



Transportation Advisory Board Regular Meeting

Agenda

January 24, 2022 @ 4:00 pm

Virtual Meeting

welcome

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please note

Times are projected and subject to change.

-
1. **Call to Order**
 2. **Consent Agenda**
 - a. [Approval of the October 18, 2021 Meeting Minutes.](#) 1 minute
 - b. [Approval of the November 15, 2021 Meeting Minutes](#) 1 minute
 3. **Staff Updates**
 - a. [Winter Park Police Department](#) 5 minutes
 - b. [Multi-Modal Transportation Impact Fee](#) 5 minutes
 - c. [New York Avenue Streetscape - Phase I](#) 5 minutes
 - d. [Rectangular Rapid Flashing Beacons \(RRFBs\)](#) 5 minutes
 4. **Public Comments (for items not on the agenda): Three minutes allowed for each speaker**
 5. **Non-Action Items**
 - a. [Orlando Avenue Operational Analysis](#) 30 minutes
 6. **Action Items**
 7. **Board Comments**
 8. **Adjournment**
 - a. [Next TAB Regular Meeting: Monday, February 21, 2022 @ 4:00 PM](#) 1 minute



Transportation Advisory Board

agenda item

item type	Consent Agenda	meeting date	January 24, 2022
prepared by	Mary Bush	approved by	
board approval	Completed		
strategic objective			

subject

Approval of the October 18, 2021 Meeting Minutes.

motion / recommendation

background

alternatives / other considerations

fiscal impact

ATTACHMENTS:

[TAB - October 18, 2021 Draft Minutes.pdf](#)



Transportation Advisory Board Minutes

October 18, 2021 at 04:00 p.m.

Virtual Meeting
Winter Park, Florida

Call to Order

Chairman Alexander Trauger called the virtual meeting to order at 4:00 p.m. Present: Alexander Trauger, Rachel Andre, Katie Reischmann, Mira Lines, Michael Sasse, Jeffrey Osleeb, and Jeffrey Sievers. Also Present: City Attorney Dan Langley, and Mike Woodward and Clif Tate with Kimley-Horn. Staff: Planning & Transportation Director Bronce Stephenson, Transportation Manager Sarah Walter, Transportation Planner Keith Moore, Engineer I Hongmyung Lim, Sustainability Planner Vanessa Balta, Police Sergeant Jeff Marcum, Planner I Nicholas Lewis, Planning Specialist Aaron Hull, and Recording Secretary Mary Bush.

Consent Agenda

Motion made by Katie Reischmann, seconded by Jeffrey Osleeb to approve the September 20, 2021 meeting minutes.

Motion carried unanimously with a 6-0 vote. (Rachel Andre was not present for approval of the minutes.)

Staff Updates

A. Winter Park Police Department

- a. Sergeant Marcum reported that for the third quarter there were a total of 71 injury crashes, 219 non-injury crashes, and 2 serious injury crashes. A suspect was recently arrested for DUI and charged with vehicular manslaughter regarding the fatality that occurred earlier in the year at Osceola Avenue and Osceola Court. Increased speeding enforcement has been put into place at Osceola Avenue, Aloma Avenue, and Phelps Avenue.

B. Transportation Projects

- a. New York Streetscape Project - Mr. Lim reported that the project would officially start that evening from 9:00pm to 6:00am. The previous night the striping contractor completed restriping at the intersection of Fairbanks Avenue and New York Avenue. The restriping will help buses that are completing a westbound right turn to not clip the southbound left turn lane. Gore striping was placed by Comstock Avenue and three parking spaces were eliminated to address potential bottle necking due to the relocation of the stop bar on the southbound left turn lane. The overall project will take about four to six months.

Mr. Sasse inquired if staff had to consider detection loop or vehicle detection when relocating the left turn stop bar. Mr. Lim advised that the intersection is currently loop based for the west and east bound lanes and vehicle detection (via camera) for the north and south bound lanes.

- C. Bike Five Cities - Mr. Moore reported that the Bike Five Cities event was scheduled to take place on Saturday, October 30, 2021, which kicks off Mobility week. The event is a 28-mile bike ride through the five cities of Winter Park, Casselberry, Maitland, Orlando, and Eatonville. There will be guided and self-guided rides as well as a ride from Cady Way Park for families. Each City will have food, drinks and snacks available for participants.

Chairman Trauger asked for more information about the self-guided concept to which Mr. Moore replied that it is basically where a person can leave from any of the five cities, with or without a group, and ride on their own for the 28 miles. Chairman Trauger also inquired about how long the City

checkpoints stay open. Mr. Moore advised that the City checkpoints will be open from 7:30 a.m. to around 2:00 p.m.

- D. FDOT Projects - Mrs. Walter reported that the Florida Department of Transportation (FDOT) is currently finishing a project on Fairbanks Avenue, between U.S. Highway 17-92 and Ward Park, where they extended the westbound left turn lane to decrease vehicle backup.

Mrs. Walter also reported that the City Commission along with staff have been made aware of concerns from residents along State Road 426 regarding accidents along the corridor. Staff has been working with FDOT to come up with solutions. Recently they were able to devise some short term solutions including installing chevrons on the approach to the south curb and reflective tape along its guardrail within the next 60 to 90 days.

FDOT's planning department is also preparing to do a corridor study, which funding should be confirmed in November.

Chairman Trauger inquired whether or not the chevrons are attached to the guardrails and if they reduce vehicle speeds around curbs. Mrs. Walter advised that they would be post mounted on the approach to the guardrails, which will have strips of reflective tape on them. She also noted that the chevrons make the curves noticeable to drivers.

Mr. Sasse asked if there were a lot of night time crashes and if there has been consideration for solar powering or illuminating the chevrons. Mrs. Walter advised that the crashes are occurring regardless of the time of day or night and having the chevrons solar powered or illuminated has not yet been considered.

Public Comments (for items not on Agenda)

No one from the public wished to speak. The public hearing was closed.

Non-Action Items

1. MULTI-MODAL TRANSPORTATION IMPACT FEE

Multi-Modal Transportation Impact Fee - Mrs. Walter announced that Clif Tate and Mike Woodward with Kimley-Horn as well as the City's attorney, Dan Langley were in attendance to answer questions regarding the Multi-Modal Transportation Impact Fee.

Clif Tate provided the Board a brief presentation of their analysis report for the Multi-Modal Transportation Impact Fee. Mr. Tate discussed how the proposed impact fee follows the methodology of the Orange County Multi-Modal Transportation Impact Fee, the proposed application of the fees, the legal requirements, the fee calculations and examples of them, how the fee compares with other local governments, and the next steps to take to implement the fee. Mr. Tate noted that Orange County uses a consumption based methodology. He elaborated on the items that the Multi-Modal Transportation Impact Fees can be used for and the statutory requirements for the fees. He reviewed the new legal requirements that were passed in 2021. He noted that legislation restricts increases in the fees to once every four years. Mr. Tate explained in depth how the fees are calculated, based on the amount of capacity consumed by the development multiplied by the cost of capacity and then less any applicable credit generated by the development. He also provided a detailed comparison of current local government impact fees.

Mr. Tate noted that the next steps would be:

- to present the ordinance draft to the Planning and Zoning Board at their next meeting on November 2, 2021,
- to present the draft to the City Commission for public comment and the first reading on November 10, 2021,
- and then have the effective date of the draft ordinance to be January 1, 2022.

Brief discussion ensued regarding the following:

- if the City's proposed Multi-Modal Transportation Impact Fee would be subject to the statutory requirement for multiple hearings and two-thirds vote,
- tying together the reference for being consistent with the capital improvements program in the ordinance Section 59-9 for Impact Fee Credit Agreements under subsection B with the language in subsection A,
- rewording the last sentence in subsection C regarding a parcel to be developed that has been or may be annexed into the City,
- the reasoning for inclusion of items that place requirements on the City such as time constraints and deadlines that are not in the Statute,
- clarifying what new development means in Section 59-1 of the ordinance,
- and how the unit fee amounts were developed.

Action Items

No Action Items

Board Comments

No Board Comments

Adjournment

Meeting adjourned at 5:01 p.m.

/s/ Mary Bush.

Approved by the Board on November 15, 2021.



Transportation Advisory Board

agenda item

item type	Consent Agenda	meeting date	January 24, 2022
prepared by	Mary Bush	approved by	
board approval	Completed		
strategic objective			

subject

Approval of the November 15, 2021 Meeting Minutes

motion / recommendation

background

alternatives / other considerations

fiscal impact

ATTACHMENTS:

[TAB - November 15 2021 Draft Minutes.pdf](#)



Transportation Advisory Board Minutes

November 15, 2021 at 04:00 p.m.

Virtual Meeting
Winter Park, Florida

Call to Order

Vice-Chair Jeffrey Osleeb called the virtual meeting to order at 4:05 p.m. Present: Michael Sasse, Jeffrey Osleeb, Katie Reischmann, and Jeffrey Sievers. Absent: Alex Trauger, Rachel Andre, and Mira Lines. Also Present: Emily Hanna with Bike Walk Central Florida. Staff: Planning & Transportation Director Bronce Stephenson, Transportation Manager Sarah Walter, Transportation Planner Keith Moore, Engineer I Hongmyung Lim, Police Sergeant Jeff Marcum, Planner III John Harbilas, Planner I Nicholas Lewis, Planning Specialist Aaron Hull, and Recording Secretary Mary Bush.

Consent Agenda

Due to there being no quorum of the Board, approval of the October 18, 2021 meeting minutes was continued to the next regular meeting of the Transportation Advisory Board scheduled for January 24, 2021. (Katie Reischmann, Alex Trauger, Rachel Andre, and Mira Lines were not present for the meeting minutes.)

Staff Updates

A. New York Avenue & Fairbanks Avenue Project

- a. Mr. Lim reported on the New York and Fairbanks Avenue project where the City has converted the span wire traffic signal to mass arm signals as well as repaired stormwater issues and the curb radius at each corner of the intersection. He presented photos of the southwest corner of the intersection showing the installation of the drill shaft for the new mast arm signals. He also noted an area of the same corner where an additional drill shaft installation will take place. Mr. Lim then provided an additional picture of the northeast corner where a new control signal cabinet will be installed.

Mr. Lim noted that drivers have respected the movement of the southbound left stop bar on North New York Avenue, which provides a better turn radius for busses that are coming from Fairbanks Avenue. Mr. Lim then discussed the remaining materials that are being acquired to complete the project. He also mentioned that the anticipated time frame for the completion of the project is April, but the contractors have estimated an early completion time for the beginning of February.

Vice-Chair Osleeb inquired about why this project was necessary in the first place. Mr. Lim responded that this was a Community Redevelopment Agency project that is part of a larger one called the New York Streetscape project. The New York Streetscape project will help enhance the overall pedestrian lifestyle of New York Avenue from Fairbanks Avenue to Morse Boulevard.

Mr. Sasse inquired about if directional curb ramps will be installed at the intersection and if the patterned crosswalks will be kept the way they are. Mr. Lim explained that curb ramps will be replaced as long as they follow ADA compliance and the intention is to leave the decorative crosswalks the way they are. Mr. Sasse also asked if 6-inch concrete will be placed in this area instead of 4-inch concrete due to the load of the busses that use that roadway. Mr. Lim expressed that they are following all Florida Department of Transportation procedures. Mrs. Walter added that the improvement of the intersection took into factor the turn radius of the busses when planning the improvements.

B. Killarney Parklet Project

- a. Mr. Lim reported that the Killarney Parklet project should be completed by the next Transportation Advisory Board meeting scheduled for January 24, 2021. Mr. Lim explained that they have finished light pole installations for the project. He noted that permanent boulders had to be installed as recommended by the Parks and Recreation Department due to vehicles continuing to hop the curbs of the parklet. Mr. Lim also noted that the City's arborist informed him that the project's trees have already been installed and the installation of park benches and restoration of sod are all that is left to complete for the project. The project is estimated to be completed before Thanksgiving or, at the latest, by the end of November.

C. Bike Five Cities

- a. Mr. Moore summarized the Bike Five Cities event that took place on Saturday, October 30, 2021. He noted that it was a 28-mile bicycle ride across the cities of Winter Park, Casselberry, Eatonville, Maitland, and Orlando. He stated that there were over 100 volunteers and 20 sponsors who helped over 400 participants with the event. Volunteers provided helmets, fitting booths, learning experiences on bike safety, and games for all participants. Mr. Moore provided various pictures of the event to the Board. Mrs. Walter thanked Mr. Moore for his hard work for the event on behalf of the City.

D. Multi-Modal Transportation Impact Fee

- a. Mrs. Walter reported that staff presented the Multi-Modal Transportation Impact Fee to the Planning and Zoning Board on November 2, 2021 and to the City Commission on November 10, 2021. Mrs. Walter explained that revisions were made to the proposed impact fee ordinance based on comments from the Transportation Advisory Board regarding reductions in fees, refunds, annual reporting, and audit sections. Mrs. Walter explained that the second reading of the ordinance will be heard at the City Commission regular meeting scheduled for Wednesday, December 8, 2021.

E. Discussion of changes to upcoming Transportation Advisory Board meeting schedule.

- a. Sarah Walter discussed with the board members canceling the December Transportation Advisory Board meeting that falls during the week that leads up to Christmas and moving the January Transportation Advisory Board meeting from the third Monday to the fourth Monday due to Martin Luther King Junior holiday.

The board gave a consensus to approve the cancellation of the December meeting and to move the January meeting.

Public Comments (for items not on Agenda)

The Board heard public comment from the following resident:

Maxwell Sterns, no address provided, addressed the Board and spoke about the University of Central Florida's mass media research group. According to Mr. Sterns the group has held in-person citizen interviews about the use of media and the city of Winter Park's home website.

No one else from the public wished to speak. The public hearing was closed.

Non-Action Items

1. Bike Walk Central Florida - Best Foot Forward

Mrs. Walter introduced Emily Hanna, the Executive Director of Bike/Walk Central Florida, to speak about the Best Foot Forward program. Mrs. Walter explained that Bike/Walk Central Florida is one of the sponsors of the Bike Five Cities event and that the City has recently joined their Best Foot Forward program.

Ms. Hanna introduced herself and thanked Keith Moore for his help at the Bike Five Cities event. Ms. Hanna discussed pedestrian safety statistics in the Orlando area and the fact that Orlando is ranked number one in the most dangerous metro areas for pedestrians. She discussed the history of the original main street and how the United States transportation system became car-dependent. She mentioned that to fight the problem with pedestrian safety in the Central Florida area, the Best Foot Forward program was created in 2012. The program combined multiple municipalities in the area, including Winter Park, to establish a unified plan on how to address pedestrian safety problems. Ms. Hanna spoke on how the program has

addressed these issues by changing the culture of the drivers and pedestrians in the area. She discussed the 4 E's program that Bike Walk Central Florida implements, which educates residents on traffic laws, engineers' low-cost solutions, enforces Florida laws, and evaluates drivers' compliance. She also discussed the collection procedure of the baseline data of drivers stopping for pedestrians in the crosswalks. She noted the progress that the program has made since its implementation, which includes over 10,000 citations, 500 enforcement details, 207 crosswalks monitored, and 200 education presentations. She added that communities and individuals can help by educating people and supporting complete street projects.

Vice-Chair Osleeb thanked Ms. Hanna for the presentation and asked if data existed about the most troublesome intersections in Winter Park. Ms. Hanna responded that all the data necessary has not been collected yet be able to provide the information. Vice-Chair Osleeb also asked why Orlando has such a high pedestrian fatality rate. In response, Ms. Hanna provided her opinion on how the design and culture of the Central Florida area have played a big factor in the fatality rate.

Mr. Sasse inquired about countermeasures to help lower speeds of vehicles on roadways and not just at intersections. Ms. Hanna noted that speed management tools like road slimming and lane narrowing can be helpful tactics. Further discussion ensued regarding classification changes of areas along roadways and how future land use zoning can affect pedestrian safety. Mrs. Walter noted that changes in land use have not been the main focus by many agencies but pedestrian safety has been made a priority.

Action Items

No Action Items

Board Comments

No Board Comments

Adjournment

Meeting adjourned at 5:15 p.m.

/s/ Aaron Hull



Transportation Advisory Board

agenda item

item type	Staff Updates	meeting date	January 24, 2022
prepared by	Sarah Walter	approved by	Bronce Stephenson
board approval	Completed		
strategic objective			

subject

Winter Park Police Department

motion / recommendation

background

alternatives / other considerations

fiscal impact



Transportation Advisory Board

agenda item

item type	Staff Updates	meeting date	January 24, 2022
prepared by	Sarah Walter	approved by	Bronce Stephenson
board approval	Completed		
strategic objective			

subject

Multi-Modal Transportation Impact Fee

motion / recommendation

background

alternatives / other considerations

fiscal impact



Transportation Advisory Board

agenda item

item type	Staff Updates	meeting date	January 24, 2022
prepared by	Sarah Walter	approved by	Bronce Stephenson
board approval	Completed		
strategic objective			

subject

New York Avenue Streetscape - Phase I

motion / recommendation

background

alternatives / other considerations

fiscal impact



Transportation Advisory Board

agenda item

item type	Staff Updates	meeting date	January 24, 2022
prepared by	Sarah Walter	approved by	Bronce Stephenson
board approval	Completed		
strategic objective			

subject

Rectangular Rapid Flashing Beacons (RRFBs)

motion / recommendation

background

alternatives / other considerations

fiscal impact



item type Non-Action Items	meeting date January 24, 2022
prepared by Sarah Walter	approved by Bronce Stephenson
board approval Completed	
strategic objective	

subject

Orlando Avenue Operational Analysis

motion / recommendation

background

The City Commission desired a better understanding of the existing transportation conditions at along 17-92 and other intersections within the city limits. At the direction of the City Commission, City Staff requested Kimley-Horn perform an analysis of the following intersections:

1. Orlando Avenue & Minnesota Avenue
2. Orlando Avenue & Fairbanks Avenue
3. Orlando Avenue & Morse Boulevard
4. Orlando Avenue & Gay Road
5. Orlando Avenue & Webster Avenue
6. Orlando Avenue & Lee Road
7. Orlando Avenue & Park Ave
8. Lee Road & Bennett Avenue/Executive Drive
9. Clay Street & Par Street
10. Clay Street & Minnesota Avenue
11. Clay Street & Fairbanks Avenue (SR 426)
12. Webster Avenue & Lee Road
13. Denning Drive & Morse Boulevard
14. Denning Drive & Canton Avenue
15. Denning Drive & Webster Avenue
16. Denning Drive & Fairbanks Avenue
17. Orlando Avenue/N Mills Avenue & Orange Avenue
18. Orange Avenue & Minnesota Avenue/Denning Drive

19. Orange Avenue & Fairbanks Avenue & Pennsylvania Avenue
20. Orange Avenue & Cypress Avenue

The purpose of this analysis was to understand existing conditions and identify feasible intersection improvements with a focus on efficient operations for vehicles.

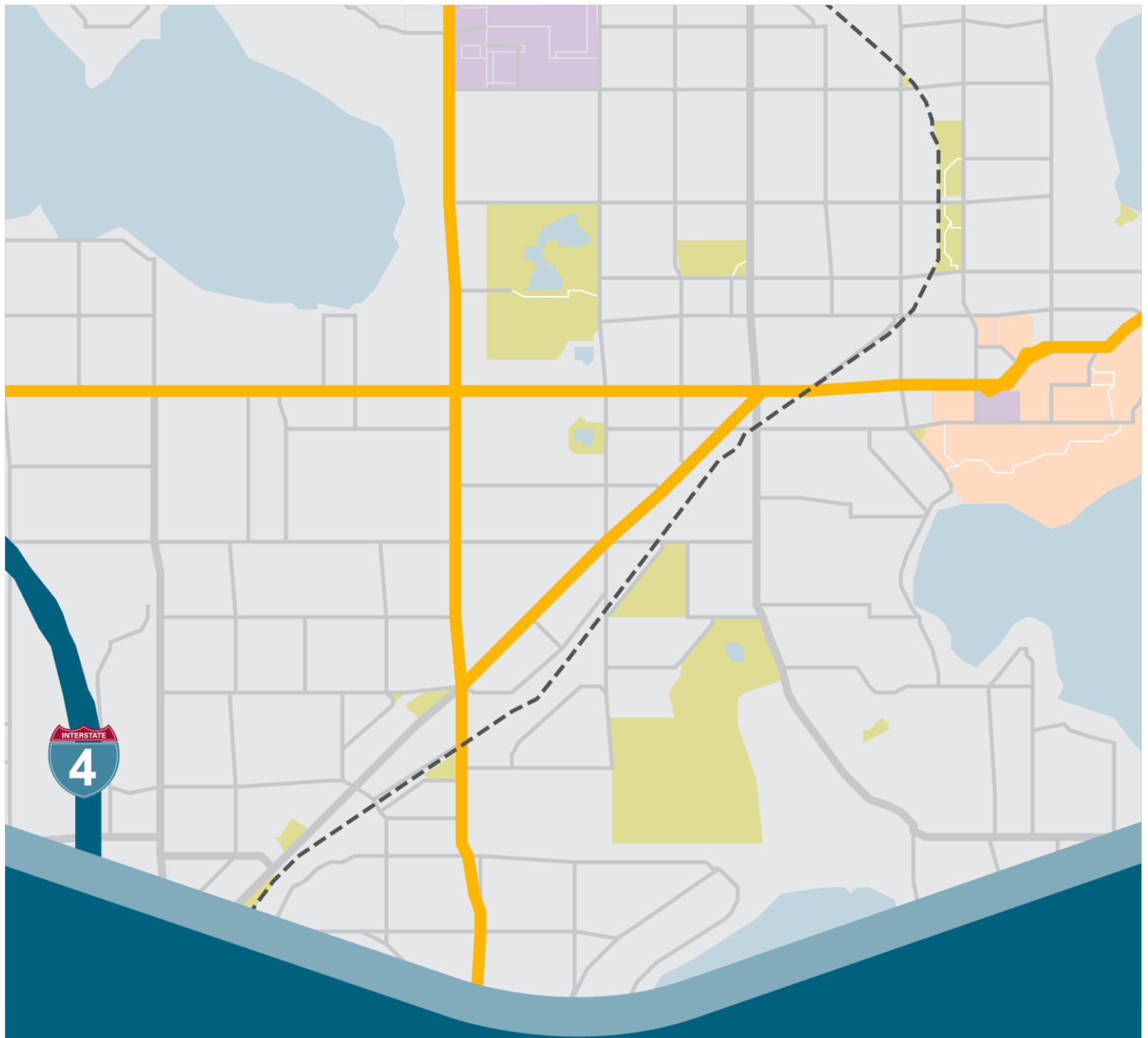
A copy of the study prepared by Kimley-Horn is attached. Kimley-Horn will be presenting the findings of the report.

[alternatives / other considerations](#)

[fiscal impact](#)

ATTACHMENTS:

[Orlando_Avenue_Operational_Analysis_report_072621_SS.pdf](#)



Orlando Avenue Operational Analysis

Prepared For:

Prepared By:



Kimley»Horn
Expect More. Experience Better.



Orlando Avenue Operational Analysis

Prepared for:
The City of Winter Park, Florida

Prepared by:
**Kimley-Horn and Associates, Inc.
Orlando, Florida**

Michael R
Woodward

Digitally signed by Michael R Woodward
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Date: 2021.07.26 18:16:11 -04'00'

July 26, 2021

Michael R. Woodward

FL P.E. # 70009



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APPENDICES

- Appendix A:** FDOT SR 527 Safety Study Long-Term Concept Plan
- Appendix B:** Existing Conditions Plan Sheets
- Appendix C:** Traffic Counts and Seasonal Factor Data



Appendix D: Signal Timings and Clearance Interval Calculations

Appendix E: Synchro Outputs – Existing Conditions

Appendix F: Origin-Destination Data Maps

Appendix G: Synchro Outputs – with Improvements Implemented

Appendix H: Improvements Concept Plans

Appendix I: Engineer's Opinion of Probably Construction Costs



1.0 Introduction



1.0 Introduction

1.1 Project Goals

The City of Winter Park has seen several iterations of changes to Orlando Avenue, also known as US 17/92, which is a major north/south arterial roadway running thru the City. There is a desire to understand transportation conditions, and to quantify the available peak hour capacity and existing deficiencies. There are several planned and proposed changes in the immediate and overall area which will impact Orlando Avenue, and a comprehensive understanding of issues and proposed changes will help guide the City's investments moving forward. The purpose of this analysis and report is to identify feasible intersection improvements that could help alleviate adverse operating conditions, with a focus on efficient operations for vehicles. Additionally, several Synchro models of the existing network and potential improvement alternatives were developed that the City can use to evaluate potential future transportation impacts or modifications.

