d2), s/veh	0.5	0.0	0.8	0.0	0.0	0.0	0.3	0.9	0.8	0.2	0.6	0.1
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	2.0	0.0	1.9	0.1	0.0	0.0	0.4	3.5	3.7	0.3	3.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	0.0	17.5	22.6	0.0	0.0	9.3	12.5	12.5	9.0	13.0	9.3
LnGrp LOS	B	A	B	C	A	A	A	B	B	A	B	A
Approach Vol, veh/h		394			6			979			1023	
Approach Delay, s/veh		18.3			22.6			12.3			12.6	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	28.4		18.8	7.8	27.6	9.5	9.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	71.0		28.0	5.0	73.5	5.0	18.5				
Max Q Clear Time (g_c+I1), s	2.7	13.4		7.6	3.1	14.3	7.0	2.2				
Green Ext Time (p_c), s	0.0	7.4		1.1	0.0	8.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	86	808	45	379	43	265	84
v/c Ratio	0.18	1.14	0.21	0.52	0.06	0.75	0.17
Control Delay	10.9	109.6	3.8	15.6	3.3	44.4	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	109.6	3.8	15.6	3.3	44.4	16.3
Queue Length 50th (ft)	23	~603	3	170	2	144	22
Queue Length 95th (ft)	45	#837	m4	m224	m4	#270	57
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	479	707	219	734	698	353	506
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	1.14	0.21	0.52	0.06	0.75	0.17

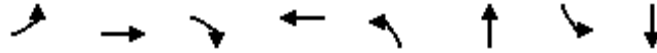
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Phase 03 Year 2030 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	140	346	55	259	985	5	1131
v/c Ratio	0.56	0.55	0.62	0.36	0.82	0.68	0.02	0.87
Control Delay	59.9	59.7	13.9	41.9	45.4	25.7	9.4	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	59.7	13.9	41.9	45.4	25.7	9.4	36.3
Queue Length 50th (ft)	103	102	52	26	111	258	1	338
Queue Length 95th (ft)	m95	m94	m43	65	#244	331	6	#436
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	560	154	314	1447	311	1307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.55	0.62	0.36	0.82	0.68	0.02	0.87

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Phase 03 Year 2030 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	147	120	15	278	14	902	154	415	886
v/c Ratio	0.48	0.41	0.02	0.31	0.12	0.89	0.23	0.62	0.60
Control Delay	45.8	38.1	31.2	13.4	57.8	52.1	3.4	50.4	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	38.1	31.2	13.4	57.8	52.1	3.4	50.4	27.6
Queue Length 50th (ft)	93	74	9	100	11	355	0	159	268
Queue Length 95th (ft)	163	128	26	158	33	439	34	214	332
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	304	291	601	894	115	1081	667	670	1552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.41	0.02	0.31	0.12	0.83	0.23	0.62	0.57

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	197	197	6	70	909	46	914	63
v/c Ratio	0.67	0.44	0.02	0.17	0.54	0.10	0.58	0.07
Control Delay	33.6	6.7	0.2	4.6	9.5	4.0	10.5	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	6.7	0.2	4.6	9.5	4.0	10.5	1.4
Queue Length 50th (ft)	50	0	0	4	39	3	84	0
Queue Length 95th (ft)	130	40	0	21	190	15	181	9
Internal Link Dist (ft)		1363	1792		1197		1450	
Turn Bay Length (ft)				350		150		250
Base Capacity (vph)	293	1227	865	418	3194	526	3167	1615
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.16	0.01	0.17	0.28	0.09	0.29	0.04

Intersection Summary

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	51	81	276	41	13	249
Future Vol, veh/h	51	81	276	41	13	249
Conflicting Peds, #/hr	0	0	0	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, %	22	2	4	0	0	26
Mvmt Flow	55	88	300	45	14	271

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	622	323	0	0	345
Stage 1	323	-	-	-	-
Stage 2	299	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	420	718	-	-	1225
Stage 1	691	-	-	-	-
Stage 2	709	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	415	718	-	-	1225
Mov Cap-2 Maneuver	415	-	-	-	-
Stage 1	691	-	-	-	-
Stage 2	700	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	560	1225
HCM Lane V/C Ratio	-	-	0.256	0.012
HCM Control Delay (s)	-	-	13.6	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↖		↙	↗
Traffic Vol, veh/h	8	28	137	15	59	180
Future Vol, veh/h	8	28	137	15	59	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	30	149	16	64	196

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	481	157	0	0	165
Stage 1	157	-	-	-	-
Stage 2	324	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	544	889	-	-	1413
Stage 1	871	-	-	-	-
Stage 2	733	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	520	889	-	-	1413
Mov Cap-2 Maneuver	520	-	-	-	-
Stage 1	871	-	-	-	-
Stage 2	700	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	520	889	1413	-
HCM Lane V/C Ratio	-	-	0.017	0.034	0.045	-
HCM Control Delay (s)	-	-	12	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.1	-

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	19	133	10	39	149
Future Vol, veh/h	6	19	133	10	39	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	21	145	11	42	162

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	397	151	0	0	156
Stage 1	151	-	-	-	-
Stage 2	246	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	608	895	-	-	1424
Stage 1	877	-	-	-	-
Stage 2	795	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	590	895	-	-	1424
Mov Cap-2 Maneuver	590	-	-	-	-
Stage 1	877	-	-	-	-
Stage 2	772	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	796	1424
HCM Lane V/C Ratio	-	-	0.034	0.03
HCM Control Delay (s)	-	-	9.7	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	12	143	131	499	623	12
Future Vol, veh/h	12	143	131	499	623	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	13	155	142	542	677	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1232	339	690	0	-	0
Stage 1	677	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	146	631	874	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	631	874	-	-	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	2.1	0
HCM LOS	B		

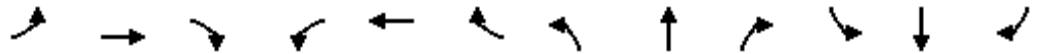
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	874	-	561	-	-
HCM Lane V/C Ratio	0.163	-	0.3	-	-
HCM Control Delay (s)	9.9	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.3	-	-

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	403	161	76	636	33	212	23	73	17	35	59
Future Volume (veh/h)	22	403	161	76	636	33	212	23	73	17	35	59
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	24	438	175	83	691	36	230	25	79	18	38	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	287	469	187	285	701	608	377	36	107	95	190	273
Arrive On Green	0.11	0.38	0.38	0.11	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1810	1241	496	1598	1856	1610	985	114	340	155	603	867
Grp Volume(v), veh/h	24	0	613	83	691	36	334	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1737	1598	1856	1610	1439	0	0	1625	0	0
Q Serve(g_s), s	0.6	0.0	30.6	2.5	33.2	1.3	13.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	30.6	2.5	33.2	1.3	18.3	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.29	1.00		1.00	0.69		0.24	0.15		0.53
Lane Grp Cap(c), veh/h	287	0	656	285	701	608	520	0	0	557	0	0
V/C Ratio(X)	0.08	0.00	0.93	0.29	0.99	0.06	0.64	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	287	0	656	285	701	608	520	0	0	557	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	26.9	18.2	27.8	17.8	27.2	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	21.0	2.6	30.7	0.2	6.0	0.0	0.0	0.9	0.0	0.0
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	0.3	0.0	15.2	1.0	19.2	0.5	7.0	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	47.9	20.8	58.5	18.0	33.2	0.0	0.0	23.7	0.0	0.0
LnGrp LOS	B	A	D	C	E	B	C	A	A	C	A	A
Approach Vol, veh/h		637			810			334			120	
Approach Delay, s/veh		46.8			52.8			33.2			23.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	40.0		34.0	16.0	40.0		34.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	34.0		* 28	10.0	34.0		* 28				
Max Q Clear Time (g_c+I1), s	4.5	32.6		6.9	2.6	35.2		20.3				
Green Ext Time (p_c), s	0.1	0.8		0.6	0.0	0.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	52	273	19	61	22	400	1320	22	14	1038	230
Future Volume (veh/h)	229	52	273	19	61	22	400	1320	22	14	1038	230
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	290	0	297	21	66	24	435	1435	24	15	1128	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	514	0	463	50	158	57	325	1696	28	172	1052	232
Arrive On Green	0.14	0.00	0.14	0.15	0.15	0.15	0.15	0.49	0.49	0.04	0.37	0.37
Sat Flow, veh/h	3563	0	1560	343	1078	392	1739	3492	58	1810	2849	627
Grp Volume(v), veh/h	290	0	297	111	0	0	435	712	747	15	689	689
Grp Sat Flow(s),veh/h/ln	1781	0	1560	1812	0	0	1739	1735	1815	1810	1749	1728
Q Serve(g_s), s	9.1	0.0	17.3	6.7	0.0	0.0	18.3	43.0	43.1	0.6	44.3	44.3
Cycle Q Clear(g_c), s	9.1	0.0	17.3	6.7	0.0	0.0	18.3	43.0	43.1	0.6	44.3	44.3
Prop In Lane	1.00		1.00	0.19		0.22	1.00		0.03	1.00		0.36
Lane Grp Cap(c), veh/h	514	0	463	266	0	0	325	843	882	172	646	638
V/C Ratio(X)	0.56	0.00	0.64	0.42	0.00	0.00	1.34	0.85	0.85	0.09	1.07	1.08
Avail Cap(c_a), veh/h	514	0	463	266	0	0	325	843	882	172	646	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	36.7	46.5	0.0	0.0	38.9	26.9	26.9	25.1	37.8	37.9
Incr Delay (d2), s/veh	4.4	0.0	6.7	4.8	0.0	0.0	171.4	10.2	9.9	1.0	55.0	59.0
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	4.4	0.0	8.5	3.4	0.0	0.0	25.2	19.6	20.5	0.3	28.4	28.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	0.0	43.4	51.3	0.0	0.0	210.3	37.1	36.8	26.1	92.8	96.9
LnGrp LOS	D	A	D	D	A	A	F	D	D	C	F	F
Approach Vol, veh/h		587			111			1894			1393	
Approach Delay, s/veh		47.8			51.3			76.8			94.1	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	64.0		23.0	24.0	50.0		23.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 4.3	* 58		* 17	* 18	* 44		17.6				
Max Q Clear Time (g_c+I1), s	2.6	45.1		19.3	20.3	46.3		8.7				
Green Ext Time (p_c), s	0.0	8.2		0.0	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	77.8
HCM 6th LOS	E

Notes

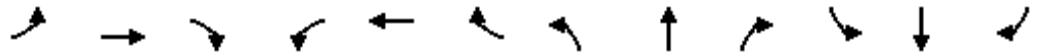
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕	↗	↖	↕	
Traffic Volume (veh/h)	38	22	20	190	61	491	61	1143	156	294	952	45
Future Volume (veh/h)	38	22	20	190	61	491	61	1143	156	294	952	45
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	41	24	22	207	66	534	66	1242	170	320	1035	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	128	74	54	347	565	652	275	1337	601	433	1242	59
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.15	0.40	0.40	0.13	0.38	0.38
Sat Flow, veh/h	484	419	306	1485	1900	1535	1810	3328	1309	3401	3290	156
Grp Volume(v), veh/h	87	0	0	207	66	534	66	1242	170	320	532	552
Grp Sat Flow(s),veh/h/ln	1209	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1753
Q Serve(g_s), s	4.8	0.0	0.0	7.2	3.2	37.2	4.0	44.5	10.1	11.3	35.7	35.7
Cycle Q Clear(g_c), s	7.1	0.0	0.0	7.2	3.2	37.2	4.0	44.5	10.1	11.3	35.7	35.7
Prop In Lane	0.47		0.25	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	257	0	0	347	565	652	275	1337	601	433	639	662
V/C Ratio(X)	0.34	0.00	0.00	0.60	0.12	0.82	0.24	0.93	0.28	0.74	0.83	0.83
Avail Cap(c_a), veh/h	257	0	0	347	565	652	275	1337	601	433	639	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.13	0.13	0.13
Uniform Delay (d), s/veh	44.9	0.0	0.0	41.9	31.9	31.7	46.6	35.7	21.0	52.6	35.3	35.3
Incr Delay (d2), s/veh	3.5	0.0	0.0	7.4	0.4	11.0	2.1	12.6	1.2	1.5	1.8	1.7
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	2.6	0.0	0.0	3.4	1.5	15.4	1.9	19.4	3.2	4.8	14.3	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	0.0	0.0	49.2	32.4	42.7	48.7	48.3	22.2	54.1	37.1	37.1
LnGrp LOS	D	A	A	D	C	D	D	D	C	D	D	D
Approach Vol, veh/h		87			807			1478			1404	
Approach Delay, s/veh		48.4			43.5			45.4			41.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	57.0	15.0	30.0	26.0	54.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 16	50.2	7.2	22.2	* 19	47.2		37.2				
Max Q Clear Time (g_c+I1), s	13.3	46.5	9.2	9.1	6.0	37.7		39.2				
Green Ext Time (p_c), s	0.3	2.6	0.0	0.4	0.1	4.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 03 Year 2030 Build-Out Conditions