1.2 Study Area

In addition to Orlando Avenue, the study area also includes intersections along Clay Street, Orange Avenue, and Denning Drive, as shown on **Exhibit 1**, and listed below:

1. Orlando Avenue & Minnesota Avenue
2. Orlando Avenue & Fairbanks Avenue
3. Orlando Avenue & Morse Boulevard
4. Orlando Avenue & Gay Road
5. Orlando Avenue & Webster Avenue
6. Orlando Avenue & Lee Road
7. Orlando Avenue & Park Ave
8. Lee Road & Bennett Avenue/Executive Drive
9. Clay Street & Par Street
10. Clay Street & Minnesota Avenue
11. Clay Street & Fairbanks Avenue (SR 426)
12. Webster Avenue & Lee Road
13. Denning Drive & Morse Boulevard
14. Denning Drive & Canton Avenue
15. Denning Drive & Webster Avenue
16. Denning Drive & Fairbanks Avenue
17. Orlando Avenue/N Mills Avenue & Orange Avenue
18. Orange Avenue & Minnesota Avenue/Denning Drive
19. Orange Avenue & Fairbanks Avenue & Pennsylvania Avenue
20. Orange Avenue & Cypress Avenue

Orlando Avenue Operational Analysis

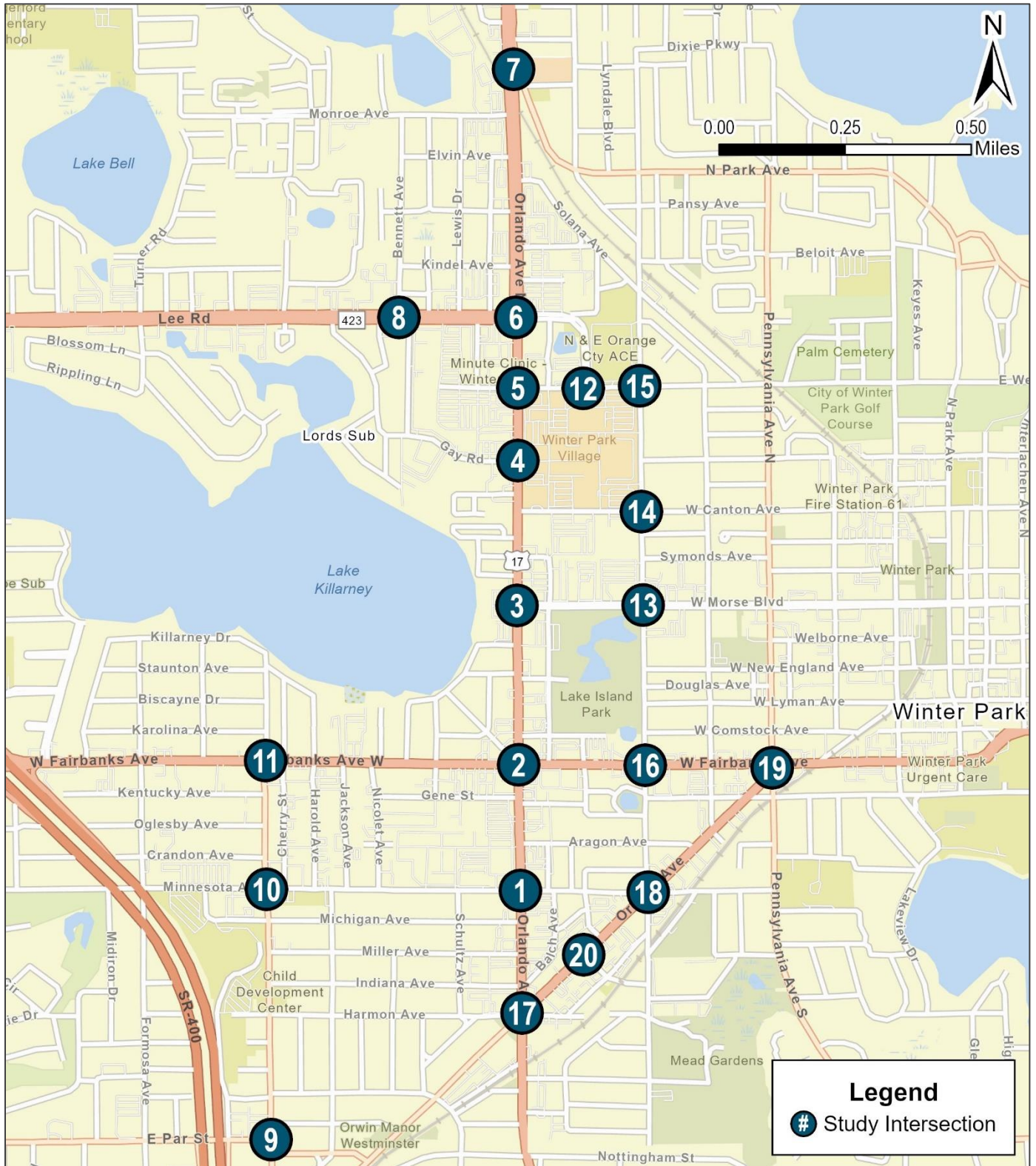


Exhibit 1: Study Area



1.3 Adjacent Projects

Several analyses, plans, and designs are underway for roadways near or within the study area, including projects by Winter Park and by FDOT.

1.3.1 Orange Avenue (City of Orlando / FDOT)

A safety analysis was conducted for the portion of Orange Avenue southwest of our study area, with limits from Clay Street to Orlando Avenue, FDOT project Item Number 445691-1. Concept plans were developed, and the project is currently under design. The design is scheduled to be completed in the summer of 2022, with construction to commence after design is complete.

Concepts showing project recommendations from the study are attached in **Appendix A**. In general, the design will include the following elements:

- » Converting the intersection of Orange Avenue and Clay Street to a roundabout.
- » Lane Reduction – Orange Avenue will operate with one lane per direction, with turn lanes in some locations.
- » An additional lane will be constructed approaching Orlando Avenue (in the northeastbound direction), with laneage proposed to consist of dual eastbound left turn lanes and a shared thru/right turn lane.

1.3.2 Orange Avenue (Winter Park)

Several transportation analyses have been conducted for Orange Avenue from Orlando Avenue to Fairbanks Avenue, primarily in support of potential land use changes. The City has been working on providing an overlay district to provide specific development rules and regulations for properties along Orange Avenue. The first transportation assessment consisted of a safety analysis, an analysis of existing conditions at intersections, and an inventory of conditions.

The second analysis included a design assessment to identify guiding principles for potential transportation recommendations. Recommendations were made for tactics to prioritize pedestrian safety, reduce vehicular speeds, and modify major intersections for more efficient flow.

The third analysis was focused on impacts associated with a singular potential development scenario. It included an analysis of potential roadway / intersection improvements and described the benefits of a roundabout at the intersection of Orange Avenue with Denning Drive / Minnesota Avenue. Additional turn lanes at the intersection of Fairbanks Avenue and Denning Drive were evaluated and found to be beneficial. While a roundabout would improve traffic flow at the intersection of Orange Avenue and Fairbanks Avenue / Pennsylvania Avenue, the roundabout would require significant property acquisition, which is most likely not feasible.

A fourth analysis was provided with additional information and details on potential development scenarios and their relative effects on Orange Avenue, Fairbanks Avenue, Orlando Avenue, and other nearby roadways. Conceptual designs were developed for several potential improvements.



Future turning movement volumes were developed for years 2025 and 2040 to evaluate future conditions at intersections. It was determined that future development would have a relatively small effect on volumes, though it would likely increase the ratio of local trips to out-of-town trips, with more of the vehicles on Orange Avenue coming from or going to Winter Park.

An additional analysis will likely be underway to evaluate a lane reduction along Orange Avenue, while keeping the intersection of Orange Avenue at Denning Drive under signalized control.

1.3.3 Orlando Avenue (by FDOT)

FDOT and the City of Winter Park are in the final stages of design for improvements to Orlando Avenue, with most of the improvements focused on reducing lane widths to provide wider sidewalks. In addition to the wider sidewalks, several intersection improvements will likely be included. The City of Winter Park contributed additional funding for the project to enhance corridor aesthetics with streetscaping, landscaping, and decorative signal poles. The design is anticipated to be complete in year 2021.

1.3.4 I-4 Ultimate (by FDOT)

As the I-4 Ultimate project continues to advance, I-4 becomes more and more comfortable to travel, with increasing capacity and travel speeds. As shown in the origin / destination maps later in this report, many of the vehicles traveling in Winter Park have destinations that are accessible via I-4. Increasing amounts of traffic that diverted from I-4 to Orlando Avenue will go back to I-4 as construction continues and additional lanes are opened. Construction updates and information on the I-4 Ultimate project, which is scheduled to be completed sometime in 2021, is located online at <https://i4ultimate.com/>.



2.0 Existing Conditions



2.0 Existing Conditions

2.1 Data Collection

2.1.1 Roadway and Intersection Conditions

Existing intersection control type, laneage, pole locations, and signal head configurations are documented in plan sheets in **Appendix B**.

2.1.2 Traffic Counts

Intersection turning movement counts (TMCs) were collected or obtained from a variety of sources, as summarized in **Table 1**. While a typical project would collect counts immediately prior to the analysis, this project began when the Covid-19 pandemic caused a worldwide shutdown in the spring of 2020. Traffic counts collected previously by others – primarily via FDOT projects from 2019 or 2018, were evaluated and used for appropriate intersections. After Florida schools started back up in August of 2020 with a blend of in-person and virtual school, it was decided that new traffic counts should be collected for this project.

Traffic counts were adjusted using the following methods to ensure continuity between the data collection sources used in the analysis:

- » TMCs were adjusted using seasonal factors from FDOT's *Florida Traffic Online* (FTO) publication that correspond to the date of data collection. **Appendix C** includes the seasonal factor data and all traffic counts used in this study.
- » TMCs collected prior to Year 2020 were forecasted to Year 2020 using an areawide 0.6% annual growth rate.
- » TMCs collected during the COVID-19 pandemic were adjusted to pre-COVID-19 conditions by developing and applying an adjustment factor based on a comparison of Year 2019 and Year 2020 TMCs at several overlapping study area intersections. In general, major roads in September of 2020 saw slight decreases compared to previous years, but minor roads had more pronounced decreases in traffic. The AM peak hour saw a larger decrease in volume than the PM peak hour. Adjustment factors were calculated at 25% and 15% for AM and PM peak hours, respectively. These adjustment factors were further increased by an additional 10% factor of safety, yielding a 35% and 25% total increase to the seasonally adjusted TMCs for minor street movements during the AM and PM peak hours, respectively. Year 2020 major street thru volumes were increased by 10% in the AM peak hour, and 5% in the PM peak hour.



Table 1: Data Collection Summary

No.	Intersection	Date Collected	Source
1	Orlando Avenue & Minnesota Avenue	10/22/2019	TEDS
2	Orlando Avenue & Fairbanks Avenue	2/7/2019	VHB
3	Orlando Avenue & Morse Boulevard	10/22/2019	TEDS
4	Orlando Avenue & Gay Road	10/22/2019	TEDS
5	Orlando Avenue & Webster Avenue	10/22/2019	TEDS
6	Orlando Avenue & Lee Road	12/12/2019	VHB
7	Orlando Avenue & Park Avenue	9/17/2020	NDS
8	Lee Road & Bennett Avenue/Executive Drive	9/16/2020	NDS
9	Clay Street & Par Street	9/16/2020	NDS
10	Clay Street & Minnesota Avenue	9/16/2020	NDS
11	Clay Street & Fairbanks Avenue (SR 426)	9/11/2018	TEDS
12	Webster Avenue & Lee Road	9/16/2020	NDS
13	Denning Drive & Morse Boulevard	9/16/2020	NDS
14	Denning Drive & Canton Avenue	9/16/2020	NDS
15	Denning Drive & Webster Avenue	9/16/2020	NDS
16	Denning Drive & Fairbanks Avenue	1/14/2020	NDS
17	Orlando Avenue/N Mills Avenue & Orange Avenue	5/15/2019	NDS
18	Orange Avenue & Minnesota Avenue/Denning Drive	5/15/2019	NDS
19	Orange Avenue & Fairbanks Avenue & Pennsylvania Avenue	5/15/2019	NDS
20	Orange Avenue & Cypress Avenue	5/15/2019	NDS

2.1.3 Signal Timings and Clearance Times

Traffic signal timing data were collected from City staff and verified thru field observations. Approaches to all intersections were measured to determine the grade (slope) for calculations of clearance intervals. The signal timing sheets and clearance interval calculation worksheets are included in **Appendix D**.

2.1.4 Field Observations

Site visits were conducted numerous times throughout the study, with the primary inventories and observations occurring June 16, 2020 in the PM peak hour, and June 17, 2020 in the AM peak hour.

Overall, there were several observations of congestion on Orlando Avenue that resulted in vehicles sitting thru more than one cycle length. Most intersections, however, were able to clear out the entire queue for each movement during each cycle. There were several instances of uncongested conditions during the AM peak hour as large platoons of traffic were able to clear out with long gaps between platoons. As expected, the highest levels of congestion occurred at the intersections of Orlando Avenue and Fairbanks Avenue, and Orlando Avenue at Lee Road. Long queues were observed in most directions at these intersections. Since the queues typically clear out within one cycle, it can be concluded that queues are due in large part to the long cycle lengths.

While minor roads often had relatively long queues, they experienced acceptable amounts of delay, without any observed cycle failures or volume-to-capacity concerns.



Congestion was observed along Orange Avenue, consistent with other Orange Avenue observations which were documented previously.

2.2 Operating Conditions

2.2.1 Intersections

Existing intersection operating conditions were evaluated based on the data collection efforts summarized above. The operating conditions at the study intersections were analyzed using *Synchro 10* software. Existing lane geometry, peak hour factors, and heavy vehicle percentages were inputted into the capacity analyses. The Synchro model was calibrated by applying a 10% volume adjustment (within Synchro) based on intersection observations, to better match existing conditions. Synchro output reports for existing conditions are provided in **Appendix E**.

Table 2 provides a summary of the overall delay, level of service, volume-to-capacity (v/c) ratios, and 95th percentile queues during the AM peak hour and PM peak hour under existing (2020) traffic conditions.



Table 2: Summary of Existing Conditions

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & Minnesota Avenue	EB	E	0.78	EBL	234.0	E	0.83	EBL	324.0
	WB	F	0.87	WBT	392.0	F	0.83	WBT	363.0
	NB	C	0.54	NBT	421.0	C	0.64	NBT	466.0
	SB	B	0.76	SBT	965.0	C	0.75	SBT	520.0
	Overall	C (33.0 sec)	0.87	WBT	-	D (40.4 sec)	0.83	WBT	-
Orlando Avenue & W Fairbanks Avenue	EB	E	0.90	EBL	453.0	E	1.16	EBL	609.0
	WB	E	0.95	WBT	647.0	F	0.97	WBT	780.0
	NB	E	0.83	NBL	304.0	F	1.00	NBT	1114.0
	SB	E	1.02	SBT	984.0	E	1.03	SBL	390.0
	Overall	E (66.3 sec)	1.02	SBT	-	E (73.4 sec)	1.16	EBL	-
Orlando Avenue & Morse Boulevard	EB	E	0.25	EBL	64.0	D	0.52	EBL	128.0
	WB	E	0.72	WBL	184.0	E	0.87	WBL	343.0
	NB	B	0.53	NBT	800.0	D	0.69	NBT	1121.0
	SB	A	0.59	SBL	82.0	B	0.58	SBT	356.0
	Overall	B (14.5 sec)	0.72	WBL	-	D (37.3 sec)	0.87	WBL	-
Orlando Avenue & Gay Road	EB	D	0.49	EBT	74.0	F	0.78	EBT	196.0
	WB	E	0.43	WBL	88.0	E	0.82	WBL	256.0
	NB	A	0.38	NBT	157.0	B	0.62	NBT	384.0
	SB	B	0.65	SBT	354.0	B	0.58	SBL	150.0
	Overall	B (12.2 sec)	0.65	SBT	-	B (19.3 sec)	0.82	WBL	-
Orlando Avenue & Webster Avenue	EB	F	0.67	EBT	172.0	F	0.81	EBT	352.0
	WB	D	0.38	WBR	70.0	E	0.58	WBT	219.0
	NB	A	0.35	NBT	39.0	A	0.59	NBT	445.0
	SB	A	0.71	SBT	176.0	C	0.74	SBT	1076.0
	Overall	B (11.7 sec)	0.71	SBT	-	C (27.6 sec)	0.81	EBT	-
Orlando Avenue & Lee Road	EB	E	0.81	EBL	338.0	E	0.99	EBL	708.0
	WB	F	0.79	WBT	272.0	F	0.75	WBT	280.0
	NB	E	0.91	NBL	430.0	E	0.89	NBT	1072.0
	SB	D	0.88	SBT	864.0	E	0.82	SBT	876.0
	Overall	E (55.1 sec)	0.91	NBL	-	E (74.2 sec)	0.99	EBL	-
Orlando Avenue & Park Avenue	NB	B	0.49	NBT	226.0	B	0.88	NBT	737.0
	SB	A	0.73	SBL	282.0	A	0.64	SBL	223.0
	Overall	A (6.9 sec)	0.73	SBL	-	B (13.7 sec)	0.88	NBT	-



Table 3 (continued): Summary of Existing Conditions

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Executive Drive / Bennett Avenue & Lee Road	EB	B	0.17	EBL	15.0	B	0.19	EBL	17.5
	WB	D	0.07	WBU	5.0	F	0.08	WBU	7.5
	NB	C	0.04	NBR	2.5	D	0.24	NBR	22.5
	SB	C	0.37	SBL	40.0	D	0.42	SBL	47.5
	Overall	-	0.37	SBL	-	-	0.42	SBL	-
Clay Street & Par Street	EB	D	1.07	EBL	426.0	C	0.90	EBL	330.0
	NB	B	0.66	NBT	180.0	F	1.29	NBT	530.0
	SB	B	0.60	SBT	229.0	A	0.55	SBT	135.0
	Overall	C (32.3 sec)	1.07	EBL	-	E (68.4 sec)	1.29	NBT	-
Clay Street & Minnesota Avenue	EB	B	0.32	EBT	111.0	A	0.23	EBT	60.0
	WB	C	0.82	WBT	343.0	D	0.92	WBT	377.0
	NB	A	0.55	NBR	39.0	B	0.66	NBT	164.0
	SB	B	0.49	SBT	109.0	C	0.64	SBT	139.0
	Overall	B (15.6 sec)	0.82	WBT	-	C (22.5 sec)	0.92	WBT	-
Clay Street & W Fairbanks Avenue	EB	B	0.65	EBT	673.0	D	0.77	EBT	1058.0
	WB	A	0.51	WBL	52.0	C	0.67	WBL	140.0
	NB	F	0.97	NBL	290.0	E	0.86	NBL	547.0
	SB	F	0.15	SBL	33.0	E	0.23	SBT	42.0
	Overall	B (19.4 sec)	0.97	NBL	-	D (39.3 sec)	0.86	NBL	-
Lee Road & Webster Avenue	EB	C	0.20	EBT	63.0	C	0.20	EBT	62.0
	WB	B	0.48	WBT	86.0	B	0.48	WBT	93.0
	NB	C	0.06	NBL	15.0	C	0.14	NBT	42.0
	SB	D	0.84	SBL	268.0	C	0.82	SBL	278.0
	Overall	C (25.0 sec)	0.84	SBL	-	C (22.2 sec)	0.82	SBL	-
Denning Drive & Morse Boulevard	EB	C	0.59	EBT	129.0	C	0.60	EBT	121.0
	WB	C	0.33	WBT	67.0	C	0.52	WBT	103.0
	NB	B	0.29	NBT	133.0	B	0.56	NBT	252.0
	SB	B	0.37	SBT	174.0	B	0.43	SBT	183.0
	Overall	B (18.8 sec)	0.59	EBT	-	B (18.8 sec)	0.60	EBT	-
N Denning Drive & Canton Avenue	EB	C	0.61	EBT	152.0	B	0.48	EBT	134.0
	WB	C	0.24	WBT	59.0	C	0.49	WBT	121.0
	NB	B	0.23	NBT	116.0	C	0.56	NBT	340.0
	SB	B	0.49	SBT	225.0	C	0.47	SBT	221.0
	Overall	B (19.4 sec)	0.61	EBT	-	C (21.7 sec)	0.56	NBT	-



Table 4 (continued): Summary of Existing Conditions

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
N Denning Drive & Webster Avenue	EB	D	0.92	EBT	369.0	F	1.17	EBT	462.0
	WB	F	1.02	WBT	420.0	E	0.97	WBT	370.0
	NB	C	0.34	NBL	63.0	C	0.47	NBT	198.0
	SB	D	0.71	SBT	250.0	C	0.47	SBT	151.0
	Overall	D (53.4 sec)	1.02	WBT	-	E (61.9 sec)	1.17	EBT	-
S Denning Drive & W Fairbanks Avenue	EB	B	0.58	EBT	110.0	C	0.85	EBT	417.0
	WB	B	0.49	WBT	305.0	C	0.69	WBT	580.0
	NB	E	0.50	NBT	271.0	F	0.83	NBT	622.0
	SB	F	1.00	SBT	734.0	E	0.75	SBT	573.0
	Overall	C (32.8 sec)	1.00	SBT	-	D (39.8 sec)	0.85	EBT	-
Orange Avenue & N Mills Avenue/Orlando Avenue & Harmon Avenue	NB	D	0.75	NBT	674.0	D	0.69	NBT	646.0
	SB	C	0.65	SBT	338.0	D	0.67	SBL	117.0
	NEB	F	1.02	NEBT	781.0	F	1.03	NEBL	708.0
	SWB	E	0.89	SWBL	463.0	F	0.98	SWBL	531.0
	Overall	E (57.3 sec)	1.02	NEBT	-	E (70.8 sec)	1.03	NEBL	-
Orange Avenue & S Denning Drive & Minnesota Avenue	EB	E	0.74	EBT	252.0	F	1.10	EBT	602.0
	WB	F	1.21	WBT	555.0	F	1.18	WBT	474.0
	NB	D	0.22	NBT	76.0	F	1.02	NBT	322.0
	SB	E	0.67	SBT	181.0	F	1.02	SBL	202.0
	NEB	D	0.70	NEBT	305.0	D	0.84	NEBT	349.0
	SWB	D	0.89	SWBT	495.0	D	0.60	SWBT	240.0
	Overall	E (68.0 sec)	1.21	WBT	-	F (83.7 sec)	1.18	WBT	-
Orange Avenue & S Pennsylvania Avenue & W Fairbanks Avenue	EB	D	0.58	EBT	350.0	E	0.94	EBT	558.0
	WB	C	0.61	WBL	421.0	B	0.37	WBT	216.0
	NB	E	0.44	NBT	168.0	F	1.08	NBT	495.0
	SB	E	0.55	SBT	221.0	F	0.87	SBT	446.0
	NEB	C	0.50	NEBR	269.0	D	0.79	NEBR	527.0
	Overall	C (33.3 sec)	0.61	WBL	-	D (51.1 sec)	1.08	NBT	-
Orange Avenue & Cypress Avenue	NWB	C	0.15	NWBL	27.0	C	0.38	NWBL	66.0
	NEB	A	0.19	NEBT	48.0	A	0.28	NEBT	77.0
	SWB	A	0.32	SWBT	86.0	A	0.27	SWBT	71.0
	Overall	A (2.5 sec)	0.32	SWBT	-	A (5.3 sec)	0.38	SWBT	-

[1] The 95th percentile queue reported corresponds to the approach's worst performing movement based on max V/C.

For signalized intersections, vehicle queue lengths reported in the Synchro outputs were divided by a 25-foot spacing to obtain the queue lengths in vehicles.

For unsignalized intersections, vehicle queues reported in the Synchro outputs were multiplied by a 25-foot spacing to obtain the queue lengths in feet.



2.2.2 Concerns to Address

As shown in the performance summary table, several intersections have capacity and queue concerns during the AM peak hour, PM peak hour, or both. This should come as no surprise to commuters who travel the corridor every day. Most intersections experience less delay during the AM peak hour, though some specific movements are more difficult during the morning, such as the northbound left turn movement from Clay Street to Fairbanks Avenue.

The primary bottleneck intersections (the locations with the most pronounced concerns) are the intersections of Orlando Avenue at Fairbanks Avenue and Orlando Avenue at Lee Road. Orlando Avenue, Fairbanks Avenue, and Lee Road are all major state roads that serve a wide range of trip types, vehicle types, trip lengths, and modes. Capacity and flow of other intersections along these corridors should be optimized to match the available capacity at this intersection to provide maximum efficiency.

Orange Avenue at Minnesota Avenue / Denning Drive, which processes fewer vehicles than intersections along Orlando Avenue, still experiences higher delays (on a per-vehicle basis) and worse volume-to-capacity ratios than any other intersection that was analyzed.

Minor roads such as Clay Street, Denning Drive, and Morse Boulevard generally have lower volumes and better operating conditions with fewer needs for improvements.

As stated in the introduction, the primary objective of this analysis is to improve conditions for vehicular traffic since there is an existing project along Orlando Avenue that is focused on bicycle and pedestrian comfort, safety, and aesthetics.

2.2.3 Existing Constraints

There are few opportunities for widening roads thru Winter Park, and the Central Florida community understands that we can't build our way out of congestion. This statement is more and more relevant in areas closer to the downtown core, as congestion is a sign of economic vitality. Given this understanding, there will not be any recommendations to add thru lanes along Orlando Avenue, Lee Road, Fairbanks Avenue, etc.

Most of the roadways in this analysis do not have excessive room in existing medians that can be used to add turn lanes. On the contrary, there are limited locations where lanes can be added without acquiring property. In some cases, property acquisition would be needed just to extend the existing turn lanes.