14: S. Orange Ave/US 17 & Ayrshire Boulevard/Hall Park Rd

Timing Plan: PM Peak



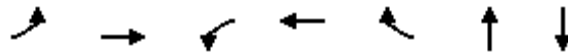
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	0	130	4	0	58	222	1169	1	6	936	202
Future Volume (veh/h)	130	0	130	4	0	58	222	1169	1	6	936	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1811	1900	1781	418	1604	1826	1900
Adj Flow Rate, veh/h	141	0	141	4	0	63	241	1271	1	7	1017	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	6	0	8	100	20	5	0
Cap, veh/h	423	0	371	65	3	118	356	1776	1	215	1529	710
Arrive On Green	0.08	0.00	0.23	0.08	0.00	0.08	0.08	0.51	0.51	0.01	0.44	0.44
Sat Flow, veh/h	1810	0	1610	53	43	1507	1810	3471	3	1527	3469	1610
Grp Volume(v), veh/h	141	0	141	67	0	0	241	620	652	7	1017	220
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1602	0	0	1810	1692	1781	1527	1735	1610
Q Serve(g_s), s	4.3	0.0	4.6	0.3	0.0	0.0	4.3	17.6	17.6	0.2	14.5	5.5
Cycle Q Clear(g_c), s	4.3	0.0	4.6	2.5	0.0	0.0	4.3	17.6	17.6	0.2	14.5	5.5
Prop In Lane	1.00		1.00	0.06		0.94	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	423	0	371	186	0	0	356	866	911	215	1529	710
V/C Ratio(X)	0.33	0.00	0.38	0.36	0.00	0.00	0.68	0.72	0.72	0.03	0.67	0.31
Avail Cap(c_a), veh/h	423	0	465	520	0	0	356	1874	1972	324	3841	1783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.2	27.6	0.0	0.0	11.6	11.7	11.7	10.9	13.8	11.3
Incr Delay (d2), s/veh	0.5	0.0	0.6	1.2	0.0	0.0	5.0	1.1	1.1	0.1	0.5	0.2
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	1.7	0.0	1.7	1.0	0.0	0.0	1.8	5.7	6.0	0.1	5.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	0.0	20.9	28.8	0.0	0.0	16.6	12.8	12.8	11.0	14.3	11.5
LnGrp LOS	C	A	C	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		282			67			1513			1244	
Approach Delay, s/veh		21.7			28.8			13.4			13.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.1	37.4		19.9	9.5	33.0	9.5	10.4				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5	4.5	5.5				
Max Green Setting (Gmax), s	5.0	69.0		18.0	5.0	69.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.2	19.6		6.6	6.3	16.5	6.3	4.5				
Green Ext Time (p_c), s	0.0	12.3		0.5	0.0	11.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	613	83	691	36	334	120
v/c Ratio	0.08	0.94	0.32	0.99	0.05	0.79	0.22
Control Delay	10.0	51.7	13.2	61.7	0.2	42.4	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	51.7	13.2	61.7	0.2	42.4	12.8
Queue Length 50th (ft)	6	320	21	384	0	164	23
Queue Length 95th (ft)	17	#542	42	#621	0	#306	63
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	285	649	262	697	675	421	539
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.94	0.32	0.99	0.05	0.79	0.22

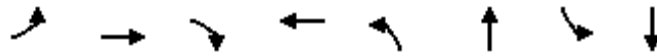
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Phase 03 Year 2030 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	154	297	111	435	1459	15	1378
v/c Ratio	0.63	0.62	0.46	0.44	1.35	0.87	0.12	1.10
Control Delay	60.8	60.2	5.3	48.3	207.7	34.8	15.2	91.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	60.2	5.3	48.3	207.7	34.8	15.2	91.3
Queue Length 50th (ft)	117	120	9	72	~394	515	5	~630
Queue Length 95th (ft)	194	195	52	131	#600	625	15	#770
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	242	248	651	255	322	1669	127	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.62	0.46	0.44	1.35	0.87	0.12	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Phase 03 Year 2030 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	207	66	534	66	1242	170	320	1084
v/c Ratio	0.32	0.63	0.12	0.70	0.24	0.95	0.23	0.75	0.87
Control Delay	42.4	46.9	32.7	29.1	49.3	52.5	3.1	64.3	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	46.9	32.7	29.1	49.3	52.5	3.1	64.3	45.2
Queue Length 50th (ft)	53	137	39	309	48	502	0	130	420
Queue Length 95th (ft)	105	215	75	449	93	#653	36	#182	516
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	268	326	573	765	274	1318	751	428	1256
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.63	0.12	0.70	0.24	0.94	0.23	0.75	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	141	141	67	241	1272	7	1017	220
v/c Ratio	0.47	0.30	0.29	0.72	0.64	0.03	0.63	0.25
Control Delay	30.6	4.7	6.1	21.4	10.9	4.7	14.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	4.7	6.1	21.4	10.9	4.7	14.7	2.2
Queue Length 50th (ft)	45	0	0	37	150	1	155	0
Queue Length 95th (ft)	124	29	17	#97	298	5	211	27
Internal Link Dist (ft)		776	1792		1197		1450	
Turn Bay Length (ft)				350		150		250
Base Capacity (vph)	299	815	516	333	3195	249	3288	1554
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.17	0.13	0.72	0.40	0.03	0.31	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Attachment H9

Year 2035 (Analysis Phase 04)
Build-Out Conditions - HCM
Worksheets

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	14	279	78	61	191
Future Vol, veh/h	37	14	279	78	61	191
Conflicting Peds, #/hr	0	0	0	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, %	17	9	34	30	0	21
Mvmt Flow	40	15	303	85	66	208

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	686	346	0	0	388
Stage 1	346	-	-	-	-
Stage 2	340	-	-	-	-
Critical Hdwy	6.57	6.29	-	-	4.1
Critical Hdwy Stg 1	5.57	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-
Follow-up Hdwy	3.653	3.381	-	-	2.2
Pot Cap-1 Maneuver	391	681	-	-	1182
Stage 1	684	-	-	-	-
Stage 2	689	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	366	681	-	-	1182
Mov Cap-2 Maneuver	366	-	-	-	-
Stage 1	684	-	-	-	-
Stage 2	646	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	419	1182
HCM Lane V/C Ratio	-	-	0.132	0.056
HCM Control Delay (s)	-	-	14.9	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↖		↘	↗
Traffic Vol, veh/h	24	76	180	8	34	153
Future Vol, veh/h	24	76	180	8	34	153
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	83	196	9	37	166

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	441	201	0	0	205
Stage 1	201	-	-	-	-
Stage 2	240	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	574	840	-	-	1366
Stage 1	833	-	-	-	-
Stage 2	800	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	559	840	-	-	1366
Mov Cap-2 Maneuver	559	-	-	-	-
Stage 1	833	-	-	-	-
Stage 2	778	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	559	840	1366	-
HCM Lane V/C Ratio	-	-	0.047	0.098	0.027	-
HCM Control Delay (s)	-	-	11.8	9.8	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.1	-

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	16	51	137	6	22	155
Future Vol, veh/h	16	51	137	6	22	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	55	149	7	24	168

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	369	153	0	0	156
Stage 1	153	-	-	-	-
Stage 2	216	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	631	893	-	-	1424
Stage 1	875	-	-	-	-
Stage 2	820	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	620	893	-	-	1424
Mov Cap-2 Maneuver	620	-	-	-	-
Stage 1	875	-	-	-	-
Stage 2	806	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	808	1424
HCM Lane V/C Ratio	-	-	0.09	0.017
HCM Control Delay (s)	-	-	9.9	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	39	132	100	487	348	43
Future Vol, veh/h	39	132	100	487	348	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	48	20	22	11	15	76
Mvmt Flow	42	143	109	529	378	47

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	861	189	425	0	-	0
Stage 1	378	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Critical Hdwy	7.76	7.3	4.54	-	-	-
Critical Hdwy Stg 1	6.76	-	-	-	-	-
Critical Hdwy Stg 2	6.76	-	-	-	-	-
Follow-up Hdwy	3.98	3.5	2.42	-	-	-
Pot Cap-1 Maneuver	219	768	1001	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	195	768	1001	-	-	-
Mov Cap-2 Maneuver	307	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1001	-	572	-	-
HCM Lane V/C Ratio	0.109	-	0.325	-	-
HCM Control Delay (s)	9	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	1.4	-	-

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	632	162	47	366	42	204	41	58	15	31	35
Future Volume (veh/h)	82	632	162	47	366	42	204	41	58	15	31	35
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1811	1633	1648	1811	1856	1337	1767	1589	1900	1781	1737
Adj Flow Rate, veh/h	89	687	176	51	398	46	222	45	63	16	34	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	6	18	17	6	3	38	9	21	0	8	11
Cap, veh/h	474	570	146	229	743	645	353	61	83	108	221	218
Arrive On Green	0.10	0.41	0.41	0.10	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	1391	356	1570	1811	1572	934	194	266	210	705	696
Grp Volume(v), veh/h	89	0	863	51	398	46	330	0	0	88	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1747	1570	1811	1572	1394	0	0	1611	0	0
Q Serve(g_s), s	2.6	0.0	41.0	1.6	16.6	1.8	17.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	41.0	1.6	16.6	1.8	20.9	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.20	1.00		1.00	0.67		0.19	0.18		0.43
Lane Grp Cap(c), veh/h	474	0	716	229	743	645	497	0	0	547	0	0
V/C Ratio(X)	0.19	0.00	1.20	0.22	0.54	0.07	0.66	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	474	0	716	229	743	645	497	0	0	547	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	29.5	20.8	22.3	17.9	30.4	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	105.2	2.2	2.8	0.2	6.9	0.0	0.0	0.6	0.0	0.0
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	1.1	0.0	36.5	0.7	7.1	0.6	7.9	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	134.7	23.1	25.1	18.1	37.3	0.0	0.0	25.6	0.0	0.0
LnGrp LOS	B	A	F	C	C	B	D	A	A	C	A	A
Approach Vol, veh/h		952			495			330				88
Approach Delay, s/veh		123.5			24.2			37.3				25.6
Approach LOS		F			C			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	47.0		37.0	16.0	47.0		37.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	10.0	41.0		* 31	10.0	41.0		* 31				
Max Q Clear Time (g_c+I1), s	3.6	43.0		5.9	4.6	18.6		22.9				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	4.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	77.3
HCM 6th LOS	E

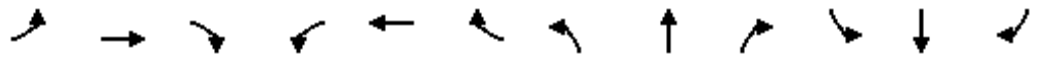
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	15	333	20	20	12	250	1064	15	5	975	166
Future Volume (veh/h)	265	15	333	20	20	12	250	1064	15	5	975	166
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1900	1707	1900	1900	1900	1811	1781	1900	1900	1826	1870
Adj Flow Rate, veh/h	299	0	362	22	22	13	272	1157	16	5	1060	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	13	0	0	0	6	8	0	0	5	2
Cap, veh/h	536	0	428	66	66	39	336	1480	20	310	1136	193
Arrive On Green	0.15	0.00	0.15	0.10	0.10	0.10	0.14	0.43	0.43	0.09	0.38	0.38
Sat Flow, veh/h	3506	0	1447	692	692	409	1725	3418	47	1810	2967	503
Grp Volume(v), veh/h	299	0	362	57	0	0	272	573	600	5	619	621
Grp Sat Flow(s),veh/h/ln	1753	0	1447	1792	0	0	1725	1692	1773	1810	1735	1735
Q Serve(g_s), s	7.9	0.0	15.3	3.0	0.0	0.0	9.9	29.0	29.0	0.1	34.2	34.4
Cycle Q Clear(g_c), s	7.9	0.0	15.3	3.0	0.0	0.0	9.9	29.0	29.0	0.1	34.2	34.4
Prop In Lane	1.00		1.00	0.39		0.23	1.00		0.03	1.00		0.29
Lane Grp Cap(c), veh/h	536	0	428	172	0	0	336	733	768	310	664	665
V/C Ratio(X)	0.56	0.00	0.85	0.33	0.00	0.00	0.81	0.78	0.78	0.02	0.93	0.93
Avail Cap(c_a), veh/h	536	0	428	172	0	0	336	733	768	310	664	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	33.0	42.2	0.0	0.0	24.2	24.3	24.3	16.7	29.6	29.6
Incr Delay (d2), s/veh	4.1	0.0	18.2	5.1	0.0	0.0	18.8	8.1	7.8	0.1	21.6	22.1
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	3.7	0.0	10.3	1.6	0.0	0.0	5.6	12.8	13.3	0.1	17.7	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	0.0	51.2	47.3	0.0	0.0	43.0	32.4	32.1	16.8	51.2	51.8
LnGrp LOS	D	A	D	D	A	A	D	C	C	B	D	D
Approach Vol, veh/h		661			57			1445			1245	
Approach Delay, s/veh		47.7			47.3			34.3			51.3	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	49.0		21.0	20.0	44.0		15.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 9.3	* 43		* 15	* 14	* 38		9.6				
Max Q Clear Time (g_c+I1), s	2.1	31.0		17.3	11.9	36.4		5.0				
Green Ext Time (p_c), s	0.0	6.2		0.0	0.2	1.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	43.3
HCM 6th LOS	D