2.2.4 Travel Patterns

Origin-Destination data for existing travel patterns was collected via Streetlight, a BigData vendor that filters data from Bluetooth and GPS-enabled devices. Information was summarized for different areas based on the census block groups. Specific starting, ending, and middle areas were specified to filter data for each direction for the AM and PM peak hours along Orlando Avenue, Fairbanks Avenue, and



Lee Road. Data were collected for year 2019, for all non-summer months (June, July, and August were excluded since there is less traffic and different patterns when school is out). Data were sorted to only consider Tuesday, Wednesday, and Thursday, during the AM peak hour (7:00 AM to 9:00 AM) and PM peak hour (4:00 PM to 6:00 PM). Origin and Destination data were overlayed on the same maps to provide a comprehensive understanding of trip behavior. Maps are provided in **Appendix F**, with descriptions provided below. The “star” icon on the map represents the point or gateway that vehicles travel thru while being measured. Four maps are included for each roadway. For example, the Orlando Avenue maps are for AM northbound, AM southbound, PM northbound, and PM southbound.

The maps were filtered to only display information for census blocks with origins or destinations that represent over ½ of a percent of the total trips. Since the remaining tracts represent less than ½ of a percent per census block, additional information would be overwhelmingly cumbersome without providing useful data. Thus, the percentages displayed do not add up to the full 100% of trips.

One primary finding for each roadway, each time period, and each direction is that the consistency of trips on major roads is not homogenous – there are people coming from and going to a huge number of places. There are occasional high concentrations to or from certain areas, but the overarching theme is that traffic on Winter Park arterials has a vast variety of origins and destinations, often extending well beyond City boundaries.

2.2.4.1 Orlando Avenue

AM peak hour traffic traveling northbound into Winter Park originates from a very large geographic area, with several census blocks generating over ½ of a percent of the total northbound trips from locations as far as 13 miles away. Census blocks generating the largest portion of traffic on Orlando Avenue are from the Baldwin Park area with 4.2%, the area west of Lake Sue with 3.4%, and several other census blocks just south of the City that contribute over 2% each. Destination traffic is much more concentrated - a large portion of the traffic entering Winter Park via Orlando Avenue has a destination within City limits, with almost 30% traveling to census blocks that border Orlando Avenue. The blocks furthest away from the City that have more than ½ of a percent of traffic are in the Maitland Concourse area, with 2.1%, and Aloma Avenue (SR 426) near SR 436, with 2.6%.

Southbound AM peak hour traffic generally originates from blocks that are east of I-4 and west of SR 436 (with some exceptions). This pattern confirms that people living near SR 436 see it as a viable route, while a large amount of drivers choose Orlando Avenue instead of I-4. It is also noteworthy that the origin percentages are all low and widespread, without any blocks generating more than 5% of the total traffic. Many of the trips on Orlando Avenue are long-range trips, with several census blocks in the Casselberry and Altamonte Springs area generating more than ½ of a percent of the total trips. The census block generating the highest percentage of trips is the block between Lake Maitland and Temple Drive, north of Palmer Avenue, with only 4.3% of the total trips.

Southbound traffic exiting the City via Orlando Avenue in the AM peak hour is generally destined for areas concentrated near Orlando Avenue between Winter Park and downtown Orlando. Several



blocks along Orlando Avenue just south of the City have high destination percentages, though the block with the highest percentage is in the downtown core of Orlando, with 10%.

Northbound PM peak hour origin patterns are slightly more spread out than the AM peak hour origin areas, indicating that a larger portion of the trips are for non-work purposes. The origin areas are generally bounded by SR 408, I-4, and SR 436. While more areas are included, there are several blocks with high percentages located adjacent to Orlando Avenue just south of Winter Park. The downtown core census block in Orlando is generating 4.9% of the trips, compared to the AM destination of 10%, indicating that a large portion of the downtown trips use Orlando Avenue in the AM but use other roads in the PM, or perhaps travel home outside of the 4:00 – 6:00 PM peak hour window.

Northbound PM peak hour destination areas are quite similar to the areas with high percentages of AM peak hour origin area, which is typical for commuter travel (heading to work in the AM and home in the PM). The percentages of key census blocks, however, are much higher, indicating that there are vibrant commercial destinations near Orlando Avenue. The block immediately to the east of Orlando Avenue is drawing over 15% of the total trips. Consistent with the AM origin areas, several blocks in Casselberry and Altamonte Springs have high trip destination percentages from traffic along Orlando Avenue.

Southbound PM peak hour trips are concentrated in a relatively small area of origin blocks, with some extending west of I-4. Compared to other directions and time-of-day maps, the overall area with high percentages is relatively concentrated, indicating that there are fewer southbound trips driving thru the city from far-away areas in the PM peak hour. The census blocks within Winter Park immediately adjacent to Orlando Avenue contribute very high percentages of origin trips, further indicating that most of the southbound PM peak hour trips are leaving from Winter Park.

Southbound PM peak hour destination census blocks are very spread out, though the areas with highest percentages are still bounded by SR 408. None of the destinations are west of I-4, but several destinations are far to the south and east. There are several prominent destinations south of Curry Ford Road and south of Michigan Street. None of the destination areas exceed 6% of the traffic, and the highest concentrations of 5.2 %, 4.2%, 5.4%, and 4.4%, are located just south of the City along Orlando Avenue.

2.2.4.2 Fairbanks Avenue

AM peak hour traffic traveling eastbound into Winter Park originates from a very large geographic area, without any major concentrations from individual census blocks. The block with the highest percentage of originating trips (the Rosemont area west of the intersection of SR 423 and US 441) only contributes 3.5% of the overall eastbound trips, with a handful of other blocks between 2% and 3%. There are blocks contributing more than ½ of a percent of the trips that are as far away as Apopka.



Eastbound AM peak hour destinations are much more concentrated than the origins for the same time and direction. For example, the census blocks with the highest percentages of trips have 17.8%, 9.8%, 8.7%, and 7.5% of the total trips. So while the trips originate from a relatively large and widespread area, many of them are traveling to a relatively small and concentrated area. Also noteworthy is that the area with the highest percentage of destination trips at 17.8% is bisected by the eastern border of Winter Park. Despite the general concentration of destinations, there is an area east of the main concentration of destinations, near UCF, that is the destination for 1.7% of the trips.

Westbound AM peak hour trips traveling thru Winter Park originate from a wide area generally along Fairbanks Avenue (which becomes Aloma Avenue) and expanding to the south along SR 417. While most census blocks contribute small portions of the total trips, there are three zones near SR 436 that contribute 11.9%, 4.6%, and 4.4% of the total trips.

Westbound AM peak hour destination zones are spread in a north/south alignment, likely since Fairbanks Avenue does not extend west beyond Edgewater Drive. A high percentage of the trips have destinations just west of the city limits. Census blocks with more than ½ of a percent of trips have a relatively small combined total percentage, indicating that there is a large number of census blocks that have very low percentages of trips (less than ½ of a percent). Westbound traffic is traveling to a wide range of destinations that are often far away without major patterns. There are two census blocks with more than ½ of a percent that are far away along I-4, near the John Young Parkway exit.

Eastbound PM peak hour origin census blocks have low percentages, indicating that eastbound traffic arrives from many different areas, without major concentrations. Census blocks with the highest percentages are under 5%, except for the area immediately west of Orlando Avenue, which supplies 9% of the trips. There are two census blocks east of I-4 and south of SR 50 that provide a combined 2.9% of the eastbound trips, likely via I-4. Similar to the AM westbound destinations, the eastbound origin pattern has an odd north/south alignment since Fairbanks Avenue does not extend west beyond Edgewater Drive.

Eastbound PM destination zones are highly concentrated along Fairbanks Avenue within Winter Park – indicating that a high percentage of eastbound trips on Fairbanks Avenue (nearly 50%) are destined for nearby zones in Winter Park. Similar to the AM peak hour, the census block near UCF is the destination for more than ½ of a percent of the trips (0.8%). Another similarity to the AM peak hour is that Baldwin Park areas are the destination for 2.8% and 2.5% of the trips, which likely get there via roads such as Pennsylvania Avenue and Lakemont Avenue.

Westbound PM origin zones are generally concentrated along Fairbanks Avenue within the city limits, though there are some origin zones outside of the city. Almost 60% of the trips traveling westbound on Fairbanks Avenue originate from within the city, from census blocks along or adjacent to the road. Thus, most westbound traffic on Fairbanks Avenue is associated with Winter Park.

Westbound PM peak hour destination zones are spread out over a large area, without major concentrations beyond the areas just west of Orlando Avenue. Census blocks with a moderate



portion of the destination trips generally extend along Edgewater Drive and, to a lesser degree, US 441. Several of the blocks with more than ½ of a percent of the trips are located at long distances from Winter Park, such as the census blocks in downtown Orlando, west of the US 441 & SR 414 intersection, and blocks west of Clarcona Road.

2.2.4.3 Lee Road

AM peak hour traffic traveling eastbound into Winter Park via Lee Road originates from a very large geographic area, similar to the origin areas that travel eastbound on Fairbanks Avenue. The origin zones with the highest percentages are located on the edge of Winter Park, with three census blocks contributing approximately 5% each, which is still a relatively low amount given the proximity. There are census blocks contributing more than ½ of a percent from as far away as Wekiva, Ocoee, and south of downtown Orlando.

AM peak hour eastbound destination census blocks are in a tight concentration, almost all within or immediately adjacent to the City of Winter Park, with the exception of one area near UCF. A large portion of the trips (approximately 40%) is traveling to locations along Lee Road or along Orlando Avenue, with another 17% traveling to downtown Winter Park. It is safe to say that most of the AM peak hour eastbound traffic on Lee Road is traveling to Winter Park.

AM peak hour westbound traffic on Lee Road has origins that are spread far and wide, with relevant census blocks extending into Oviedo and Winter Springs. Only 15% (approximately) of the westbound trips originate within the city, and most of that percentage is from census blocks in the northwestern portion of the city. The origins are spread out where the top five blocks only contribute 6.2% (from the census block along Lee Road), 3.1%, 2.9%, 2.6%, and 2.3%, with all other blocks contributing less than 2% of the total traffic. These percentages are quite low considering that far away census blocks near the Oviedo Mall and near the Winter Springs Town Center contribute 1.5% and 1.4% of the total traffic, respectively.

Westbound AM peak hour destinations are almost entirely outside of Winter Park, with some near I-4 south of Winter Park, and several along US 441. Only 15% (approximately) of the westbound AM peak hour trips have destinations within the city. This, and the westbound AM origin sources, are a stark contrast with AM peak hour eastbound traffic, which was mostly traveling to destinations within the city.

PM peak hour traffic traveling eastbound into Winter Park via Lee Road originates from a more concentrated overall area than in the AM peak hour. Origin zones within or immediately adjacent to Winter Park contribute over 25% of the total trips, with other nearby census blocks also contributing relatively large percentages of trips.

PM peak hour eastbound trips on Lee Road are generally traveling to destinations in Winter Park near Lee Road or to areas in the northeast. A large portion of the trips (24%) are traveling to census blocks along Orlando Avenue within the city. Many of the remaining trips continue to the northeast to



census blocks that are just outside of city limits, with some smaller groups headed to Casselberry, Winter Springs, and Oviedo.

Westbound PM peak hour trips on Lee Road originate from a very concentrated area, mostly from the northern portion of Winter Park and to a lesser degree, from census blocks just north of city limits. Only two blocks east of city limits contribute more than ½ of a percent of the trips. Census blocks immediately adjacent to Orlando Avenue and Lee Road contribute over 40% of the total trips, which is a strong concentration. Nearby blocks contribute additional high percentages of 6%, 5.5%, and 3.7%. This is a tighter concentration of origin trips than any of the other roadways/directions analyzed in this report.

While the PM peak hour westbound origin trips were concentrated to a small area of census blocks, the destinations are much more spread out, with some heading to census blocks that are at the western edge of the map in Ocoee or north to Altamonte Springs. Approximately 24% of the trips are traveling to areas just west of the city. Unlike the AM version of this movement, fewer than ½ of a percent of trips are traveling to downtown Orlando, indicating that the ramp to westbound I-4 could be less congested in the PM peak hour than in the AM peak hour (depending on traffic originating from other locations).



3.0 Improvements

3.0 Improvements

Improvement concepts and alternatives were developed to address intersection concerns. The concepts, impacts, and performance characteristics are described below, with Synchro output reports provided in **Appendix G**, and concept plans provided in **Appendix H**.

3.1 Orlando Avenue at Fairbanks Avenue

Turn lane improvements from Fairbanks Avenue onto Orlando Avenue would have a significantly positive effect on congestion. While traffic from the west is metered by congestion at other intersections along Fairbanks Avenue, both directions (eastbound and westbound) experience delays and capacity constraints. The southbound approach currently has a right turn lane, but it is short and doesn't have space for storage. Consequently, it is usually blocked by the adjacent thru lane, and it would benefit from a longer storage length.

The northbound approach does not have a dedicated right turn lane, and there isn't enough space to add one without acquiring right-of-way. Since the northbound right turn movement has low volumes, a turn lane is not currently recommended. If the parcel in the southeast quadrant is redeveloped, however, we recommend consideration of a turn lane since it would benefit capacity for the adjacent thru movement.

3.1.1 Eastbound Left Turn Lanes

The eastbound approach currently consists of a single left turn lane, a thru lane, and a shared thru/right turn lane. An additional eastbound left turn lane would help provide additional capacity, improving conditions for the left turn movement and for the opposing thru movement. Since the existing median is already relatively narrow, the turn lane can be added by widening to the outside, narrowing the lanes, and shifting the thru lanes towards the outside. This concept is shown on **Exhibit 2**. Right-of-way acquisition is needed from several properties to provide enough space to add the turn lane.



Exhibit 2: Orlando Avenue at Fairbanks Avenue: Add eastbound left turn lane by widening to the outside and shifting lanes



3.1.2 Westbound Left Turn Lane Extension

The existing westbound left turn lane is relatively short and is often blocked by the queue from the adjacent thru lane. Extending the turn lane would be beneficial. As shown on **Exhibit 3**, property acquisition is needed from a portion of a parcel on the north side of the road (which has been developed since the aerial photograph was taken).

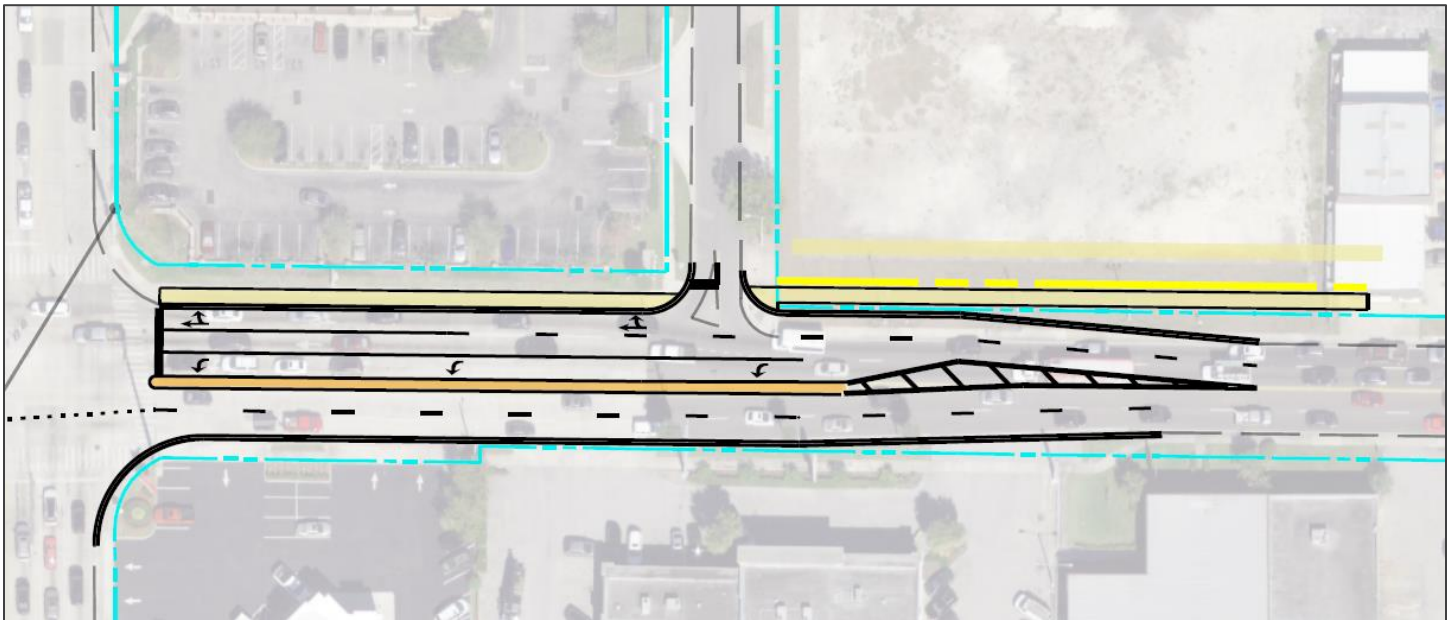


Exhibit 3: Orlando Avenue at Fairbanks Avenue: Add eastbound left turn lane by widening to the outside and shifting lanes

3.1.3 Southbound Right Turn Lane Extension

The southbound right turn movement is relatively heavy, particularly during the PM peak hour. While there is an existing right turn lane, it is short and is often blocked by the queue for the adjacent thru lane. An extension of the southbound right turn lane would benefit operational performance, but would require property acquisition, as shown on **Exhibit 4**.



Exhibit 4: Orlando Avenue at Fairbanks Avenue: Extend southbound right turn lane

3.1.4 Results – Orlando Avenue at Fairbanks Avenue

Turn lane improvements at this intersection are anticipated to reduce the overall intersection delay, reduce queue lengths, and reduce capacity constraints. **Tables 3A-C** show the existing operating conditions, improved AM conditions, and improved PM conditions, respectively. As shown in the tables, the recommended improvements have the potential to reduce delay and prevent volume-to-capacity failures during the AM and PM peak hours.



Table 3A: Existing Operating Conditions for Orlando Avenue at Fairbanks Avenue

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & W Fairbanks Avenue	EB	E	0.90	EBL	453.0	E	1.16	EBL	609.0
	WB	E	0.95	WBT	647.0	F	0.97	WBT	780.0
	NB	E	0.83	NBL	304.0	F	1.00	NBT	1114.0
	SB	E	1.02	SBT	984.0	E	1.03	SBL	390.0
	Overall	E (66.3 sec)	1.02	SBT	-	E (73.4 sec)	1.16	EBL	-

Table 3B: Improved Operating Conditions for Orlando Avenue at Fairbanks Avenue – AM

Intersection	Recommended Improvements	Approach	Improved Conditions - AM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & W Fairbanks Avenue	- Extend southbound right-turn lane - Extend westbound left-turn lane¹ - Add an additional eastbound left-turn lane¹ - Signal timing adjustments	EB	D	0.74	EBT	492.0
		WB	D	0.84	WBT	294.0
		NB	E	0.83	NBL	299.0
		SB	C	0.88	SBT	956.0
		Overall	D (45.5 sec)	0.88	SBT	-

Table 3C: Improved Operating Conditions for Orlando Avenue at Fairbanks Avenue – PM

Intersection	Recommended Improvements	Approach	Improved Conditions - PM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & W Fairbanks Avenue	- Extend southbound right-turn lane - Extend westbound left-turn lane¹ - Add an additional eastbound left-turn lane¹ - Signal timing adjustments	EB	E	0.82	EBL	246.0
		WB	E	0.91	WBT	274.0
		NB	F	0.99	NBT	1131.0
		SB	D	0.89	SBL	362.0
		Overall	E (64.6 sec)	0.99	NBT	-

3.2 Orlando Avenue at Lee Road (SR 423)

This intersection experiences some of the longest delays and the longest queues of any location in the study area. Improvements to the northbound left turn lane and the eastbound left turn lane would be beneficial.

3.2.1 Northbound Left Turn Lane

The northbound left turn lane movement is a source of driver discomfort every peak hour. While there are two northbound left turn lanes, the inside lane is short and can only store approximately five to seven vehicles. As such, it is often blocked. The adjacent left turn lane, which extends south almost



to the next intersection (approximately 550' long), is blocked approximately 43% of the time during the AM peak hour and 37% of the time in the PM peak hour. This movement also experiences excessive delay, with a per-vehicle average delay of 154 seconds in the AM peak hour and 95 seconds in the PM peak hour.

The existing median is relatively narrow and the southbound lanes curve inward toward the median just south of the intersection, resulting in a lane shift. If these lanes were straightened out, the resulting alignment would provide more space for the second (inside) left turn lane. Additional property acquisition would be needed to extend the lane further south towards Webster Avenue, with impacts to the buffer strip adjacent to the Wawa gas station and impacts to the parking lot of the CVS pharmacy store. Since parking lot impacts are expensive and detrimental, the lane shift is recommended to occur in advance of the CVS driveway, to avoid impacting the CVS parking lot. As shown in the concept on **Exhibit 5**, this reconfiguration will require right-of-way acquisition from the WaWa parcel.

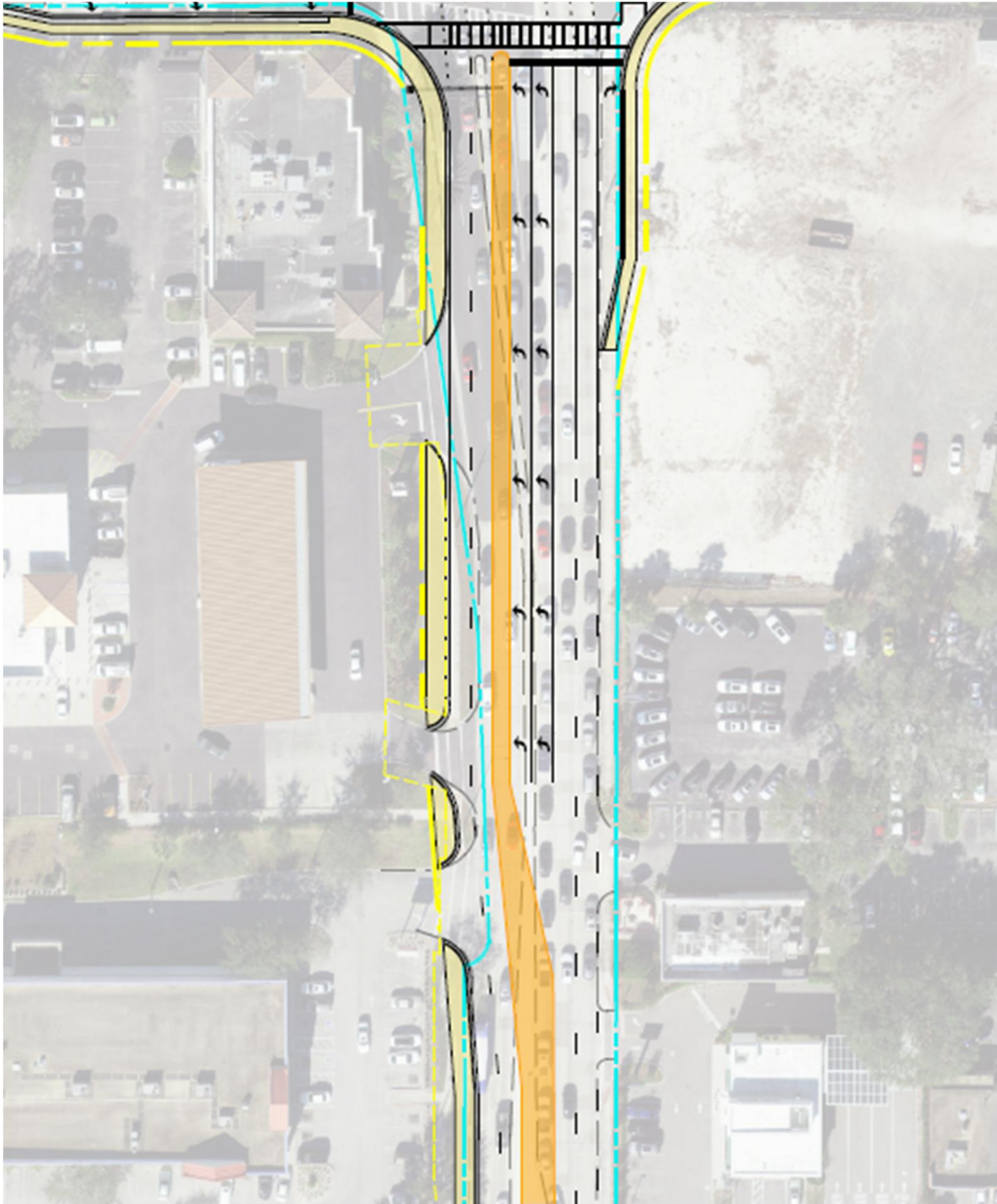


Exhibit 5: Orlando Avenue at Lee Road: Southbound lane shift to allow longer northbound left turn lane at Lee Road

If this modification moves forward, it has the potential to nearly eliminate northbound queue blockage (situations where vehicles are unable to enter the turn lane due to queues), depending on the length of the turn lane extension, while reducing the delay.