Notes

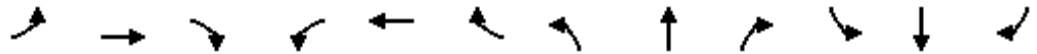
- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↗	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	39	61	52	129	16	268	14	999	186	401	870	29
Future Volume (veh/h)	39	61	52	129	16	268	14	999	186	401	870	29
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	42	66	57	140	17	291	15	1086	202	436	946	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	87	131	96	297	565	726	145	1177	538	596	1502	51
Arrive On Green	0.18	0.18	0.18	0.06	0.30	0.30	0.08	0.35	0.35	0.18	0.45	0.45
Sat Flow, veh/h	289	740	543	1485	1900	1535	1810	3328	1309	3401	3340	113
Grp Volume(v), veh/h	165	0	0	140	17	291	15	1086	202	436	479	499
Grp Sat Flow(s),veh/h/ln	1572	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1761
Q Serve(g_s), s	6.1	0.0	0.0	7.2	0.8	15.4	1.0	39.1	13.4	15.2	27.2	27.2
Cycle Q Clear(g_c), s	11.6	0.0	0.0	7.2	0.8	15.4	1.0	39.1	13.4	15.2	27.2	27.2
Prop In Lane	0.25		0.35	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	315	0	0	297	565	726	145	1177	538	596	761	792
V/C Ratio(X)	0.52	0.00	0.00	0.47	0.03	0.40	0.10	0.92	0.38	0.73	0.63	0.63
Avail Cap(c_a), veh/h	315	0	0	297	565	726	145	1177	538	596	761	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.35	0.35	0.35
Uniform Delay (d), s/veh	46.8	0.0	0.0	39.2	31.1	21.4	53.3	38.8	25.6	48.8	26.4	26.4
Incr Delay (d2), s/veh	6.1	0.0	0.0	5.3	0.1	1.7	1.4	13.2	2.0	2.8	1.4	1.3
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	5.2	0.0	0.0	4.0	0.4	5.6	0.5	17.4	4.3	6.5	10.7	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	0.0	0.0	44.4	31.2	23.1	54.8	52.0	27.6	51.6	27.8	27.8
LnGrp LOS	D	A	A	D	C	C	D	D	C	D	C	C
Approach Vol, veh/h		165			448			1303			1414	
Approach Delay, s/veh		52.9			30.1			48.2			35.1	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	51.0	15.0	30.0	17.0	63.0		45.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 22	44.2	7.2	22.2	* 10	56.2		37.2				
Max Q Clear Time (g_c+I1), s	17.2	41.1	9.2	13.6	3.0	29.2		17.4				
Green Ext Time (p_c), s	0.7	2.1	0.0	0.6	0.0	6.3		1.0				

Intersection Summary

HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

14: S. Orange Ave/US 17 & Ayrshire Boulevard/Hall Park Rd

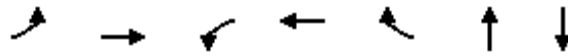
Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	0	356	3	0	3	125	872	5	45	881	114
Future Volume (veh/h)	356	0	356	3	0	3	125	872	5	45	881	114
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1707	1900	1900	1693	1900
Adj Flow Rate, veh/h	387	0	387	3	0	3	136	948	5	49	958	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	13	0	0	14	0
Cap, veh/h	598	0	542	93	18	44	281	1378	7	274	1257	629
Arrive On Green	0.21	0.00	0.34	0.06	0.00	0.06	0.07	0.42	0.42	0.04	0.39	0.39
Sat Flow, veh/h	1810	0	1610	417	287	704	1810	3309	17	1810	3216	1610
Grp Volume(v), veh/h	387	0	387	6	0	0	136	465	488	49	958	124
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1408	0	0	1810	1622	1704	1810	1608	1610
Q Serve(g_s), s	15.4	0.0	16.8	0.0	0.0	0.0	3.5	18.8	18.8	1.3	20.7	4.1
Cycle Q Clear(g_c), s	15.4	0.0	16.8	0.3	0.0	0.0	3.5	18.8	18.8	1.3	20.7	4.1
Prop In Lane	1.00		1.00	0.50		0.50	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	598	0	542	155	0	0	281	676	710	274	1257	629
V/C Ratio(X)	0.65	0.00	0.71	0.04	0.00	0.00	0.48	0.69	0.69	0.18	0.76	0.20
Avail Cap(c_a), veh/h	598	0	833	380	0	0	397	1150	1208	314	2064	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	23.3	35.4	0.0	0.0	16.4	19.1	19.1	15.2	21.2	16.1
Incr Delay (d2), s/veh	2.4	0.0	1.8	0.1	0.0	0.0	1.3	1.3	1.2	0.3	1.0	0.2
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	6.7	0.0	6.3	0.1	0.0	0.0	1.4	6.8	7.2	0.5	7.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	25.0	35.5	0.0	0.0	17.6	20.4	20.3	15.5	22.2	16.3
LnGrp LOS	C	A	C	D	A	A	B	C	C	B	C	B
Approach Vol, veh/h		774			6			1089			1131	
Approach Delay, s/veh		26.5			35.5			20.0			21.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.9		32.5	10.9	36.9	22.0	10.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.1	56.9		41.5	10.5	51.5	16.5	19.5				
Max Q Clear Time (g_c+I1), s	3.3	20.8		18.8	5.5	22.7	17.4	2.3				
Green Ext Time (p_c), s	0.0	7.5		2.7	0.1	8.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	89	863	51	398	46	330	88
v/c Ratio	0.19	1.22	0.23	0.54	0.07	0.95	0.18
Control Delay	11.0	141.6	3.8	15.6	3.4	71.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	141.6	3.8	15.6	3.4	71.7	16.3
Queue Length 50th (ft)	24	~678	3	179	3	198	23
Queue Length 95th (ft)	47	#917	m4	m219	m5	#376	59
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	465	705	219	734	698	347	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	1.22	0.23	0.54	0.07	0.95	0.18

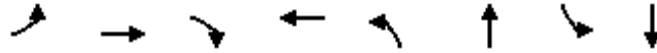
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Phase 04 Year 2035 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	151	362	57	272	1173	5	1240
v/c Ratio	0.61	0.59	0.66	0.37	0.87	0.81	0.02	0.95
Control Delay	59.8	59.6	15.3	42.7	51.1	30.3	9.4	45.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	59.6	15.3	42.7	51.1	30.3	9.4	45.6
Queue Length 50th (ft)	111	109	58	27	120	334	1	391
Queue Length 95th (ft)	m94	m94	m40	68	#265	424	6	#541
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	252	255	552	153	314	1446	256	1306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.59	0.66	0.37	0.87	0.81	0.02	0.95

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	165	140	17	291	15	1086	202	436	978
v/c Ratio	0.55	0.53	0.03	0.35	0.10	0.95	0.28	0.74	0.66
Control Delay	49.3	43.0	31.4	15.8	55.3	56.5	3.6	57.4	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	43.0	31.4	15.8	55.3	56.5	3.6	57.4	29.7
Queue Length 50th (ft)	109	88	10	114	12	444	0	174	316
Queue Length 95th (ft)	184	147	28	177	34	#583	42	232	391
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	300	263	573	837	144	1160	714	589	1497
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.53	0.03	0.35	0.10	0.94	0.28	0.74	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	387	387	6	136	953	49	958	124
v/c Ratio	0.85	0.73	0.02	0.39	0.57	0.15	0.74	0.17
Control Delay	49.0	26.6	0.2	11.3	16.3	9.6	24.7	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.0	26.6	0.2	11.3	16.3	9.6	24.7	3.9
Queue Length 50th (ft)	178	106	0	25	172	8	196	0
Queue Length 95th (ft)	#433	260	0	69	314	30	352	32
Internal Link Dist (ft)		1430	1792		1197		1450	
Turn Bay Length (ft)				350		150		250
Base Capacity (vph)	467	932	537	379	2342	318	2102	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.42	0.01	0.36	0.41	0.15	0.46	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	85	325	51	14	332
Future Vol, veh/h	77	85	325	51	14	332
Conflicting Peds, #/hr	0	0	0	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, %	22	2	4	0	0	26
Mvmt Flow	84	92	353	55	15	361

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	772	381	0	0	408
Stage 1	381	-	-	-	-
Stage 2	391	-	-	-	-
Critical Hdwy	6.62	6.22	-	-	4.1
Critical Hdwy Stg 1	5.62	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-
Follow-up Hdwy	3.698	3.318	-	-	2.2
Pot Cap-1 Maneuver	341	666	-	-	1162
Stage 1	649	-	-	-	-
Stage 2	642	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	336	666	-	-	1162
Mov Cap-2 Maneuver	336	-	-	-	-
Stage 1	649	-	-	-	-
Stage 2	632	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	454	1162
HCM Lane V/C Ratio	-	-	0.388	0.013
HCM Control Delay (s)	-	-	17.9	8.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.8	0

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↖		↙	↗
Traffic Vol, veh/h	17	55	160	29	118	226
Future Vol, veh/h	17	55	160	29	118	226
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	60	174	32	128	246

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	692	190	0	0	206
Stage 1	190	-	-	-	-
Stage 2	502	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	410	852	-	-	1365
Stage 1	842	-	-	-	-
Stage 2	608	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	371	852	-	-	1365
Mov Cap-2 Maneuver	371	-	-	-	-
Stage 1	842	-	-	-	-
Stage 2	551	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	371	852	1365
HCM Lane V/C Ratio	-	-	0.05	0.07	0.094
HCM Control Delay (s)	-	-	15.2	9.5	7.9
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.3

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	12	37	152	20	79	164
Future Vol, veh/h	12	37	152	20	79	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	40	165	22	86	178

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	526	176	0	0	187
Stage 1	176	-	-	-	-
Stage 2	350	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	512	867	-	-	1387
Stage 1	855	-	-	-	-
Stage 2	713	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	480	867	-	-	1387
Mov Cap-2 Maneuver	480	-	-	-	-
Stage 1	855	-	-	-	-
Stage 2	669	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	724	1387
HCM Lane V/C Ratio	-	-	0.074	0.062
HCM Control Delay (s)	-	-	10.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	12	164	160	525	654	12
Future Vol, veh/h	12	164	160	525	654	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	330	-	-	400
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	20	11	6	7	3	30
Mvmt Flow	13	178	174	571	711	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1345	356	724	0	-	0
Stage 1	711	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Critical Hdwy	7.2	7.12	4.22	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.7	3.41	2.26	-	-	-
Pot Cap-1 Maneuver	122	615	848	-	-	-
Stage 1	403	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	615	848	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	320	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	2.4	0
HCM LOS	C		

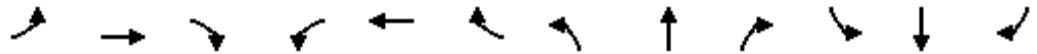
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	848	-	544	-	-
HCM Lane V/C Ratio	0.205	-	0.352	-	-
HCM Control Delay (s)	10.3	-	15.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.8	-	1.6	-	-