3.2.2 Eastbound Left Turn Lane

While less obvious of a concern, the eastbound left turn lane is also blocked during the peak hour, 11% of the time in the AM and 21% of the time in the PM. Average delay in the AM peak hour is 93 seconds per vehicle, with an average vehicle delay of 98 seconds per vehicle in the PM peak hour. Two options were identified to address this movement:

- » Option A: Realign the upstream lanes for better lane utilization – as shown on **Exhibit 6**.
 - » The existing laneage has one lane with approximately 400 PM peak hour vehicles dropping as the right turn lane, and the other lane diverging into three lanes (two lefts and a thru) with approximately 1,100 PM peak hour vehicles.
 - » By changing the alignment, one lane will split into the thru and right turn lanes, with 770 PM peak hour vehicles and the other splitting into the two left turn lanes with 730 PM peak hour vehicles.
 - » This more balanced lane alignment will improve efficiency at the intersection while reducing aggressive lane changes.
- » Option B: Add a third eastbound left turn lane – as shown on **Exhibit 7**.
 - » This could be accomplished by adding a right turn lane starting at Webster Street, restriping the existing right turn lane as a thru lane, and restriping the existing thru lane as the third left turn lane. The additional lane would require property acquisition.
 - » Orlando Avenue is wide enough to accommodate the third lane, but the change would require restriping the median on the northern leg to accommodate the third receiving lane. The third northbound thru lane would then drop at Solana Avenue.
 - » Large trucks would need to use the outermost (rightmost) left turn lane, then merge in advance of the lane drop at Solana Avenue.



Exhibit 6: Orlando Avenue at Lee Road Option A: Realign eastbound lane approaches

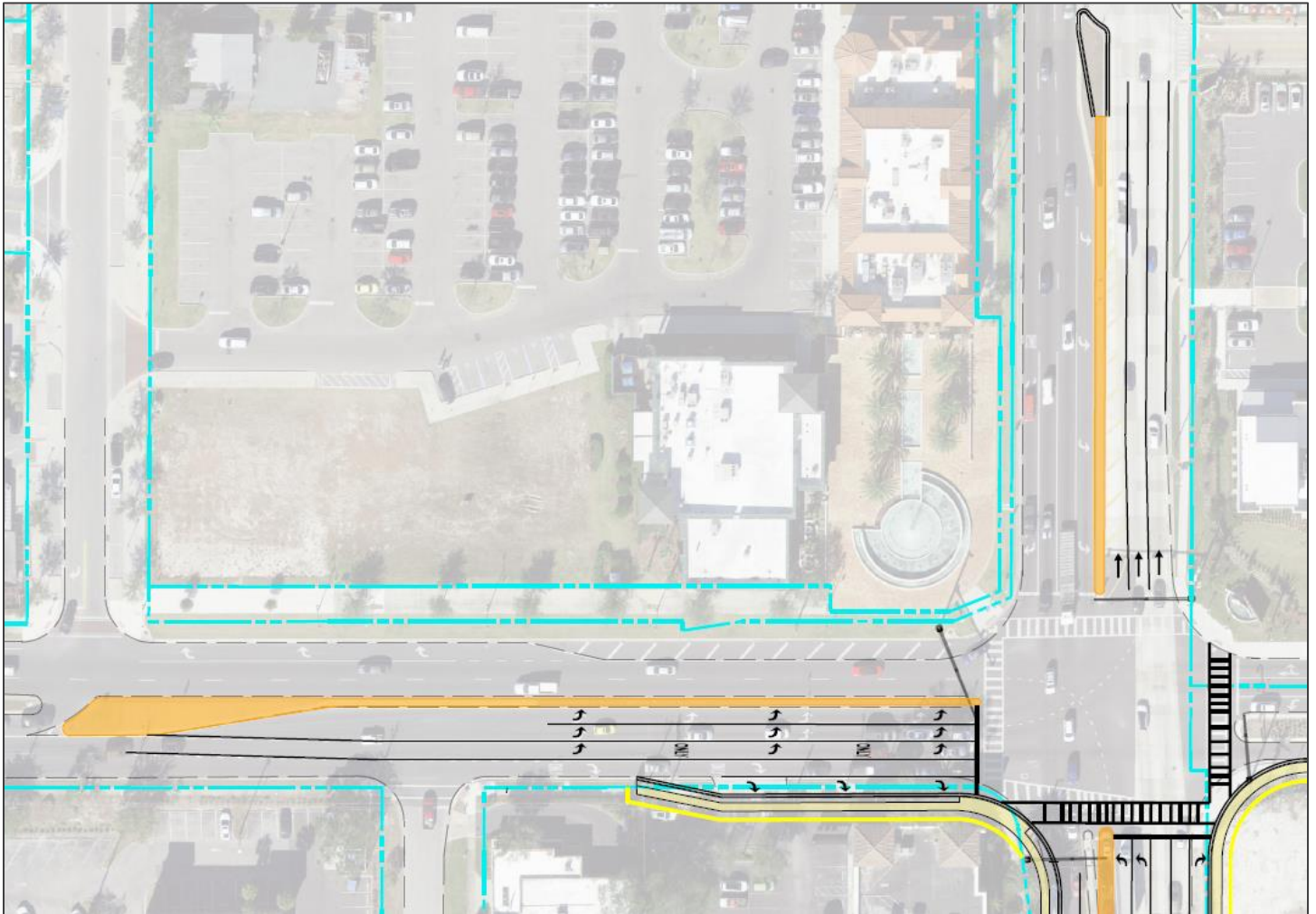


Exhibit 7: Orlando Avenue at Lee Road Option B: Add third eastbound left turn lane via construction of an eastbound right turn lane and a lane shift.

3.2.3 Northbound Right Turn Lane

Property acquisition would be needed to add a northbound right turn lane. Compared to most locations that require property acquisition, this location would be relatively less difficult to acquire since the site is currently undeveloped. However, the addition of a northbound right turn lane would have a minimal impact due to the small number of right turning vehicles (there are only 48 northbound right turns in the PM peak hour).

The conceptual design graphic for the northbound right turn lane is shown on **Exhibit 8**.

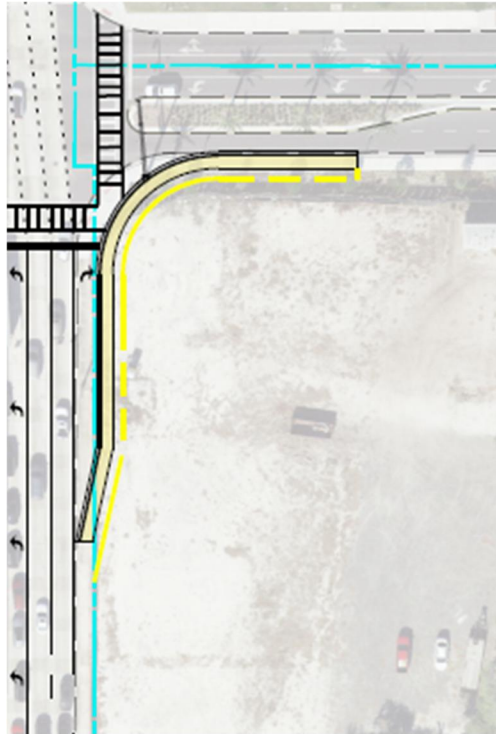


Exhibit 8: Orlando Avenue at Lee Road: Add northbound right turn lane.

Due to the low volumes and relatively small resulting benefit, this improvement is not currently recommended. If the volumes increase significantly, or if traffic patterns are anticipated to change due to development of the adjacent site, it would be appropriate to reconsider the turn lane.

3.2.4 Results – Orlando Avenue at Lee Road

Left turn lane improvements at this intersection are anticipated to reduce the overall intersection delay, reduce queue lengths, and reduce capacity constraints. **Tables 4A-C** show the existing operating conditions, improved AM conditions, and improved PM conditions, respectively. As shown in the tables, the recommended improvements have the potential to reduce delay and prevent volume-to-capacity failures during the AM and PM peak hours. Note that while a third eastbound left turn lane will improve conditions for the eastbound left turn movement, the overall delay is similar in the AM peak hour with and without the improvement. The improvement is more significant during the PM peak hour, where volume-to-capacity ratios for several movements are reduced.

The northbound right turn lane has a minimal impact – most of the improvements to the northbound direction in Option B are due to reallocation of green time from the eastbound left movement (due to actuated settings). While keeping other factors constant, addition of the northbound right turn lane will reduce delay by approximately 1 second per vehicle.



Table 4A: Existing Operating Conditions for Orlando Avenue at Lee Road

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & Lee Road	EB	E	0.81	EBL	338.0	E	0.99	EBL	708.0
	WB	F	0.79	WBT	272.0	F	0.75	WBT	280.0
	NB	E	0.91	NBL	430.0	E	0.89	NBT	1072.0
	SB	D	0.88	SBT	864.0	E	0.82	SBT	876.0
	Overall	E (55.1 sec)	0.91	NBL	-	E (74.2 sec)	0.99	EBL	-

Table 4B: Improved Operating Conditions for Orlando Avenue at Lee Road – AM

Intersection	Recommended Improvements	Approach	Improved Conditions - AM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & Lee Road	Option A - Add northbound right-turn lane - Realigned eastbound approach - Shift southbound lanes on the south leg outside to provide longer northbound left-turn lane - Signal timing adjustments	EB	E	0.81	EBL	338.0
		WB	F	0.86	WBT	252.0
		NB	D	0.86	NBL	411.0
		SB	D	0.88	SBT	864.0
		Overall	D (51.9 sec)	0.88	SBT	
	Option B - Additional eastbound left-turn lane, additional receiving lane - Shift southbound lanes on the south leg outside to provide longer northbound left-turn lane - Signal timing adjustments	EB	E	0.74	EBT	488.0
		WB	F	0.86	WBT	270.0
		NB	D	0.83	NBL	430.0
		SB	D	0.87	SBT	864.0
		Overall	D (51.7 sec)	0.87	SBT	

Table 4C: Improved Operating Conditions for Orlando Avenue at Lee Road – PM

Intersection	Recommended Improvements	Approach	Improved Conditions - PM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
Orlando Avenue & Lee Road	Option A - Add northbound right-turn lane - Realigned eastbound approach - Shift southbound lanes on the south leg outside to provide longer second northbound left-turn lanes - Signal timing adjustments	EB	E	0.97	EBL	696.0
		WB	F	0.76	WBT	299.0
		NB	E	0.90	NBT	914.0
		SB	E	0.83	SBT	864.0
		Overall	E (66.3 sec)	0.97	SBT	
	Option B - Additional eastbound left-turn lane, additional receiving lane - Shift southbound lanes on the south leg outside to provide longer second northbound left-turn lanes - Signal timing adjustments	EB	E	0.83	EBT	621.0
		WB	F	0.75	WBT	293.0
		NB	D	0.81	NBL	827.0
		SB	D	0.74	SBT	852.0
		Overall	E (59.7 sec)	0.83	SBT	

3.3 Webster Avenue at Denning Drive

This intersection would benefit from a relatively simple change to the laneage. The current eastbound lane geometry consists of a shared thru/left turn lane and a dedicated right turn lane. Since the left turn lane is shared, the signal operates with split east/west phasing. If the eastbound laneage is converted to a dedicated left turn lane and a shared thru/right turn lane, split phasing is not necessary, and the intersection will operate with significantly less delay. This improvement does not require modifications to the signal poles, signal heads, or other signal-related infrastructure, as the phasing can be reprogrammed at the cabinet. The improvement can be accomplished by scrubbing the old striping (thermoplastic arrows), adding new striping, and providing signage in advance of the intersection.

A graphic for the restriping is shown on **Exhibit 9**.



Exhibit 9: Webster Avenue at Denning Drive: Restripe eastbound approach

3.3.1 Results – Webster Avenue at Denning Drive

Minor lane adjustments at this location will result in significant improvements to operating conditions. **Tables 5A-C** show the existing operating conditions, improved AM conditions, and improved PM conditions, respectively. This slight change can cut the delay in half and eliminate volume-to-capacity concerns.



Table 5A: Existing Operating Conditions for Orlando Avenue at Lee Road

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V / C Ratio	Max V / C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V / C Ratio	Max V / C Movement	95th Percentile Queue (ft)
N Denning Drive & Webster Avenue	EB	D	0.92	EBT	369.0	F	1.17	EBT	462.0
	WB	F	1.02	WBT	420.0	E	0.97	WBT	370.0
	NB	C	0.34	NBL	63.0	C	0.47	NBT	198.0
	SB	D	0.71	SBT	250.0	C	0.47	SBT	151.0
	Overall	D (53.4 sec)	1.02	WBT	-	E (61.9 sec)	1.17	EBT	-

Table 5B: Improved Operating Conditions for Webster Avenue at Denning Drive – AM

Intersection	Recommended Improvements	Approach	Improved Conditions - AM Peak Hour			
			Level of Service (overall delay)	Max V / C Ratio	Max V / C Movement	95th Percentile Queue (ft)
N Denning Drive & Webster Avenue	- Restripe eastbound approach from a shared through/left and a dedicated right to a dedicated left and a shared through/right-turn lane - Removal of east/west split phasing	EB	B	0.55	EBT	222.0
		WB	D	0.82	WB	375.0
		NB	B	0.25	NBL	55.0
		SB	C	0.60	SBT	217.0
		Overall	C (26.8 sec)	0.82	WB	-

Table 5C: Improved Operating Conditions for Webster Avenue at Denning Drive – PM

Intersection	Recommended Improvements	Approach	Improved Conditions - PM Peak Hour			
			Level of Service (overall delay)	Max V / C Ratio	Max V / C Movement	95th Percentile Queue (ft)
N Denning Drive & Webster Avenue	- Restripe eastbound approach from a shared through/left and a dedicated right to a dedicated left and a shared through/right-turn lane - Removal of east/west split phasing	EB	C	0.83	EBT	333.0
		WB	E	0.98	WB	316.0
		NB	B	0.39	NBT	179.0
		SB	C	0.40	SBT	140.0
		Overall	C (31.9 sec)	0.98	WB	-

3.4 Fairbanks Avenue at Denning Drive

This intersection would benefit from the addition of eastbound and westbound left turn lanes (one turn lane per direction). Traffic turning from Fairbanks Avenue onto Denning Drive currently turns from shared thru/left turn lanes, creating conflicts with vehicles behind them who either experience delay or change lanes to go around. The turn lanes require property acquisition on the east and west sides of the intersection along Fairbanks Avenue to provide the space needed to develop the lane transitions and turn lanes. It is anticipated that some vehicles will re-route to use the turn lanes since it will be a more comfortable turn operating with improved efficiency. The conceptual design graphic for the eastbound and westbound left turn lanes is shown on **Exhibit 10**.

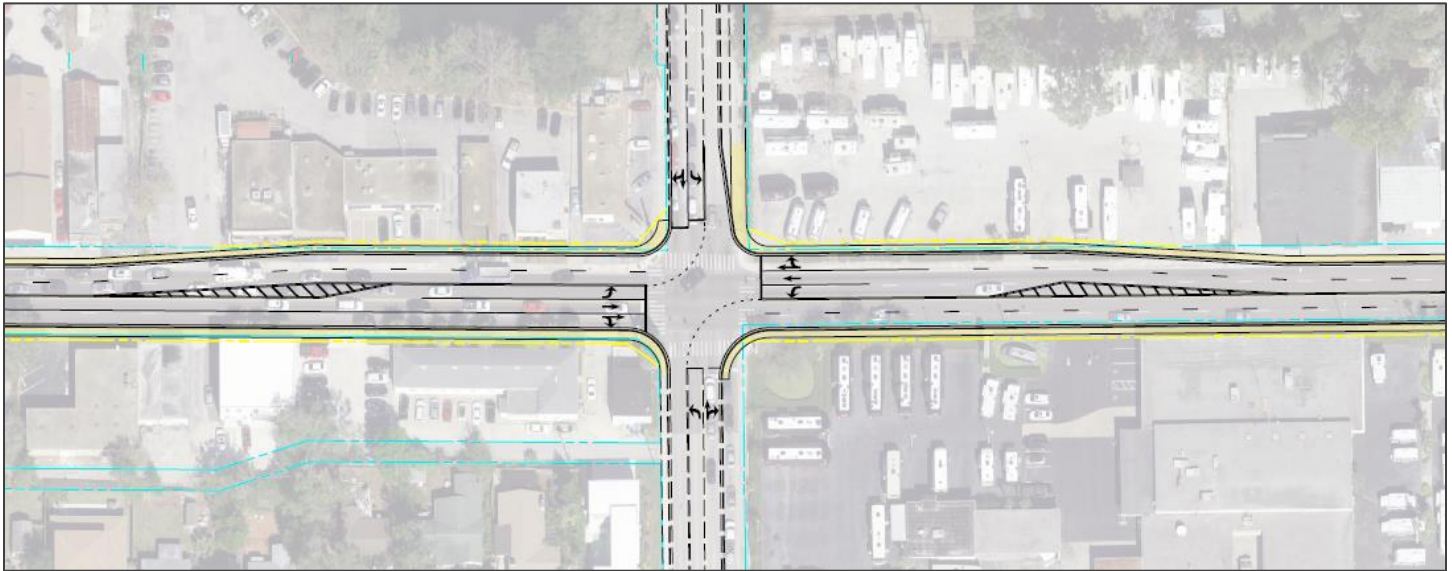


Exhibit 10: Fairbanks Avenue at Denning Drive: eastbound and westbound left turn lanes

Northbound and southbound right turn lanes were evaluated at the intersection as Option A. If implemented, the right turn lanes will require right-of-way acquisition. The southbound right turn lane has more benefits than the northbound right turn lane. Since the northbound and southbound right turn movements have low volumes (the PM peak hour southbound right volume is 61, the AM peak hour southbound right volume is 44, and both periods have northbound right volumes that are less than 15), the lanes require property acquisition, and the turn lanes will have a small effect on overall delay at an intersection that has sufficient capacity, they are not recommended for implementation at this time. Concepts showing the northbound and southbound right turn lanes are included in **Appendix H** for reference.

3.4.1 Results – Fairbanks Avenue at Denning Drive

Turn lanes along Fairbanks Avenue will improve conditions at the intersection. While the volume-to-capacity ratios for these movements are currently adequate, the turn lanes will prevent collisions from sudden lane changes, reduce rear-end collisions, reduce driver frustration, and improve driver comfort. The eastbound volume-to-capacity ratio is anticipated to improve substantially, from 0.85 to 0.45. Delay changes are low since the corresponding left turn volume is low. If left turn lanes are provided, some vehicles that are currently taking Orange Avenue may re-route to this location.

Note that the signal timings were not modified in the analysis of improved conditions, so operating conditions are unchanged for the recommended improvements. As such, the AM peak hour volume-to-capacity ratio for the southbound movement of 1.0 could easily be reduced (improved) by reallocating available green time to the movement. Since the eastbound and westbound volume-to-capacity ratios were improved to 0.36 and 0.43, green time can be reallocated to the north/south phase to improve performance along Denning Drive, while still improving conditions along Fairbanks Avenue. The amount of time to reallocate can be determined by the City, but is recommended to be



in the range of 3-6 seconds per cycle. **Tables 6A-C** show the existing operating conditions, improved AM conditions, and improved PM conditions, respectively.

Table 6A: Existing Operating Conditions for Fairbanks Avenue at Denning Drive

Intersection	Approach	Existing Conditions							
		AM Peak Hour				PM Peak Hour			
		Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)	Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
S Denning Drive & W Fairbanks Avenue	EB	B	0.58	EBT	110.0	C	0.85	EBT	417.0
	WB	B	0.49	WBT	305.0	C	0.69	WBT	580.0
	NB	E	0.50	NBT	271.0	F	0.83	NBT	622.0
	SB	F	1.00	SBT	734.0	E	0.75	SBT	573.0
	Overall	C (32.8 sec)	1.00	SBT	-	D (39.8 sec)	0.85	EBT	-

Table 6B: Improved Operating Conditions for Fairbanks Avenue at Denning Drive – AM

Intersection	Recommended Improvements	Approach	Improved Conditions - AM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
S Denning Drive & W Fairbanks Avenue	- Add eastbound and westbound left-turn lanes	EB	A	0.36	EBT	55.0
		WB	B	0.43	WBT	335.0
		NB	E	0.50	NBT	271.0
		SB	F	1.00	SBT	734.0
		Overall	C (31.3 sec)	1.00	SBT	
	Alternative 1 - Add northbound and southbound right-turn lanes - Add eastbound and westbound left-turn lanes - Signal timing adjustments	EB	A	0.36	EBT	58.0
		WB	B	0.43	WBT	335.0
		NB	E	0.47	NBT	257.0
		SB	E	0.85	SBT	599.0
		Overall	C (25.5 sec)	0.85	SBT	

Table 6C: Improved Operating Conditions for Fairbanks Avenue at Denning Drive – PM

Intersection	Recommended Improvements	Approach	Improved Conditions - PM Peak Hour			
			Level of Service (overall delay)	Max V/C Ratio	Max V/C Movement	95th Percentile Queue (ft)
S Denning Drive & W Fairbanks Avenue	- Add eastbound and westbound left-turn lanes	EB	B	0.45	EBT	303.0
		WB	C	0.55	WBT	555.0
		NB	F	0.83	NBT	622.0
		SB	E	0.75	SBT	573.0
		Overall	D (37.9 sec)	0.83	NBT	
	Alternative 1 - Add northbound and southbound right-turn lanes - Add eastbound and westbound left-turn lanes - Signal timing adjustments	EB	B	0.45	EBT	303.0
		WB	C	0.55	WBT	555.0
		NB	F	0.79	NBT	576.0
		SB	E	0.56	SBT	408.0
		Overall	C (34.8 sec)	0.79	NBT	



3.5 Orange Avenue Improvements

Improvements along Orange Avenue have been analyzed, discussed, and considered in separate efforts for the City. The analyses and considerations are ongoing and documented separately, so this report will not go into detail about the concepts, results, or recommendations. In general, the City is currently considering a lane reduction along Orange Avenue, with turn lanes at major intersections. The intersection of Orange Avenue and Minnesota Avenue / Denning Drive is under consideration as a roundabout.

3.6 Morse Boulevard Lane Reduction

Morse Boulevard was analyzed with a lane reduction from its current 4-lane section from Orlando Avenue to east of Denning Drive. Implementation of a two-lane section would provide the necessary space for other facilities such as bike lanes, wider sidewalks, wider medians, and short crossing distances, while still having turn lanes where beneficial. Therefore, for the purpose of the lane reduction analysis, exclusive eastbound and westbound right-turn lanes were included at the intersection of Morse Boulevard and Denning Drive.

With a 2-lane section, the intersections along Morse Boulevard at Orlando Avenue and Denning Drive are expected to continue to operate with acceptable level of service and maximum volume to capacity ratios less than 1.00 during the AM and PM peak hours. Moreover, the corridor operates with an acceptable arterial level of service 'E' in both directions during the PM peak hour. In the AM peak hour, the corridor operates with an acceptable arterial level of service 'E' in the westbound direction and 'D' in the eastbound direction. Much of the delay is due to long cycle lengths at the intersections.

3.7 Minor Modifications and Routine Maintenance Needs

Improvements listed in this section are based on observed pavement, striping, landscaping, and other types of features that need to be repaired, replaced, or refurbished. Most of the improvements are relatively minor and will not increase capacity.

- » Signal timings: It is recognized that FDOT routinely re-times traffic signals throughout the corridor. The City also has the ability to make recommendations or adjust the timings. This analysis developed two coordinated timing plans, one that maximizes northbound progression and one that maximizes southbound progression thru the system. Since the corridor is relatively long, and some intersections have high volumes of turning traffic from side streets, it is not possible to provide large arterial flow bands within the time-space diagrams for both directions.
- » Orlando Avenue at Minnesota Avenue: Crosswalk striping is fading and should be replaced.
- » Orlando Avenue at Fairbanks Avenue: Signage and pavement markings are faded and should be replaced.
- » Orlando Avenue at Morse Boulevard:
 - » Signage and pavement markings are faded and should be replaced.



- » The driveway just north of Morse Boulevard, on the east side of Orlando, should be considered for closure since it is too close to the intersection and there are other driveways for the parcel – on Orlando Avenue and on Morse Boulevard.
- » Orlando Avenue at Gay Road:
 - » Pavement markings are faded and should be replaced.
 - » Northeast and southeast quadrants would benefit from reconstruction to have tighter turning radii and a shorter crossing distance for pedestrians.
 - » Markings are needed to clearly delineate the crosswalk and stop bar along the eastern leg of the intersection.
- » Orlando Avenue at Webster Avenue: Signage and pavement markings are faded and should be replaced.
- » Denning Drive at Webster Avenue:
 - » Striping is needed due to faded markings.
 - » The northbound stop bar could be moved closer to the intersection
- » Denning Drive at Canton Avenue: Pavement in the intersection should be repaired.
- » Denning Drive at Morse Boulevard: Sidewalk reconstruction is needed in the northwest quadrant.
- » Lee Road and Executive Drive – Pavement on Executive Drive is failing and should be repaired.
- » Clay Street & Par Street: Signage and pavement markings are faded and should be replaced.
- » Clay Street and Minnesota Avenue: Sidewalks are needed.



4.0 Cost Estimates



4.0 Cost Estimates

An Engineer's Opinion of Probable Construction Costs (EOPCC) was developed for the alternative recommendations at each intersection. The EOPCC's do not include cost estimates for property acquisition. Costs are shown in Table 7, with detailed breakdowns provided in Appendix I.