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	423	221	97	667	35	253	24	81	18	36	62
Future Volume (veh/h)	23	423	221	97	667	35	253	24	81	18	36	62
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1648	1678	1856	1900	1856	1900	1737	1900	1796	1870
Adj Flow Rate, veh/h	25	460	240	105	725	38	275	26	88	20	39	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	17	15	3	0	3	0	11	0	7	2
Cap, veh/h	272	477	249	221	742	644	371	29	97	98	183	266
Arrive On Green	0.10	0.42	0.42	0.08	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1810	1130	590	1598	1856	1610	999	94	320	171	603	878
Grp Volume(v), veh/h	25	0	700	105	725	38	389	0	0	126	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1720	1598	1856	1610	1413	0	0	1651	0	0
Q Serve(g_s), s	0.6	0.0	35.7	3.3	34.6	1.3	18.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	35.7	3.3	34.6	1.3	23.8	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.34	1.00		1.00	0.71		0.23	0.16		0.53
Lane Grp Cap(c), veh/h	272	0	726	221	742	644	497	0	0	547	0	0
V/C Ratio(X)	0.09	0.00	0.96	0.47	0.98	0.06	0.78	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	272	0	726	221	742	644	497	0	0	547	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	0.0	25.3	20.1	26.6	16.6	30.0	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	25.0	7.1	27.8	0.2	11.7	0.0	0.0	1.0	0.0	0.0
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	0.3	0.0	17.9	1.5	19.4	0.5	9.4	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	0.0	50.3	27.3	54.4	16.8	41.7	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	B	A	D	C	D	B	D	A	A	C	A	A
Approach Vol, veh/h		725			868			389				126
Approach Delay, s/veh		49.2			49.5			41.7				24.6
Approach LOS		D			D			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	44.0		33.0	15.0	42.0		33.0				
Change Period (Y+Rc), s	6.0	6.0		* 5.7	6.0	6.0		* 5.7				
Max Green Setting (Gmax), s	7.0	38.0		* 27	9.0	36.0		* 27				
Max Q Clear Time (g_c+I1), s	5.3	37.7		7.2	2.6	36.6		25.8				
Green Ext Time (p_c), s	0.0	0.2		0.6	0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	54	286	20	63	23	420	1481	23	15	1254	259
Future Volume (veh/h)	254	54	286	20	63	23	420	1481	23	15	1254	259
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1900	1900	1900	1826	1826	1900	1900	1841	1811
Adj Flow Rate, veh/h	318	0	311	22	68	25	457	1610	25	16	1363	282
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	4	0	0	0	5	5	0	0	4	6
Cap, veh/h	514	0	463	51	157	58	325	1699	26	139	1069	217
Arrive On Green	0.14	0.00	0.14	0.15	0.15	0.15	0.15	0.49	0.49	0.04	0.37	0.37
Sat Flow, veh/h	3563	0	1560	347	1071	394	1739	3497	54	1810	2894	589
Grp Volume(v), veh/h	318	0	311	115	0	0	457	798	837	16	814	831
Grp Sat Flow(s),veh/h/ln	1781	0	1560	1812	0	0	1739	1735	1816	1810	1749	1735
Q Serve(g_s), s	10.1	0.0	17.3	6.9	0.0	0.0	18.3	52.5	52.8	0.6	44.3	44.3
Cycle Q Clear(g_c), s	10.1	0.0	17.3	6.9	0.0	0.0	18.3	52.5	52.8	0.6	44.3	44.3
Prop In Lane	1.00		1.00	0.19		0.22	1.00		0.03	1.00		0.34
Lane Grp Cap(c), veh/h	514	0	463	266	0	0	325	843	882	139	646	640
V/C Ratio(X)	0.62	0.00	0.67	0.43	0.00	0.00	1.41	0.95	0.95	0.11	1.26	1.30
Avail Cap(c_a), veh/h	514	0	463	266	0	0	325	843	882	139	646	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	37.1	46.7	0.0	0.0	38.9	29.4	29.4	28.0	37.8	37.9
Incr Delay (d2), s/veh	5.5	0.0	7.6	5.1	0.0	0.0	199.9	20.5	20.2	1.7	129.8	145.0
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	4.9	0.0	9.0	3.5	0.0	0.0	27.7	25.8	27.1	0.3	41.8	44.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	44.7	51.7	0.0	0.0	238.8	49.8	49.6	29.7	167.7	182.9
LnGrp LOS	D	A	D	D	A	A	F	D	D	C	F	F
Approach Vol, veh/h		629			115			2092			1661	
Approach Delay, s/veh		49.3			51.7			91.0			173.9	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	64.0		23.0	24.0	50.0		23.0				
Change Period (Y+Rc), s	* 5.7	* 5.7		* 5.7	* 5.7	* 5.7		5.4				
Max Green Setting (Gmax), s	* 4.3	* 58		* 17	* 18	* 44		17.6				
Max Q Clear Time (g_c+I1), s	2.6	54.8		19.3	20.3	46.3		8.9				
Green Ext Time (p_c), s	0.0	2.9		0.0	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	114.8
HCM 6th LOS	F

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Phase 04 Year 2035 Build-Out Conditions

10: S. Orange Ave./US 17 & Cooks Lane/SR 16E/Leonard C. Taylor Pkwy

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖	↗	↗	↕	↗	↖	↖	↖
Traffic Volume (veh/h)	45	26	21	247	70	514	64	1295	191	307	1145	65
Future Volume (veh/h)	45	26	21	247	70	514	64	1295	191	307	1145	65
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1885	1870	1559	1900	1811	1900	1752	1544	1841	1781	1796
Adj Flow Rate, veh/h	49	28	23	268	76	559	70	1408	208	334	1245	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	1	2	23	0	6	0	10	24	4	8	7
Cap, veh/h	88	45	27	304	489	566	174	1523	727	378	1542	88
Arrive On Green	0.10	0.10	0.10	0.10	0.26	0.26	0.10	0.46	0.46	0.11	0.47	0.47
Sat Flow, veh/h	467	458	276	1485	1900	1535	1810	3328	1309	3401	3255	185
Grp Volume(v), veh/h	100	0	0	268	76	559	70	1408	208	334	647	669
Grp Sat Flow(s),veh/h/ln	1201	0	0	1485	1900	1535	1810	1664	1309	1700	1692	1748
Q Serve(g_s), s	8.4	0.0	0.0	12.2	3.9	32.2	4.5	49.7	10.5	12.1	40.7	40.8
Cycle Q Clear(g_c), s	10.1	0.0	0.0	12.2	3.9	32.2	4.5	49.7	10.5	12.1	40.7	40.8
Prop In Lane	0.49		0.23	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	160	0	0	304	489	566	174	1523	727	378	802	828
V/C Ratio(X)	0.62	0.00	0.00	0.88	0.16	0.99	0.40	0.92	0.29	0.88	0.81	0.81
Avail Cap(c_a), veh/h	160	0	0	304	489	566	174	1523	727	378	802	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	55.0	0.0	0.0	48.9	35.9	39.2	53.1	31.9	14.7	54.7	28.0	28.1
Incr Delay (d2), s/veh	17.0	0.0	0.0	28.6	0.7	34.9	6.8	10.9	1.0	3.1	0.8	0.8
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	3.9	0.0	0.0	5.7	1.9	21.6	2.4	21.0	3.1	5.2	15.6	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	0.0	0.0	77.5	36.6	74.1	60.0	42.8	15.7	57.8	28.9	28.9
LnGrp LOS	E	A	A	E	D	E	E	D	B	E	C	C
Approach Vol, veh/h		100			903			1686			1650	
Approach Delay, s/veh		72.0			71.9			40.2			34.7	
Approach LOS		E			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	64.0	20.0	20.0	19.0	66.0		40.0				
Change Period (Y+Rc), s	* 7.1	6.8	7.8	7.8	* 7	6.8		7.8				
Max Green Setting (Gmax), s	* 14	57.2	12.2	12.2	* 12	59.2		32.2				
Max Q Clear Time (g_c+I1), s	14.1	51.7	14.2	12.1	6.5	42.8		34.2				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	7.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D





















Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 14: S. Orange Ave/US 17 & Hall Park Rd

Phase 04 Year 2035 Build-Out Conditions

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	0	260	4	0	61	444	1226	1	7	981	406
Future Volume (veh/h)	261	0	260	4	0	61	444	1226	1	7	981	406
Initial Q (Qb), veh	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
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1811	1900	1781	418	1604	1826	1900
Adj Flow Rate, veh/h	284	0	283	4	0	66	483	1333	1	8	1066	441
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	6	0	8	100	20	5	0
Cap, veh/h	397	0	377	40	3	94	522	2097	2	211	1342	623
Arrive On Green	0.13	0.00	0.23	0.06	0.00	0.06	0.23	0.60	0.60	0.01	0.39	0.39
Sat Flow, veh/h	1810	0	1610	46	45	1505	1810	3471	3	1527	3469	1610
Grp Volume(v), veh/h	284	0	283	70	0	0	483	650	684	8	1066	441
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1597	0	0	1810	1692	1781	1527	1735	1610
Q Serve(g_s), s	13.1	0.0	16.7	1.2	0.0	0.0	20.2	25.3	25.3	0.3	27.8	23.7
Cycle Q Clear(g_c), s	13.1	0.0	16.7	4.4	0.0	0.0	20.2	25.3	25.3	0.3	27.8	23.7
Prop In Lane	1.00		1.00	0.06		0.94	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	377	137	0	0	522	1022	1076	211	1342	623
V/C Ratio(X)	0.71	0.00	0.75	0.51	0.00	0.00	0.93	0.64	0.64	0.04	0.79	0.71
Avail Cap(c_a), veh/h	397	0	393	152	0	0	633	1232	1297	271	1695	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	36.4	47.0	0.0	0.0	26.9	13.0	13.0	18.8	27.8	26.5
Incr Delay (d2), s/veh	6.0	0.0	7.5	2.9	0.0	0.0	17.6	0.8	0.8	0.1	2.1	2.1
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	7.2	0.0	7.3	1.8	0.0	0.0	14.0	9.1	9.5	0.1	11.6	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	0.0	43.9	49.9	0.0	0.0	44.6	13.8	13.8	18.8	29.9	28.6
LnGrp LOS	D	A	D	D	A	A	D	B	B	B	C	C
Approach Vol, veh/h		567			70			1817			1515	
Approach Delay, s/veh		43.9			49.9			22.0			29.5	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	67.3		29.5	27.7	45.1	17.6	11.9				
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5	4.5	5.5				
Max Green Setting (Gmax), s	5.0	74.5		25.0	29.5	50.0	13.1	7.4				
Max Q Clear Time (g_c+I1), s	2.3	27.3		18.7	22.2	29.8	15.1	6.4				
Green Ext Time (p_c), s	0.0	13.3		0.9	1.0	9.8	0.0	0.0				

Intersection Summary

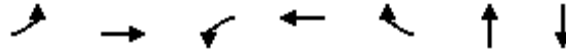
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Queues

3: Oak Ridge Avenue & SR 16 West/SR 16 W/Idlewild Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	25	700	105	725	38	389	126
v/c Ratio	0.09	0.97	0.52	0.98	0.05	0.97	0.24
Control Delay	9.5	54.0	21.2	57.5	0.1	70.5	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	54.0	21.2	57.5	0.1	70.5	13.6
Queue Length 50th (ft)	6	365	26	399	0	209	25
Queue Length 95th (ft)	16	#612	58	#641	0	#396	67
Internal Link Dist (ft)		1613		576		3000	533
Turn Bay Length (ft)	200		415				
Base Capacity (vph)	264	718	202	738	709	400	523
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.97	0.52	0.98	0.05	0.97	0.24

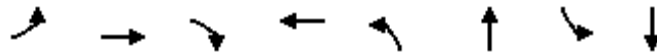
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Phase 04 Year 2035 Build-Out Conditions

7: S. Orange Ave./US 17/S. Orange Ave/US 17 & SR 16W/Ferris Street/Ferris Street Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	169	311	115	457	1635	16	1645
v/c Ratio	0.69	0.68	0.48	0.45	1.42	0.98	0.13	1.31
Control Delay	64.3	63.6	6.4	49.0	235.7	48.3	15.4	176.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	63.6	6.4	49.0	235.7	48.3	15.4	176.8
Queue Length 50th (ft)	130	132	18	75	~430	635	5	~861
Queue Length 95th (ft)	#225	#225	62	136	#640	#819	15	#1002
Internal Link Dist (ft)		2111		464		3268		590
Turn Bay Length (ft)	150				100		100	
Base Capacity (vph)	242	248	644	254	322	1669	127	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.68	0.48	0.45	1.42	0.98	0.13	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	100	268	76	559	70	1408	208	334	1316
v/c Ratio	0.67	0.91	0.15	0.82	0.40	0.95	0.24	0.89	0.84
Control Delay	71.2	78.2	36.9	40.8	60.7	46.9	2.0	81.1	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	78.2	36.9	40.8	60.7	46.9	2.0	81.1	35.2
Queue Length 50th (ft)	71	198	48	374	54	557	0	139	474
Queue Length 95th (ft)	#151	#384	90	#578	104	#720	30	#224	575
Internal Link Dist (ft)	179		1377			837			3268
Turn Bay Length (ft)		475			150		275	650	
Base Capacity (vph)	149	294	498	682	173	1501	874	374	1574
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.91	0.15	0.82	0.40	0.94	0.24	0.89	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
14: S. Orange Ave/US 17 & Hall Park Rd



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	284	283	70	483	1334	8	1066	441
v/c Ratio	0.97	0.45	0.32	0.84	0.58	0.04	0.77	0.48
Control Delay	89.8	2.8	4.0	39.8	10.7	8.9	32.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	2.8	4.0	39.8	10.7	8.9	32.8	4.0
Queue Length 50th (ft)	204	0	0	257	228	2	351	0
Queue Length 95th (ft)	#333	3	0	#448	373	6	433	60
Internal Link Dist (ft)		1350	1792		1197		1450	
Turn Bay Length (ft)				350		150		250
Base Capacity (vph)	292	679	240	605	2480	205	1639	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.42	0.29	0.80	0.54	0.04	0.65	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.