Table 7: Cost Estimates

Intersection	Construction Cost	ROW Acquisition Needed?	Next Step
Orlando Ave & Fairbanks Ave: Extend SBR, Add EBL	\$945,000	Yes - for SBR and for EBL	ROW acquisition
Orlando Ave & Lee Rd - Concept 1: Realign eastbound approach, Extend NBL, Add NBR	\$854,000	Yes - for NBR. NBL via easement.	Coordinate with FDOT
Orlando Ave & Lee Rd - Concept 2 - Add EBL, Extend NBL, Add NBR	\$935,000	Yes, for EBL and for NBR	No actions recommended
Clay St & Minnesota Ave: Reconfigure NBR	\$123,000	No	Design
Denning Dr & Webster Ave	\$1,800	No	Implementation
Denning Dr & Fairbanks Ave - Concept 1: Add EBL/WBL, Add NBR/SBR	\$700,000	Yes	Select Alternative, ROW acquisition
Denning Dr & Fairbanks Ave - Concept 2: Add EBL/WBL	\$596,000	Yes	Select Alternative, ROW acquisition
Orange Ave & Fairbanks Ave: Realign WB approach	\$3,500	No	Implementation

Note that the Engineer does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions. The EOPCC's are made on the basis of experience and represent judgment as an experienced and qualified professional, familiar with the industry. The Engineer cannot and does not guarantee that proposals, bids or actual costs will not vary from its opinions of cost.



5.0 Summary



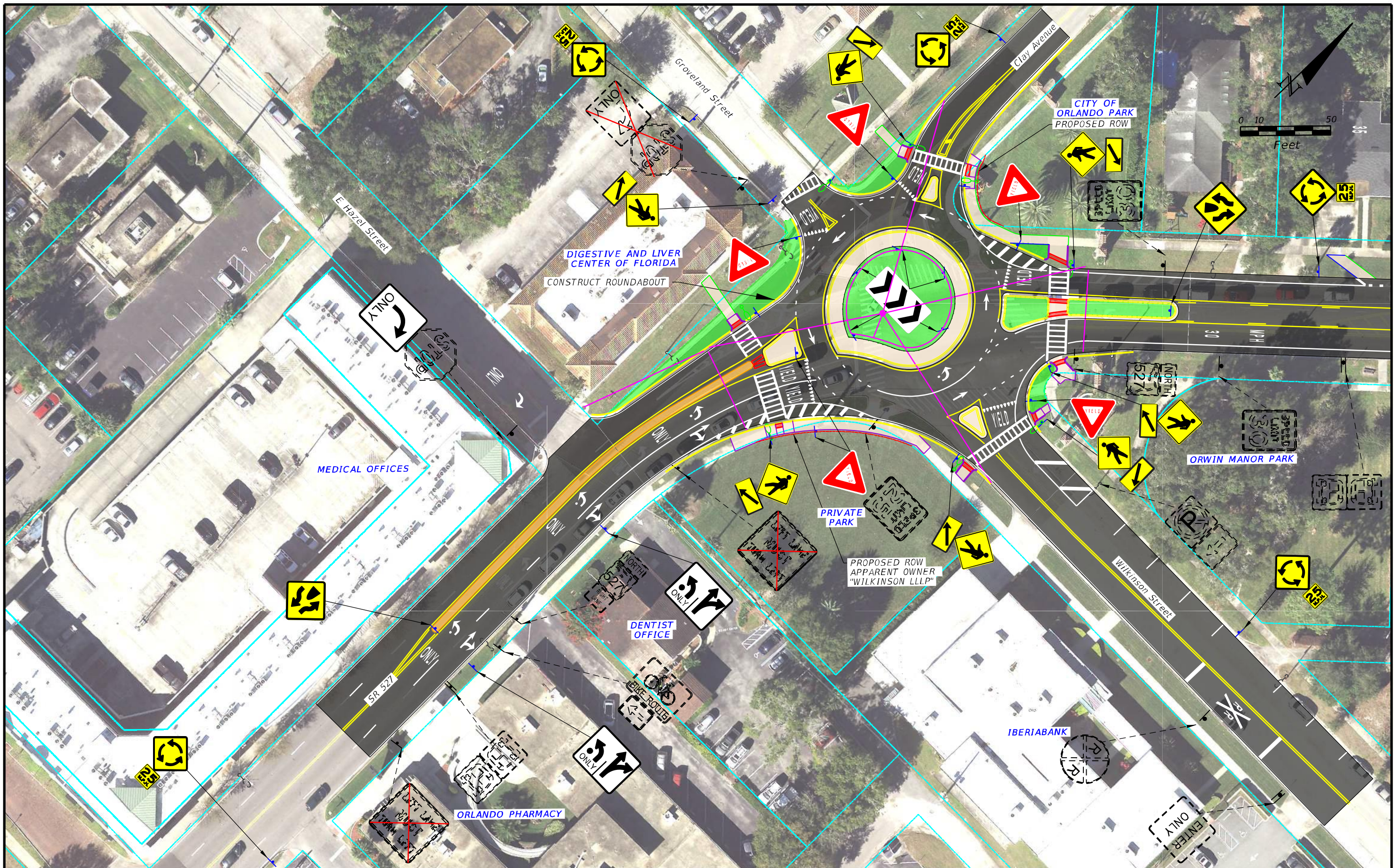
5.0 Summary

Several potential improvements are recommended for implementation as described in the previous section. Many of the improvements will require the acquisition of right-of-way prior to construction. The next step for all recommendations is to move forward into the design phase, though some improvements can be coordinated with existing FDOT projects.

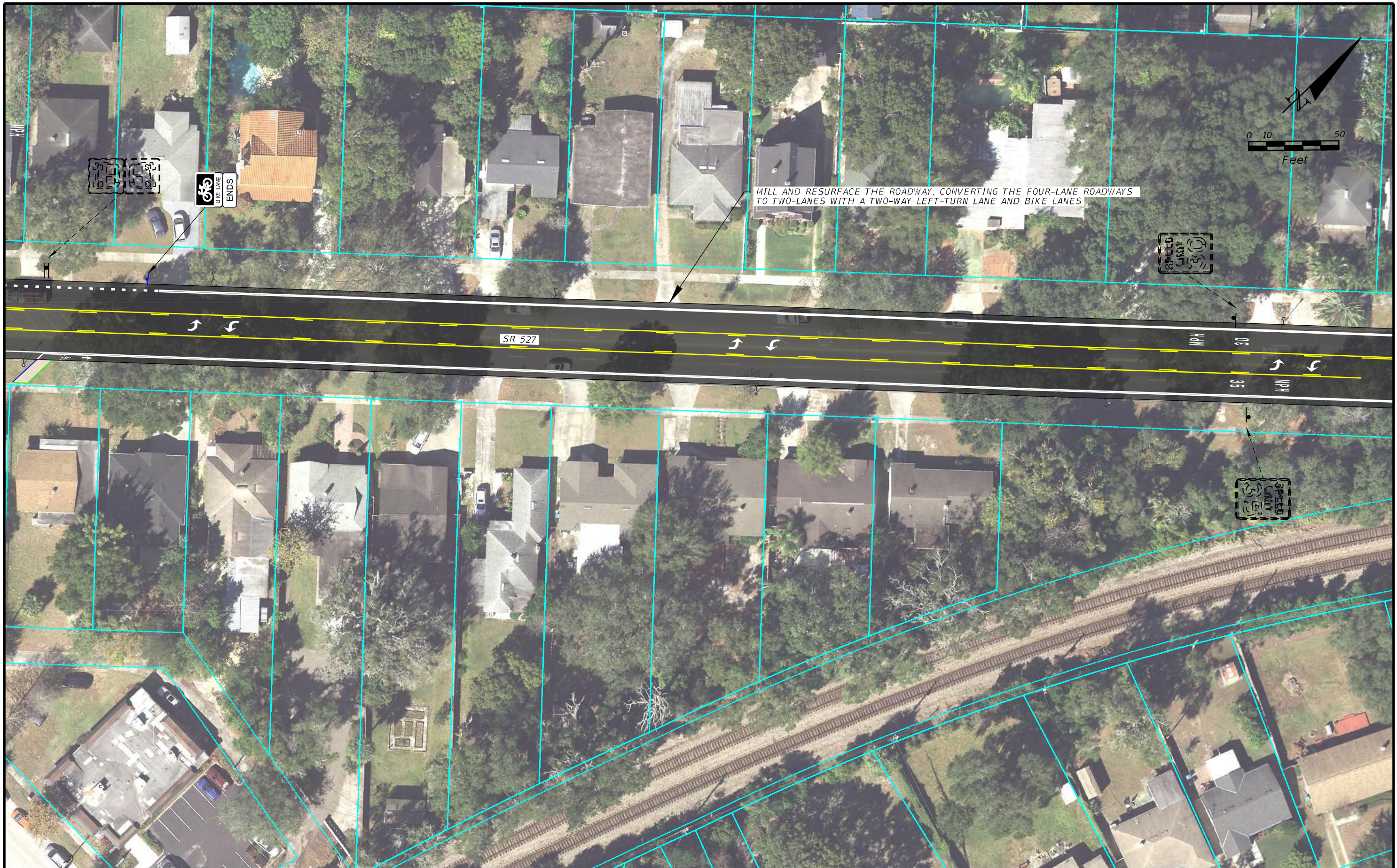
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Appendix A

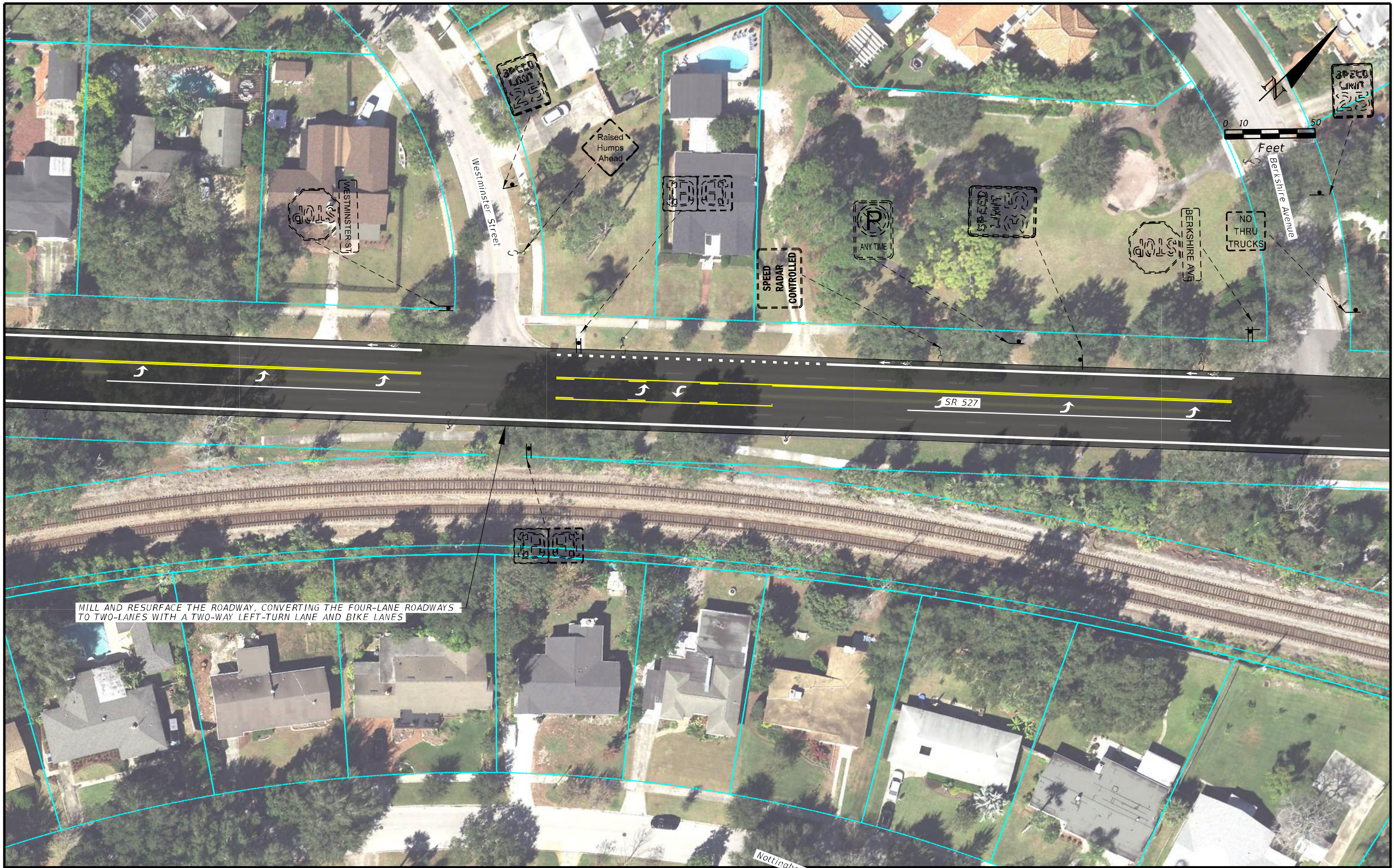
FDOT SR 527 Safety Study Long-Term Concept Plan



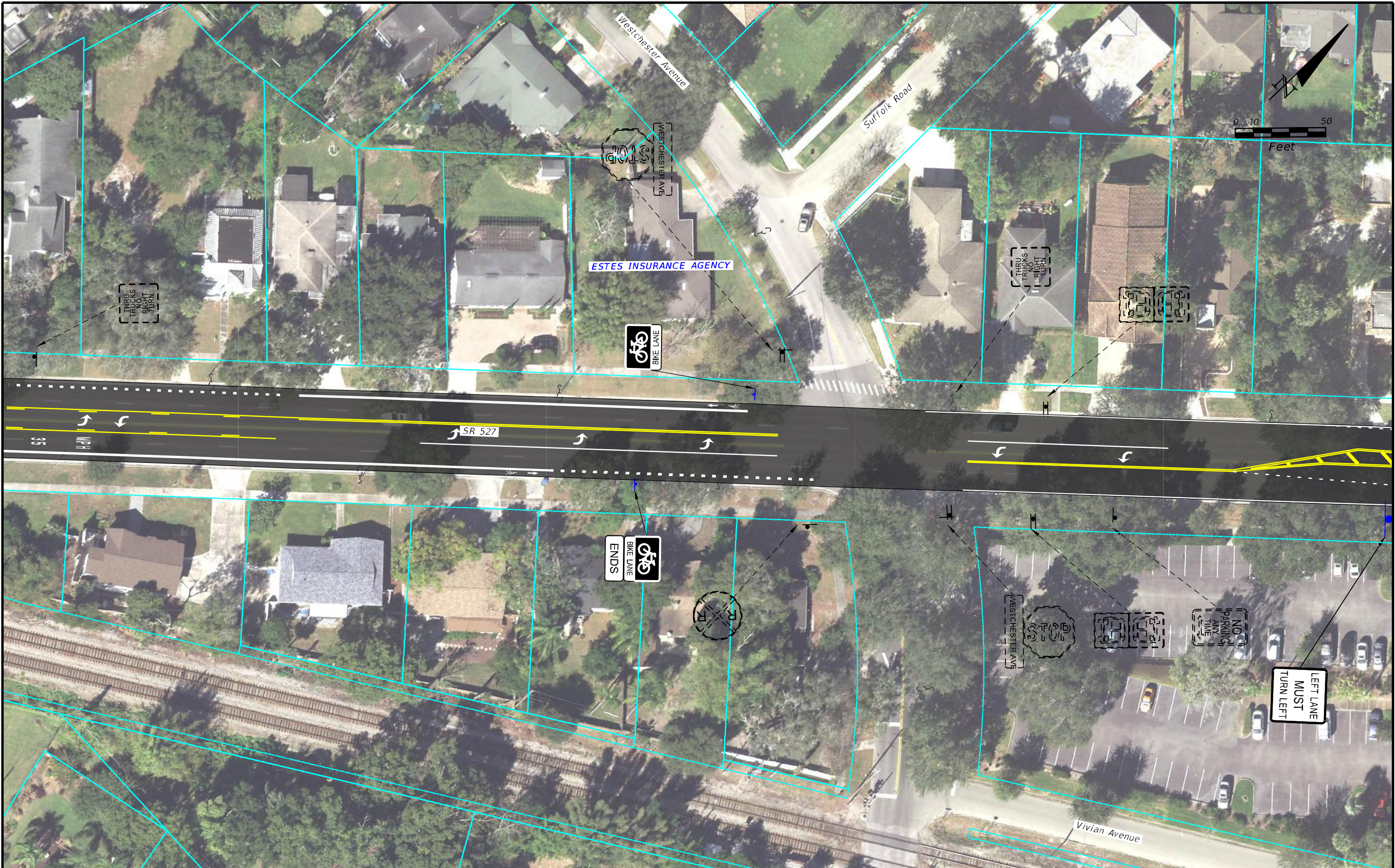
CONCRETE AREA ASPHALT AREA SODDED AREA ESTABLISHED OAK TREES TO BE REMOVED YOUNG OAK TREES TO BE REMOVED	TRAFFIC SIGN PROPOSED ROW GIS ROW LIGHT POLE EXISTING LIGHT POLE	ENGLAND-THIMS & MILLER, INC. 1540 INTERNATIONAL PARKWAY, SUITE 2000 LAKE MARY, FL 32746 TEL: (407) 536-5379 FAX: (407) 536-5301 CA - 00002584 LC - 0000316	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SR 527 SAFETY STUDY LONG-TERM CONCEPT PLAN	SHEET NO. 1
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CONCRETE AREA ASPHALT AREA SODDED AREA ESTABLISHED OAK TREES TO BE REMOVED YOUNG OAK TREES TO BE REMOVED	TRAFFIC SIGN PROPOSED ROW GIS ROW LIGHT POLE EXISTING LIGHT POLE	ENGLAND-THIMS & MILLER, INC. 1540 INTERNATIONAL PARKWAY, SUITE 2000 LAKE MARY, FL 32746 TEL: (407) 536-5379 FAX: (407) 536-5301 CA - 00002584 LC - 0000316	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SR 527 SAFETY STUDY LONG-TERM CONCEPT PLAN	SHEET NO. 2
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CONCRETE AREA ASPHALT AREA SODDED AREA	ESTABLISHED OAK TREES TO BE REMOVED YOUNG OAK TREES TO BE REMOVED	TRAFFIC SIGN PROPOSED ROW GIS ROW	LIGHT POLE EXISTING LIGHT POLE	ENGLAND-THIMS & MILLER, INC. 1540 INTERNATIONAL PARKWAY, SUITE 2000 LAKE MARY, FL 32746 TEL: (407) 536-5379 FAX: (407) 536-5301 CA - 00002584 LC - 0000316	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SR 527 SAFETY STUDY LONG-TERM CONCEPT PLAN	SHEET NO. 3
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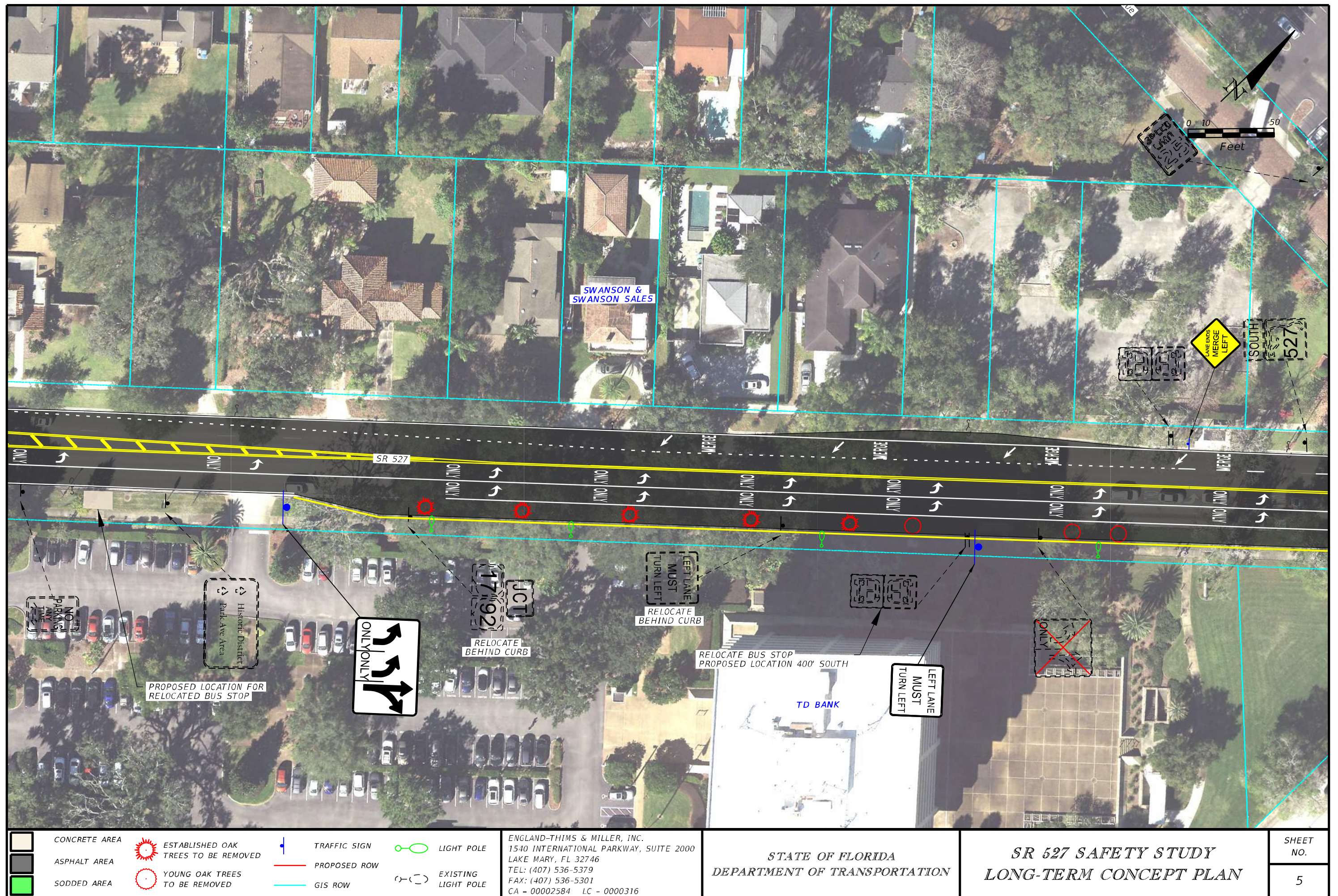
	CONCRETE AREA		ESTABLISHED OAK TREES TO BE REMOVED		TRAFFIC SIGN		LIGHT POLE
	ASPHALT AREA		YOUNG OAK TREES TO BE REMOVED		PROPOSED ROW		EXISTING LIGHT POLE
	SODDED AREA				GIS ROW		

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 LAKE MARY, FL 32746
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 FAX: (407) 536-5301
 CA - 00002584 LC - 0000316

STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION

SR 527 SAFETY STUDY
 LONG-TERM CONCEPT PLAN

SHEET NO.
 4





	CONCRETE AREA		ESTABLISHED OAK TREES TO BE REMOVED		TRAFFIC SIGN		LIGHT POLE
	ASPHALT AREA		YOUNG OAK TREES TO BE REMOVED		PROPOSED ROW		EXISTING LIGHT POLE
	SODDED AREA				GIS ROW		

ENGLAND-THIMS & MILLER, INC.
 1540 INTERNATIONAL PARKWAY, SUITE 2000
 LAKE MARY, FL 32746
 TEL: (407) 536-5379
 FAX: (407) 536-5301
 CA - 00002584 LC - 0000316

STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION

SR 527 SAFETY STUDY
 LONG-TERM CONCEPT PLAN

SHEET NO.
 6



Appendix B

Existing Conditions Plan Sheets

⊙

STRAIN POLE

⦿

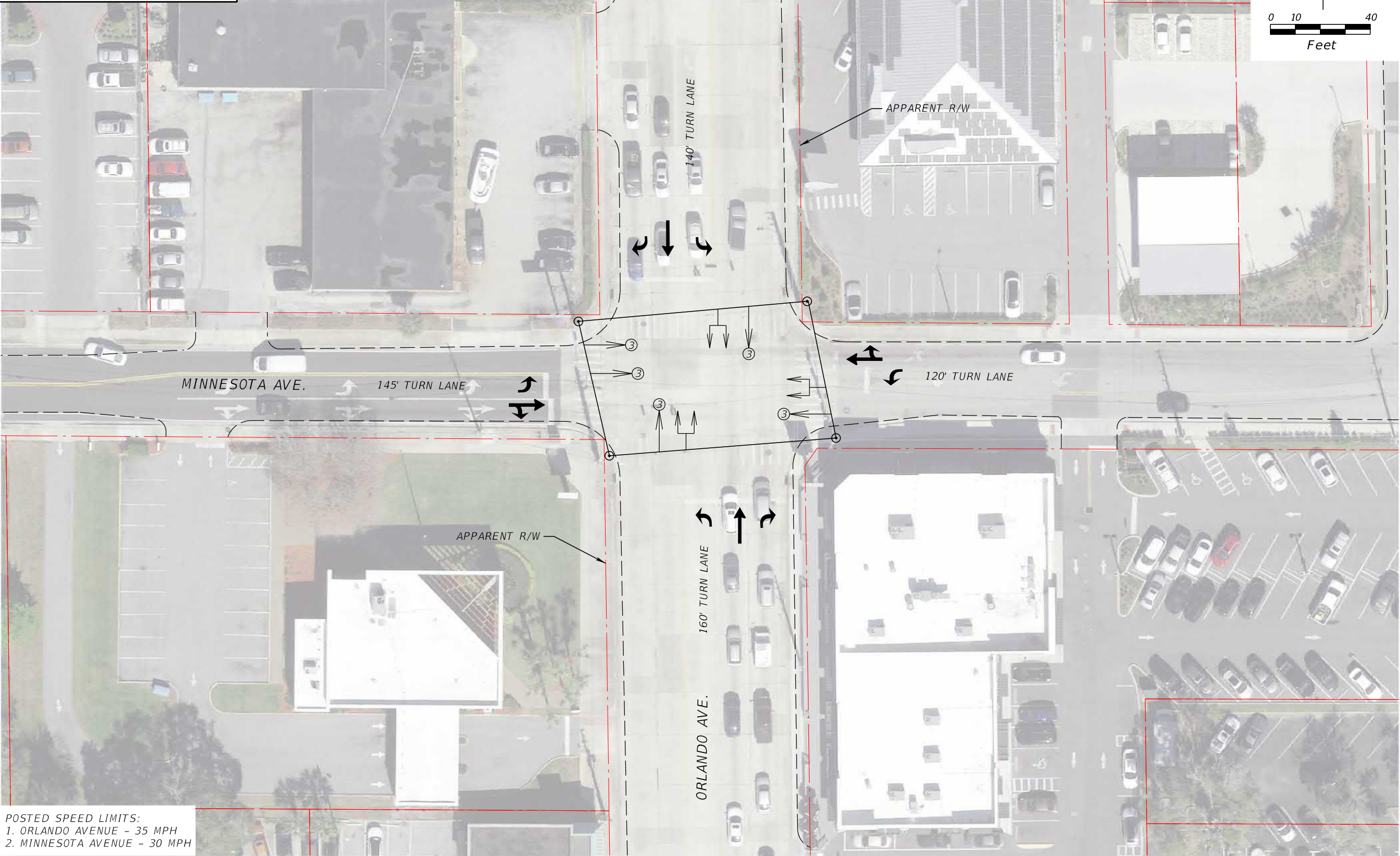
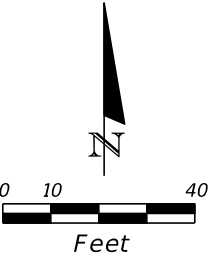
MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

→↗↘

5 SECTION SIGNAL HEAD



POSTED SPEED LIMITS:
1. ORLANDO AVENUE - 35 MPH
2. MINNESOTA AVENUE - 30 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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P.E. License No. 70009

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Orlando, Florida 32801



CITY OF
WINTER PARK

EXISTING CONDITIONS
DIAGRAM (01)

SHEET NO.

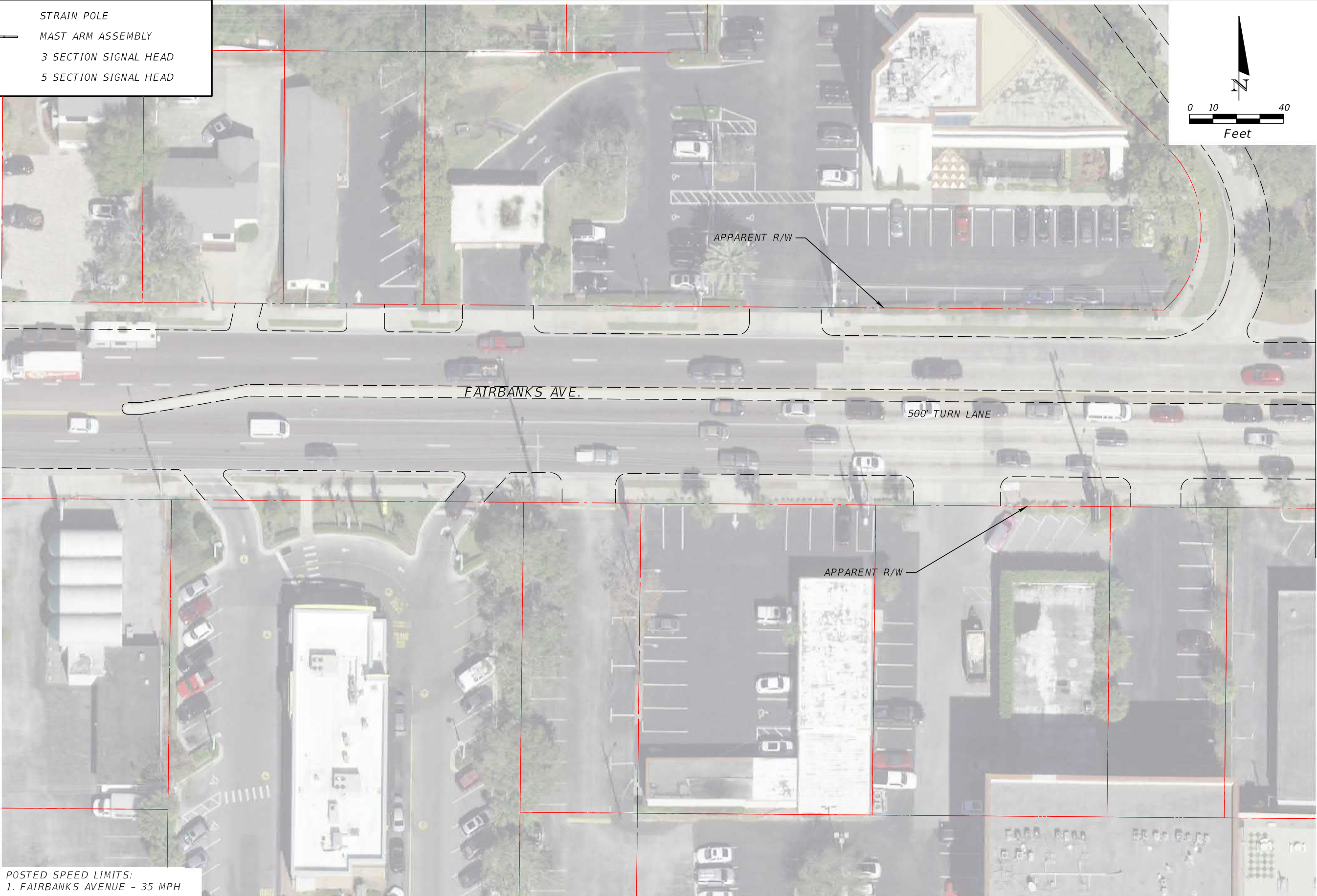
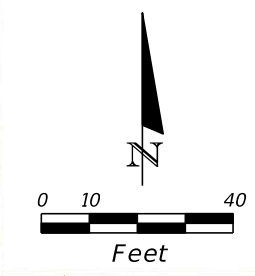
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STRAIN POLE

MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD



MATCHLINE SHEET 3

POSTED SPEED LIMITS:
1. FAIRBANKS AVENUE - 35 MPH

REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801 CITY OF WINTER PARK Maile.Spang 4/29/2020 10:31:45 AM C:\Users\Maile.Spang\OneDrive - KH\Winter Park Intersection Diagrams\Roadway\Plan Sh	EXISTING CONDITIONS DIAGRAM (02)	SHEET NO. 2	70
DATE	DESCRIPTION	DATE	DESCRIPTION				

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STRAIN POLE

●

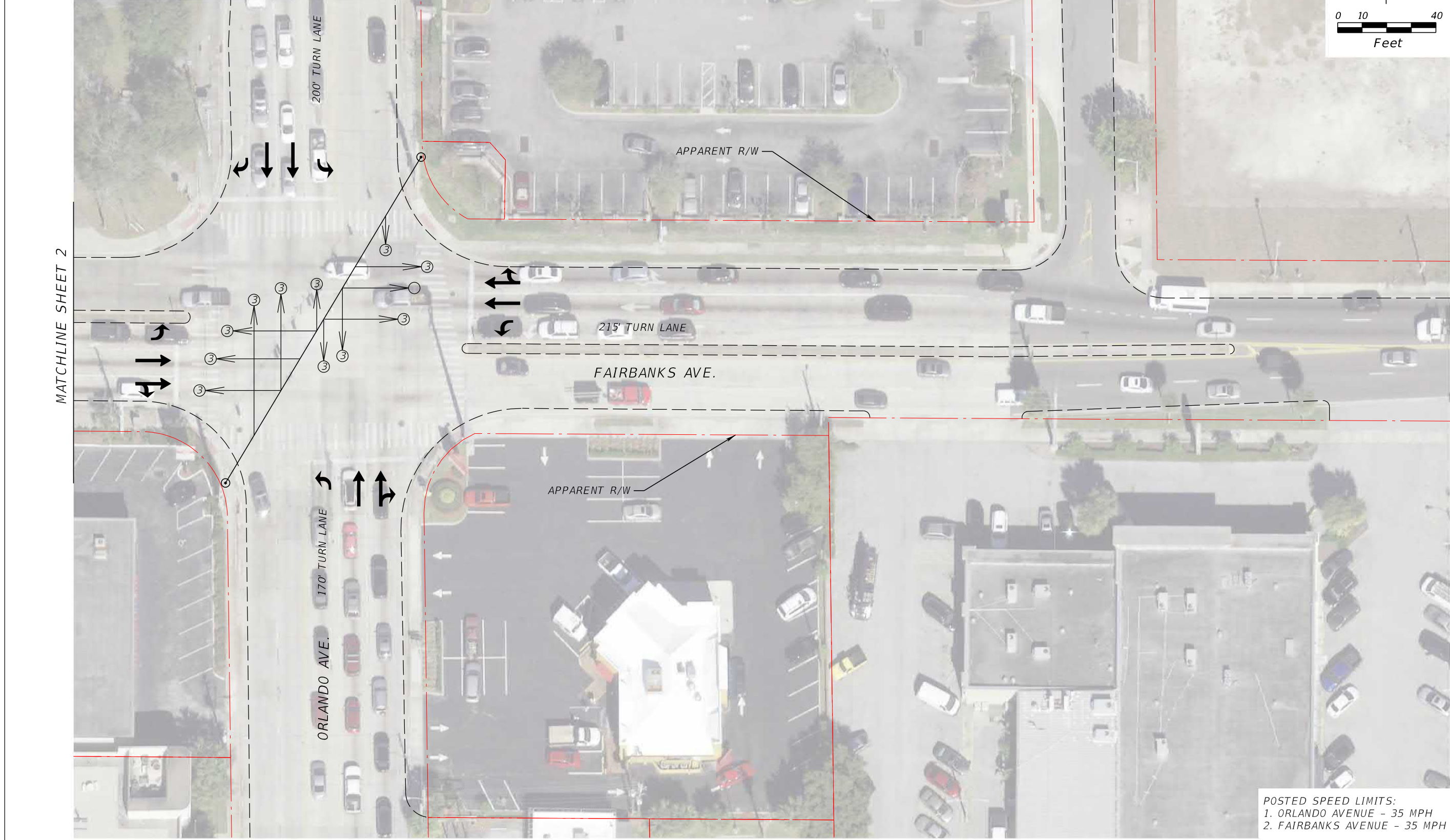
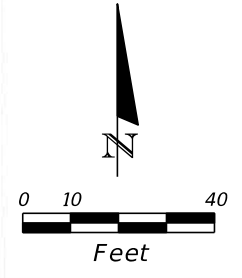
MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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5 SECTION SIGNAL HEAD



POSTED SPEED LIMITS:
1. ORLANDO AVENUE - 35 MPH
2. FAIRBANKS AVENUE - 35 MPH

REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801  CITY OF WINTER PARK	EXISTING CONDITIONS DIAGRAM (03)	SHEET NO. 3
DATE	DESCRIPTION	DATE	DESCRIPTION			

⊙

STRAIN POLE

⦿

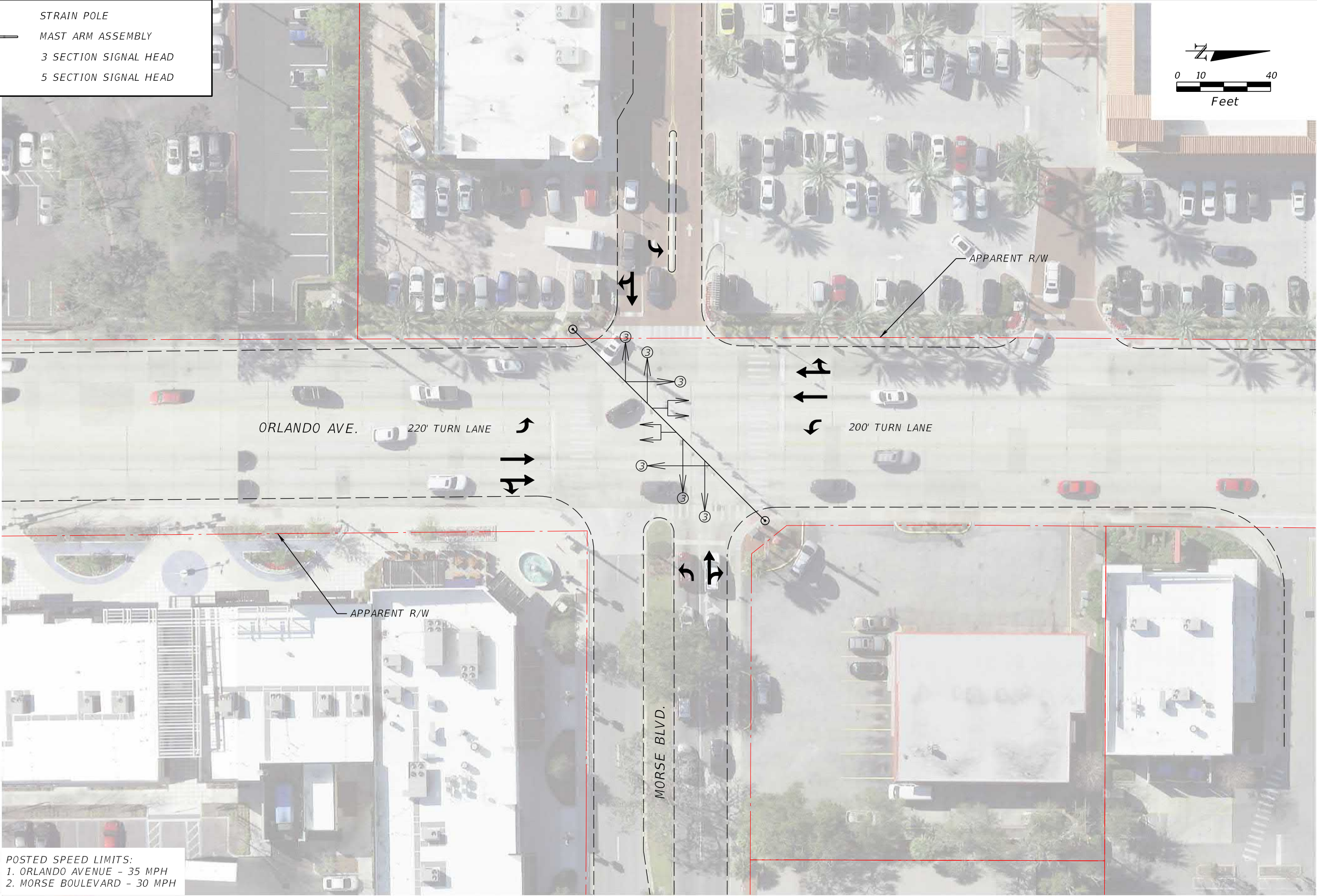
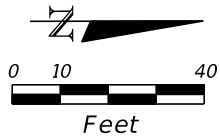
MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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5 SECTION SIGNAL HEAD



POSTED SPEED LIMITS:
1. ORLANDO AVENUE - 35 MPH
2. MORSE BOULEVARD - 30 MPH

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CITY OF
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EXISTING CONDITIONS
DIAGRAM (04)

SHEET
NO.
4

⊙

STRAIN POLE

⦿

MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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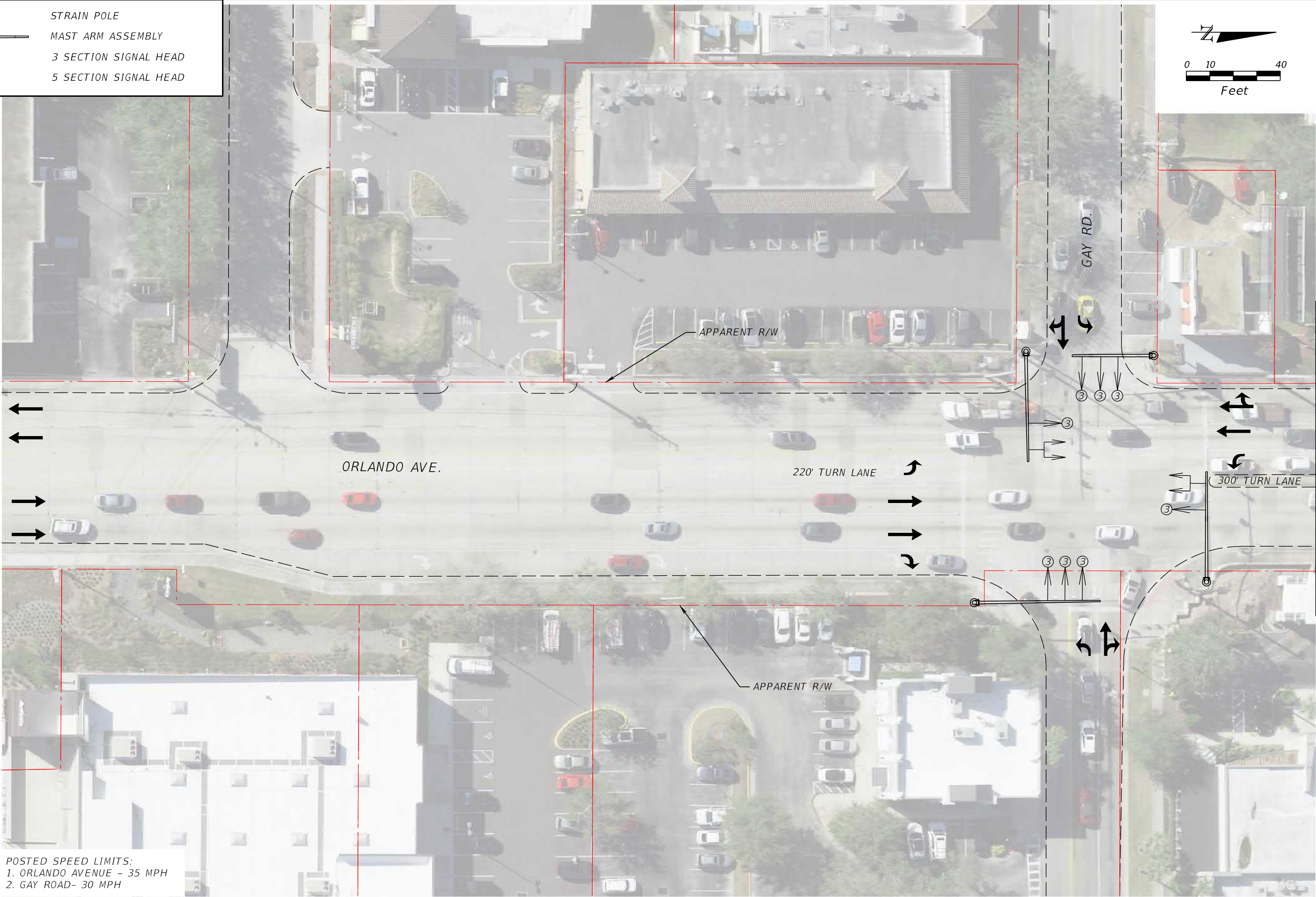
5 SECTION SIGNAL HEAD

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01040

Feet



POSTED SPEED LIMITS:

1. ORLANDO AVENUE - 35 MPH

2. GAY ROAD- 30 MPH

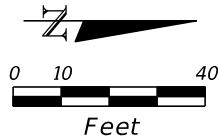
REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801 CITY OF WINTER PARK, FLORIDA ESTABLISHED 1922 CITY OF WINTER PARK	EXISTING CONDITIONS		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				
					DIAGRAM (05)	5	73

STRAIN POLE

MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD



MATCHLINE SHEET 5



MATCHLINE SHEET 7

POSTED SPEED LIMITS:
1. ORLANDO AVENUE - 35 MPH

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4/29/2020

EXISTING CONDITIONS

DIAGRAM (06)

SHEET NO.

6

⊙

STRAIN POLE

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MAST ARM ASSEMBLY

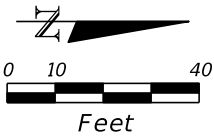
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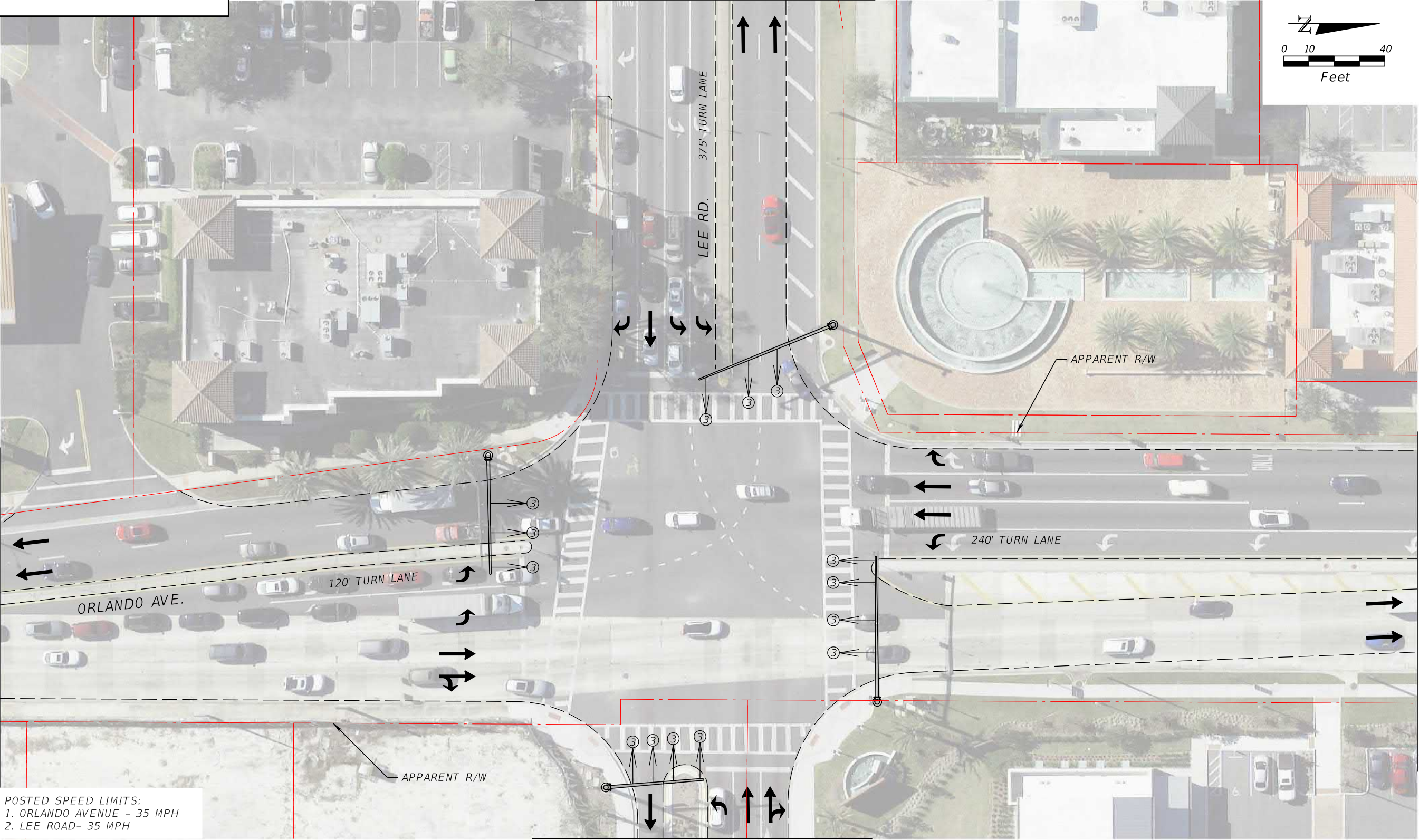
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5 SECTION SIGNAL HEAD

MATCHLINE SHEET 12



MATCHLINE SHEET 7



MATCHLINE SHEET 9

POSTED SPEED LIMITS:
1. ORLANDO AVENUE - 35 MPH
2. LEE ROAD- 35 MPH

MATCHLINE SHEET 13

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CITY OF
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EXISTING CONDITIONS
DIAGRAM (08)

SHEET
NO.
8

⊙

STRAIN POLE

⦿

MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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5 SECTION SIGNAL HEAD

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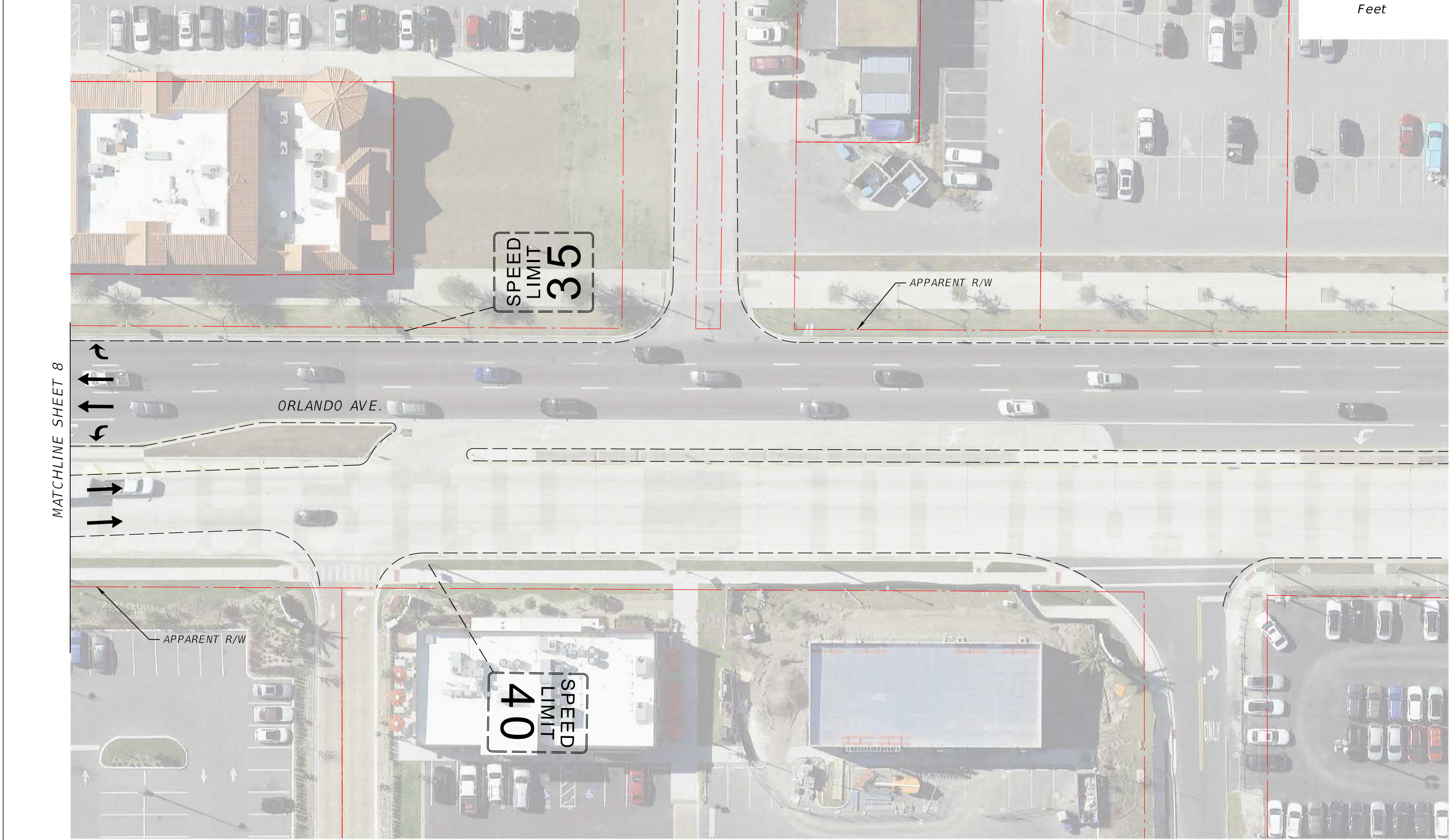
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Feet



REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801  CITY OF WINTER PARK	EXISTING CONDITIONS DIAGRAM (09)	SHEET NO. 9 77
DATE	DESCRIPTION	DATE	DESCRIPTION			

⊙

STRAIN POLE

⦿

MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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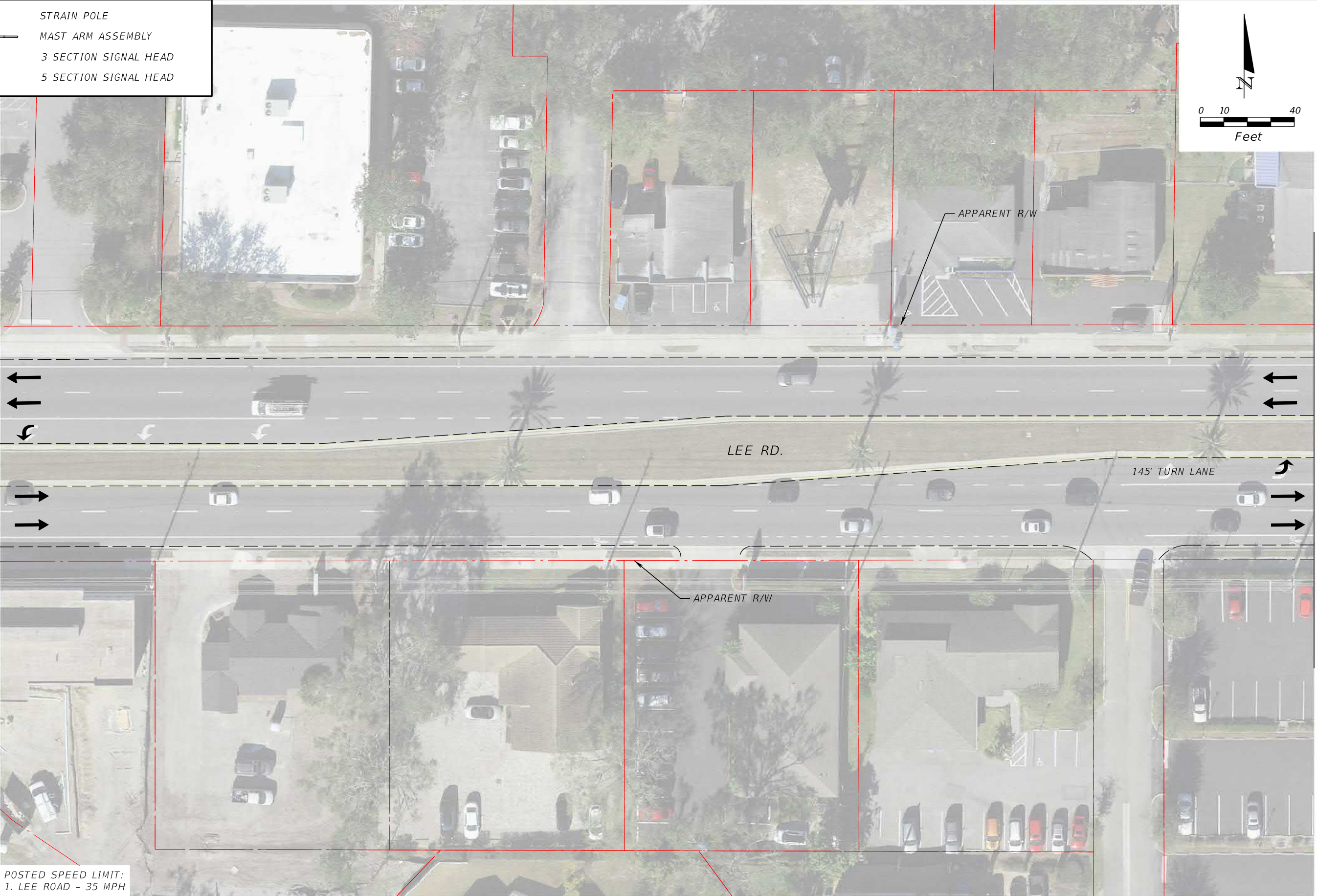
5 SECTION SIGNAL HEAD

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N

01040

Feet



POSTED SPEED LIMIT:
1. LEE ROAD - 35 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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4/29/2020

EXISTING CONDITIONS

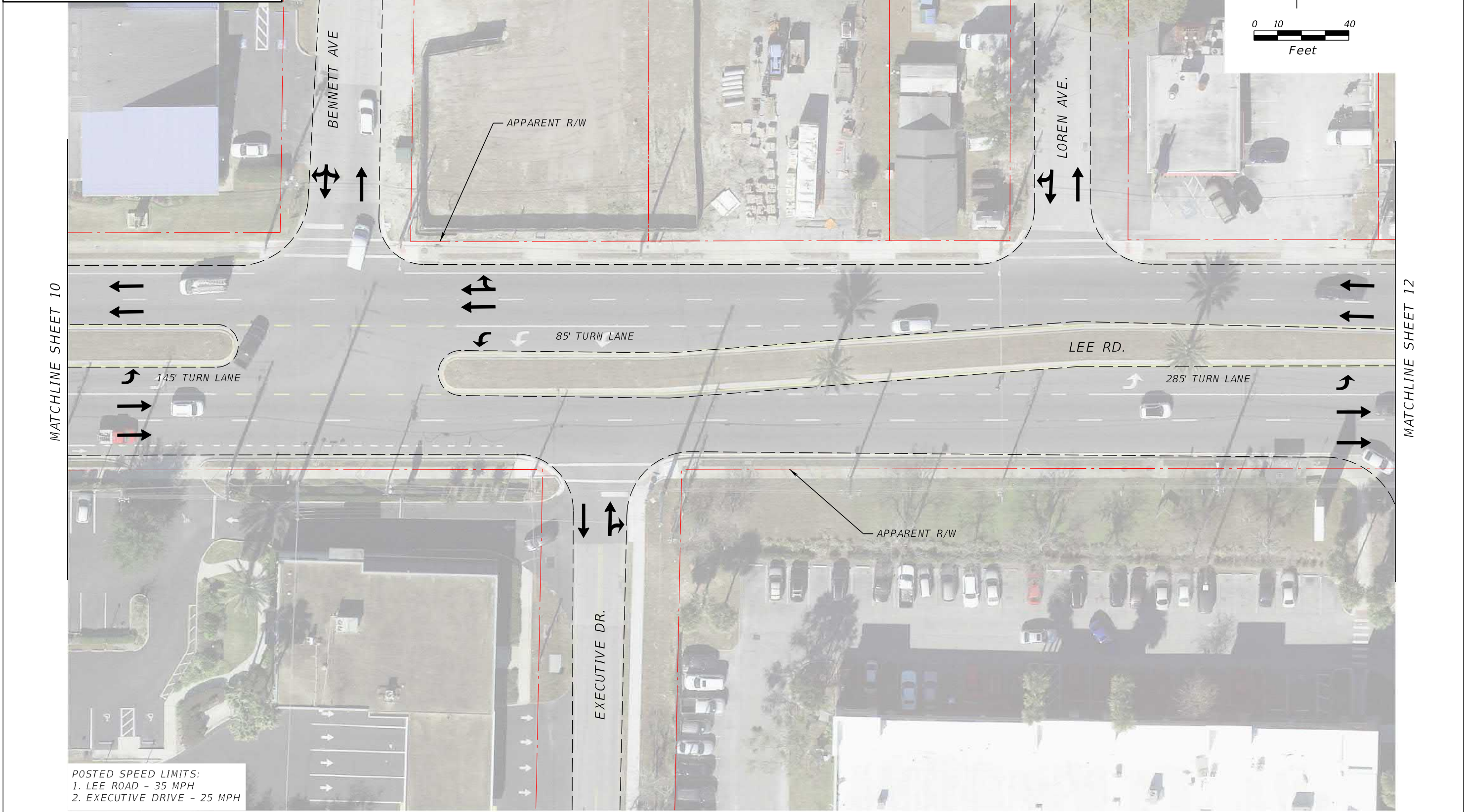
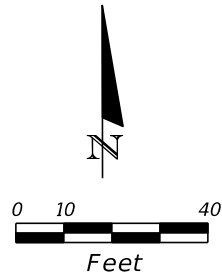
DIAGRAM (10)

SHEET NO.

10

MATCHLINE SHEET 11

STRAIN POLE
 MAST ARM ASSEMBLY
 3 SECTION SIGNAL HEAD
 5 SECTION SIGNAL HEAD



POSTED SPEED LIMITS:
1. LEE ROAD - 35 MPH
2. EXECUTIVE DRIVE - 25 MPH

REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801		CITY OF WINTER PARK	EXISTING CONDITIONS DIAGRAM (11)	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION					11	79

⊙

STRAIN POLE

⦿

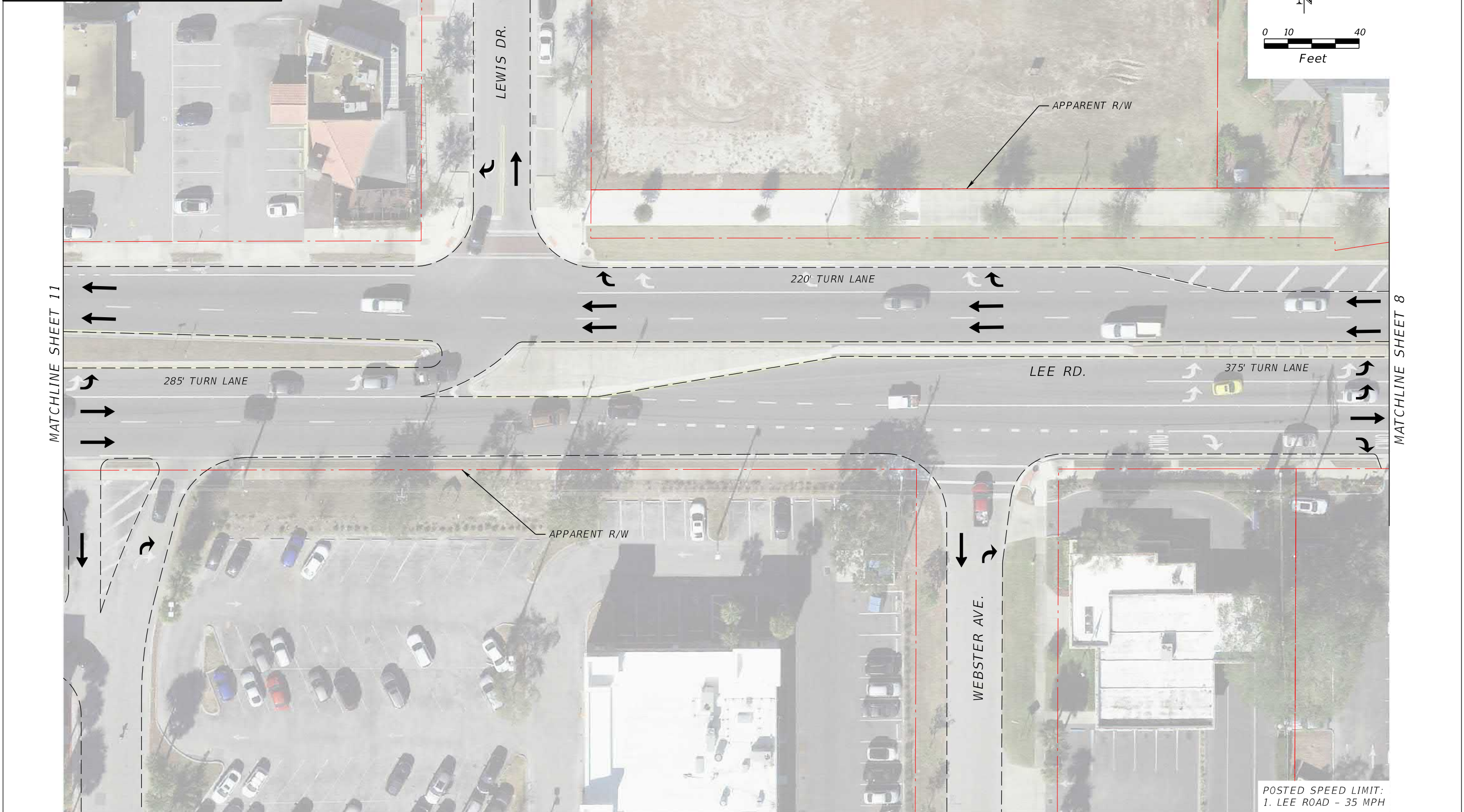
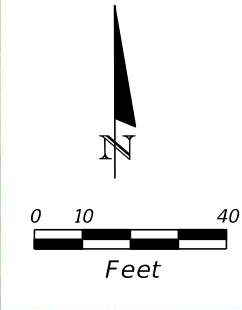
MAST ARM ASSEMBLY

③

3 SECTION SIGNAL HEAD

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5 SECTION SIGNAL HEAD



REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	CITY OF WINTER PARK	EXISTING CONDITIONS DIAGRAM (12)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				12
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STRAIN POLE

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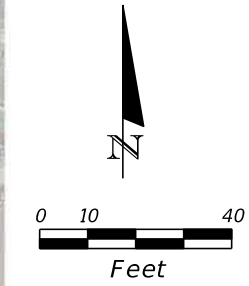
MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

→↗

5 SECTION SIGNAL HEAD



MATCHLINE SHEET 8



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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 Orlando, Florida 32801

CITY OF

WINTER PARK

EXISTING CONDITIONS

DIAGRAM (13)

SHEET NO.

13

81

⊙

STRAIN POLE

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MAST ARM ASSEMBLY

→③

3 SECTION SIGNAL HEAD

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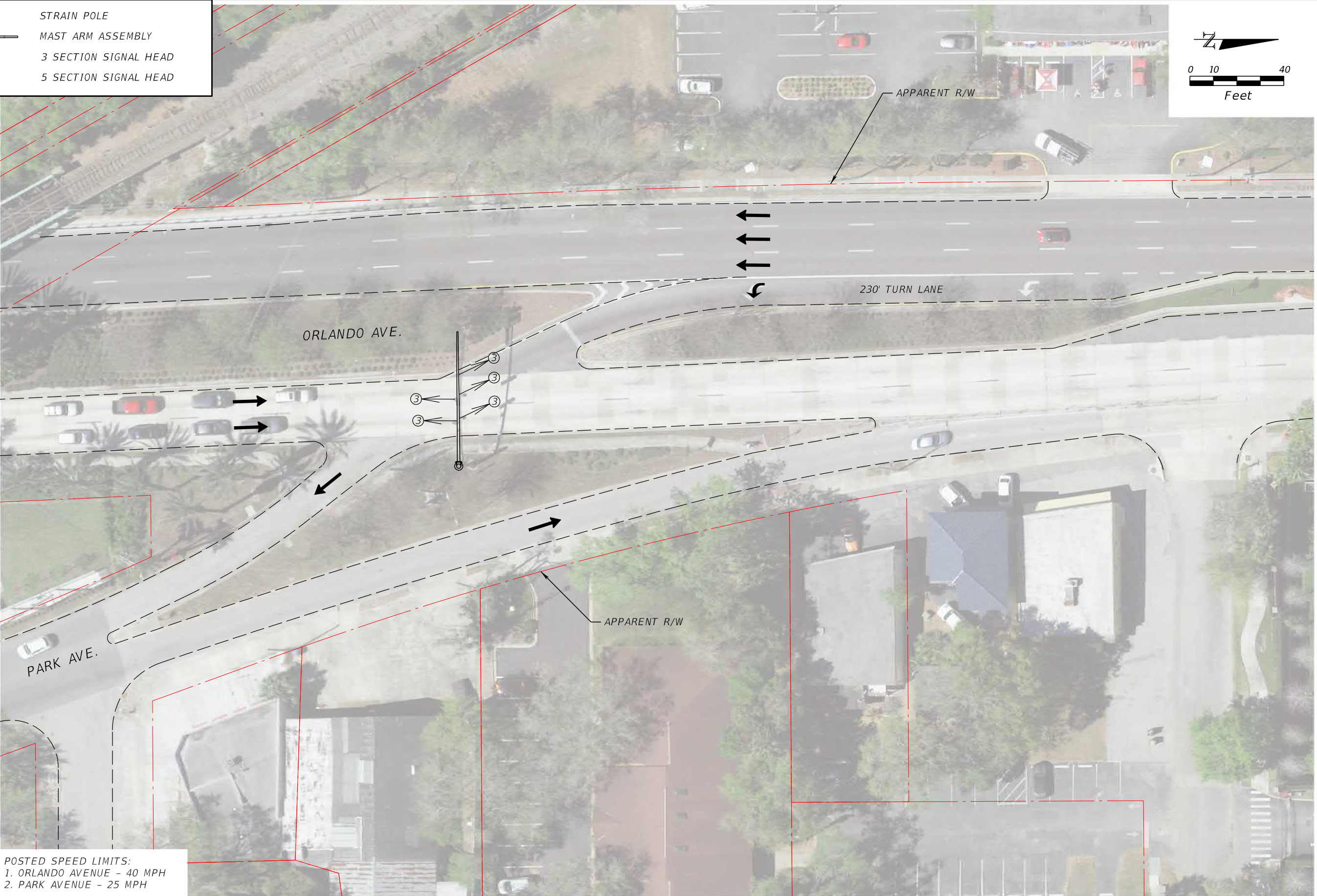
5 SECTION SIGNAL HEAD

0

10

40

Feet



POSTED SPEED LIMITS:
 1. ORLANDO AVENUE - 40 MPH
 2. PARK AVENUE - 25 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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WINTER PARK

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4/29/2020

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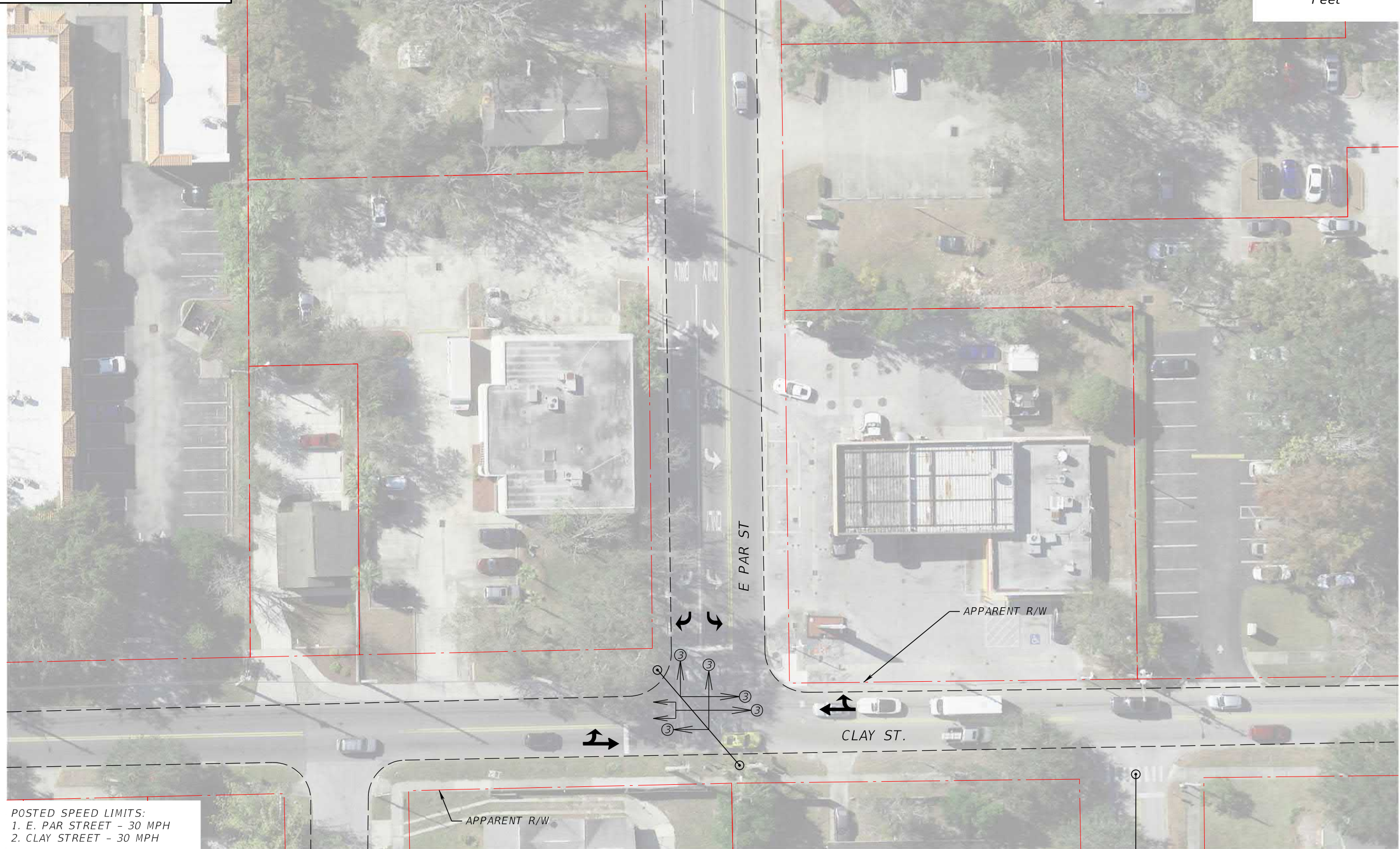
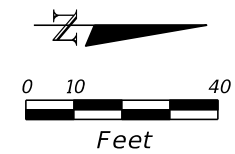
EXISTING CONDITIONS

DIAGRAM (14)

SHEET NO.

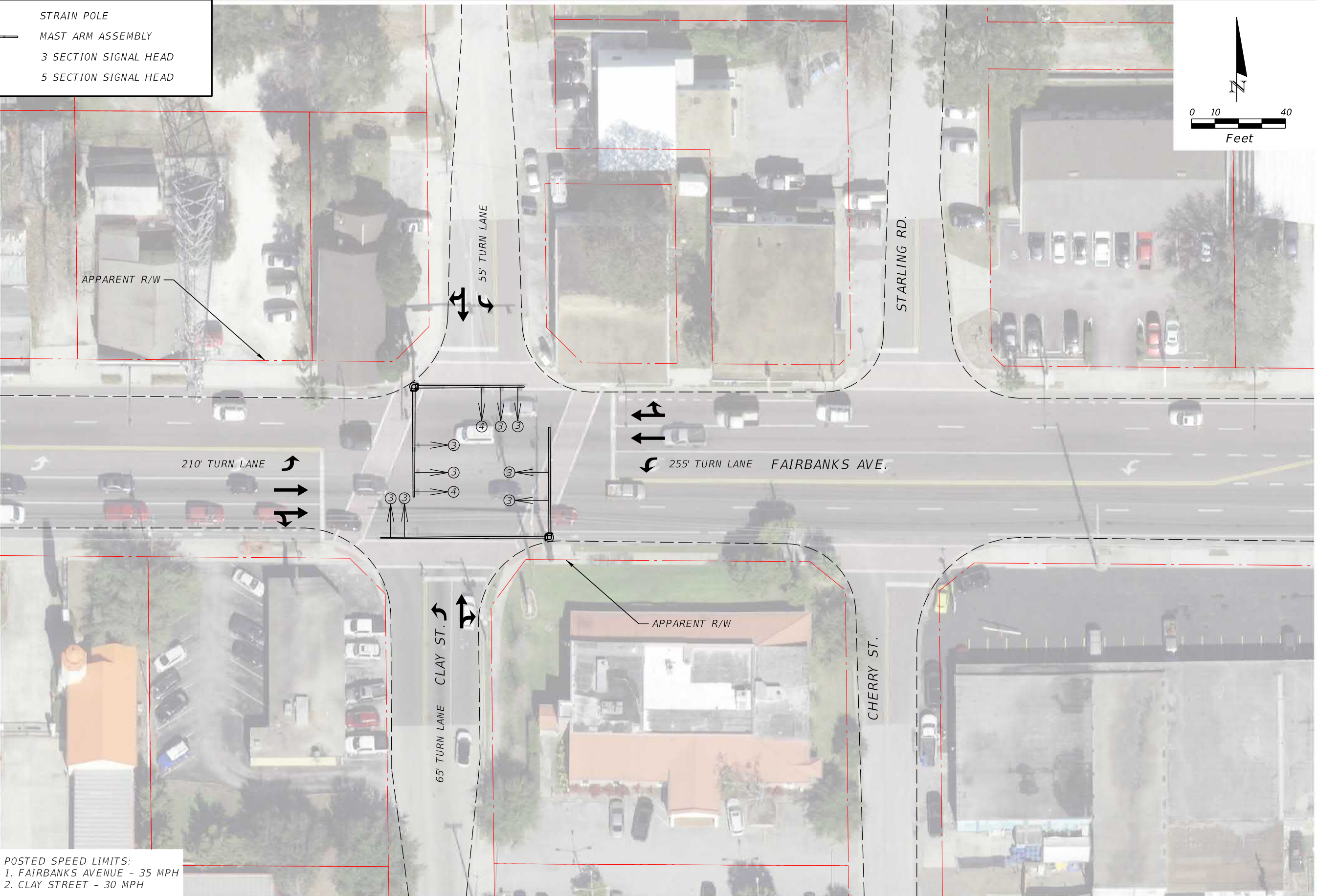
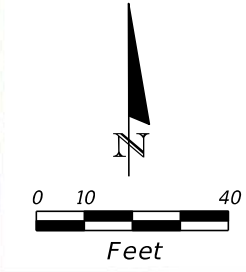
14

82



REVISIONS				 Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	 CITY OF WINTER PARK	EXISTING CONDITIONS DIAGRAM (15)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				15

STRAIN POLE
 MAST ARM ASSEMBLY
 3 SECTION SIGNAL HEAD
 5 SECTION SIGNAL HEAD



POSTED SPEED LIMITS:
1. FAIRBANKS AVENUE - 35 MPH
2. CLAY STREET - 30 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Orlando, Florida 32801



CITY OF
WINTER PARK

EXISTING CONDITIONS
DIAGRAM (17)

SHEET
NO.
17

STRAIN POLE

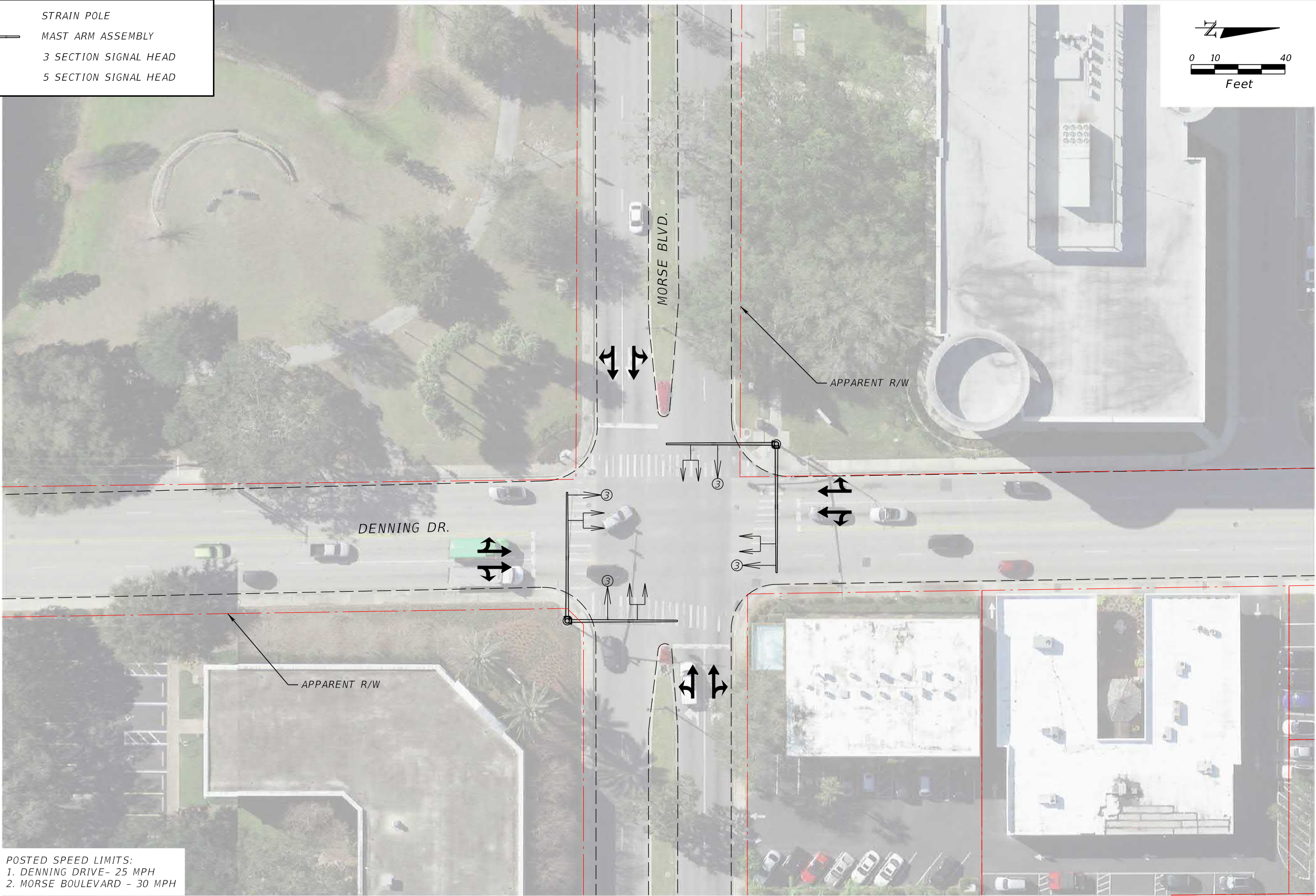
MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD

0 10 40

Feet



POSTED SPEED LIMITS:
 1. DENNING DRIVE- 25 MPH
 2. MORSE BOULEVARD - 30 MPH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Orlando, Florida 32801

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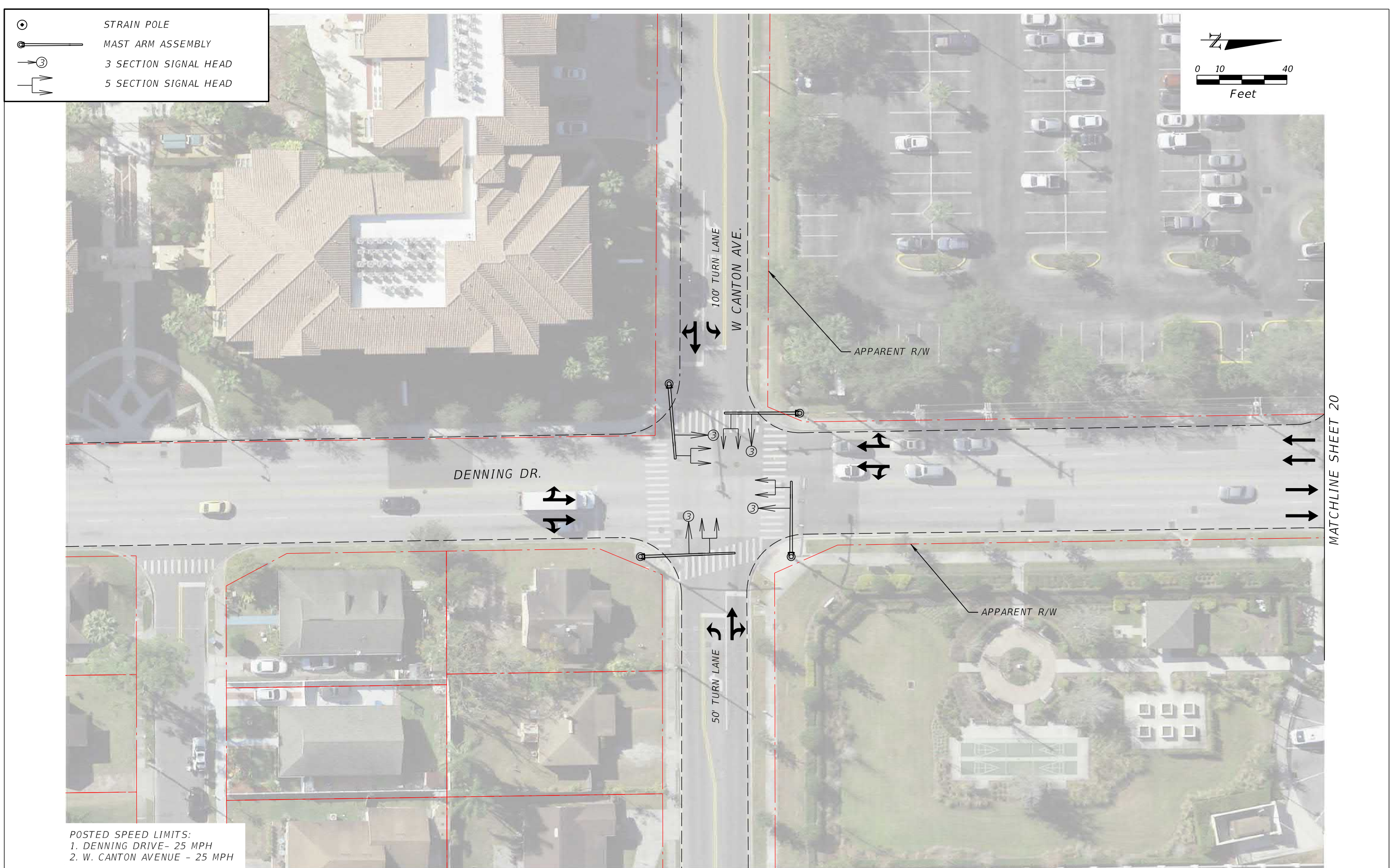
4/29/2020

EXISTING CONDITIONS

DIAGRAM (18)

SHEET NO.

18

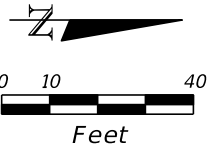


STRAIN POLE

MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD



REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	 CITY OF WINTER PARK	EXISTING CONDITIONS		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			DIAGRAM (20)		20

STRAIN POLE

MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD



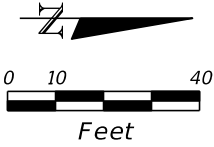
REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	 CITY OF WINTER PARK	EXISTING CONDITIONS		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			DIAGRAM (21)		21

STRAIN POLE

MAST ARM ASSEMBLY

3 SECTION SIGNAL HEAD

5 SECTION SIGNAL HEAD



MATCHLINE SHEET 21



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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P.E. License No. 70009

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CITY OF

WINTER PARK

EXISTING CONDITIONS

DIAGRAM (22)

SHEET NO.

22



Appendix C

Traffic Counts and Seasonal Factor Data

2018 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7500 ORANGE COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.98 PSCF
1	01/01/2018 - 01/06/2018	1.02	1.04
2	01/07/2018 - 01/13/2018	1.04	1.06
3	01/14/2018 - 01/20/2018	1.05	1.07
4	01/21/2018 - 01/27/2018	1.03	1.05
5	01/28/2018 - 02/03/2018	1.02	1.04
6	02/04/2018 - 02/10/2018	1.00	1.02
* 7	02/11/2018 - 02/17/2018	0.99	1.01
* 8	02/18/2018 - 02/24/2018	0.98	1.00
* 9	02/25/2018 - 03/03/2018	0.98	1.00
*10	03/04/2018 - 03/10/2018	0.98	1.00
*11	03/11/2018 - 03/17/2018	0.98	1.00
*12	03/18/2018 - 03/24/2018	0.98	1.00
*13	03/25/2018 - 03/31/2018	0.98	1.00
*14	04/01/2018 - 04/07/2018	0.98	1.00
*15	04/08/2018 - 04/14/2018	0.98	1.00
*16	04/15/2018 - 04/21/2018	0.98	1.00
*17	04/22/2018 - 04/28/2018	0.99	1.01
*18	04/29/2018 - 05/05/2018	1.00	1.02
*19	05/06/2018 - 05/12/2018	1.00	1.02
20	05/13/2018 - 05/19/2018	1.01	1.03
21	05/20/2018 - 05/26/2018	1.01	1.03
22	05/27/2018 - 06/02/2018	1.01	1.03
23	06/03/2018 - 06/09/2018	1.01	1.03
24	06/10/2018 - 06/16/2018	1.01	1.03
25	06/17/2018 - 06/23/2018	1.01	1.03
26	06/24/2018 - 06/30/2018	1.01	1.03
27	07/01/2018 - 07/07/2018	1.01	1.03
28	07/08/2018 - 07/14/2018	1.02	1.04
29	07/15/2018 - 07/21/2018	1.02	1.04
30	07/22/2018 - 07/28/2018	1.01	1.03
31	07/29/2018 - 08/04/2018	1.01	1.03
32	08/05/2018 - 08/11/2018	1.00	1.02
33	08/12/2018 - 08/18/2018	0.99	1.01
34	08/19/2018 - 08/25/2018	0.99	1.01
35	08/26/2018 - 09/01/2018	1.00	1.02
36	09/02/2018 - 09/08/2018	1.00	1.02
37	09/09/2018 - 09/15/2018	1.01	1.03
38	09/16/2018 - 09/22/2018	1.00	1.02
39	09/23/2018 - 09/29/2018	1.00	1.02
40	09/30/2018 - 10/06/2018	1.00	1.02
41	10/07/2018 - 10/13/2018	0.99	1.01
42	10/14/2018 - 10/20/2018	0.99	1.01
43	10/21/2018 - 10/27/2018	0.99	1.01
44	10/28/2018 - 11/03/2018	1.00	1.02
45	11/04/2018 - 11/10/2018	1.00	1.02
46	11/11/2018 - 11/17/2018	1.00	1.02
47	11/18/2018 - 11/24/2018	1.01	1.03
48	11/25/2018 - 12/01/2018	1.01	1.03
49	12/02/2018 - 12/08/2018	1.02	1.04
50	12/09/2018 - 12/15/2018	1.02	1.04
51	12/16/2018 - 12/22/2018	1.03	1.05
52	12/23/2018 - 12/29/2018	1.04	1.06
53	12/30/2018 - 12/31/2018	1.05	1.07

Int 1

* PEAK SEASON

25-FEB-2019 16:26:27

830UPD

5_7500_PKSEASON.TXT

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

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

* PEAK SEASON

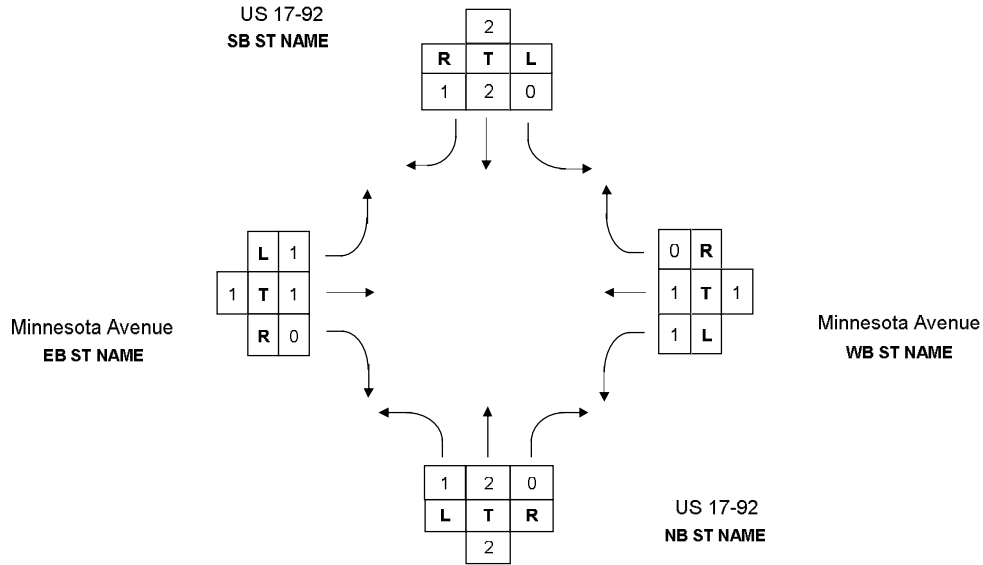
14-FEB-2020 15:39:29

830UPD

5_7500_PKSEASON.TXT

SUMMARY OF VEHICLE MOVEMENTS

SECTION	75030000	CITY	Winter Park	COUNTY	Orange
STATE ROUTE	US 17-92	INTERSECTING ROUTE	Minnesota Avenue		
OBSERVER	TEDS	DATE	10/22/2019	MILEPOST	5.125
WEATHER	Sunny	ROAD CONDITION	Good		
REMARKS					
FORM COMPLETED BY		CML	DATE	12/31/19	



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	EW
7:00 - 8:00	66	773	9	0	848	64	1207	95	0	1366	2214	105	125	37	0	267	11	129	52	0	192	459
8:00 - 9:00	77	932	15	0	1024	72	1213	86	0	1371	2395	145	170	69	0	384	23	161	63	0	247	631
9:00 - 9:30	32	430	14	0	476	36	565	32	0	633	1109	73	56	23	0	152	9	48	29	0	86	238
11:45 - 1:00	83	1242	43	0	1368	132	1223	105	0	1460	2828	212	151	85	0	448	64	131	110	0	305	753
1:00 - 2:00	41	953	29	0	1023	96	976	83	0	1155	2178	175	124	54	0	353	44	105	101	0	250	603
2:00 - 3:15	74	1332	27	0	1433	109	1205	95	0	1409	2842	169	151	60	0	380	45	163	122	0	330	710
4:30 - 5:30	53	1071	34	0	1158	135	1189	72	0	1396	2554	190	201	76	0	467	45	127	74	0	246	713
5:30 - 6:30	48	1057	37	0	1142	107	1234	77	0	1418	2560	194	264	46	0	504	37	104	84	0	225	729
TOTAL	474	7790	208	0	8472	751	8812	645	0	10208	18680	1263	1242	450	0	2955	278	968	635	0	1881	4836

PEDESTRIAN MOVEMENT SUMMARY

SECTION	75030000	CITY Winter Park	COUNTY Orange
STATE ROUTE	US 17-92	INTERSECTING ROUTE Minnesota Avenue	
OBSERVER	TEDS	DATE 10/22/2019	
REMARKS _____			
FORM COMPLETED BY CML DATE 12/31/19			

HOURS	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Minnesota Avenue			Minnesota Avenue			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	0	2	2	0	0	0	0	0	0	0	0	0	2
8:00 - 9:00	0	0	0	0	0	0	1	0	1	0	0	0	1
9:00 - 9:30	2	0	2	1	0	1	0	0	0	0	0	0	3
11:45 - 1:00	4	2	6	0	0	0	1	0	1	1	4	5	12
1:00 - 2:00	1	4	5	2	0	2	0	2	2	2	0	2	11
2:00 - 3:15	3	2	5	1	1	2	1	2	3	1	2	3	13
4:30 - 5:30	1	3	4	2	2	4	0	0	0	2	1	3	11
5:30 - 6:30	0	7	7	1	0	1	0	5	5	0	0	0	13
TOTAL	11	20	31	7	3	10	3	9	12	6	7	13	66



BICYCLE MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Minnesota Avenue
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Minnesota Avenue			Minnesota Avenue			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	1	0	1	0	0	0	0	0	0	0	0	0	1
8:00 - 9:00	1	0	1	0	0	0	0	0	0	1	0	1	2
9:00 - 9:30	0	0	0	0	0	0	0	1	1	1	0	1	2
11:45 - 1:00	0	1	1	1	0	1	1	2	3	0	0	0	5
1:00 - 2:00	1	0	1	0	0	0	0	0	0	0	0	0	1
2:00 - 3:15	0	1	1	0	0	0	0	0	0	0	1	1	2
4:30 - 5:30	0	2	2	0	0	0	0	1	1	1	0	1	4
5:30 - 6:30	1	2	3	0	1	1	0	1	1	0	0	0	5
TOTAL	4	6	10	1	1	2	1	5	6	3	1	4	22



Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 1

Groups Printed- All Vehicles

	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	12	124	0	0	136	13	255	27	0	295	17	30	7	0	54	5	31	7	0	43	528
07:15 AM	13	176	1	0	190	22	307	22	1	352	21	19	14	0	54	1	39	18	0	58	654
07:30 AM	18	241	3	0	262	12	336	18	0	366	30	37	6	0	73	4	28	13	0	45	746
07:45 AM	23	232	5	0	260	17	309	28	1	355	37	39	10	0	86	1	31	14	0	46	747
Total	66	773	9	0	848	64	1207	95	2	1368	105	125	37	0	267	11	129	52	0	192	2675
08:00 AM	18	209	2	0	229	17	294	20	0	331	34	41	21	0	96	2	38	16	0	56	712
08:15 AM	14	254	1	0	269	19	334	23	0	376	30	24	11	0	65	5	36	9	1	51	761
08:30 AM	23	237	6	0	266	16	290	24	0	330	46	53	15	0	114	8	47	18	0	73	783
08:45 AM	22	232	6	0	260	20	295	19	0	334	35	52	22	0	109	8	40	20	0	68	771
Total	77	932	15	0	1024	72	1213	86	0	1371	145	170	69	0	384	23	161	63	1	248	3027
09:00 AM	18	231	7	1	257	17	282	16	2	317	42	29	9	0	80	5	21	17	0	43	697
09:15 AM	14	199	7	0	220	19	283	16	0	318	31	27	14	0	72	4	27	12	0	43	653
*** BREAK ***																					
Total	32	430	14	1	477	36	565	32	2	635	73	56	23	0	152	9	48	29	0	86	1350
*** BREAK ***																					
11:45 AM	20	228	8	0	256	39	227	25	5	296	53	29	21	4	107	11	28	20	0	59	718
Total	20	228	8	0	256	39	227	25	5	296	53	29	21	4	107	11	28	20	0	59	718
12:00 PM	16	275	8	0	299	18	254	16	0	288	35	33	21	0	89	13	18	23	0	54	730
12:15 PM	14	270	13	0	297	21	237	20	0	278	38	29	11	0	78	11	31	22	0	64	717
12:30 PM	16	208	8	0	232	26	234	13	1	274	58	40	16	1	115	12	29	28	1	70	691
12:45 PM	17	261	6	0	284	28	271	31	0	330	28	20	16	0	64	17	25	17	0	59	737
Total	63	1014	35	0	1112	93	996	80	1	1170	159	122	64	1	346	53	103	90	1	247	2875
01:00 PM	7	232	7	1	247	15	240	23	0	278	52	46	12	0	110	17	31	34	1	83	718
01:15 PM	11	229	10	0	250	27	256	20	1	304	52	24	16	0	92	9	25	25	0	59	705
01:30 PM	11	248	6	1	266	29	252	18	0	299	41	28	15	0	84	9	22	21	0	52	701
01:45 PM	12	244	6	0	262	25	228	22	4	279	30	26	11	2	69	9	27	21	1	58	668
Total	41	953	29	2	1025	96	976	83	5	1160	175	124	54	2	355	44	105	101	2	252	2792
02:00 PM	9	245	3	1	258	20	263	20	3	306	45	33	9	0	87	9	26	24	1	60	711
02:15 PM	17	275	6	0	298	23	251	16	1	291	19	26	12	2	59	13	41	36	1	91	739
02:30 PM	15	275	8	0	298	18	234	16	0	268	47	28	12	1	88	6	27	15	0	48	702
02:45 PM	19	254	6	0	279	29	220	19	1	269	37	32	16	0	85	9	33	27	0	69	702
Total	60	1049	23	1	1133	90	968	71	5	1134	148	119	49	3	319	37	127	102	2	268	2854
03:00 PM	14	283	4	1	302	19	237	24	0	280	21	32	11	0	64	8	36	20	1	65	711
*** BREAK ***																					
Total	14	283	4	1	302	19	237	24	0	280	21	32	11	0	64	8	36	20	1	65	711
*** BREAK ***																					
04:30 PM	15	256	7	0	278	32	287	17	2	338	44	48	25	1	118	10	28	15	0	53	787
04:45 PM	15	257	9	2	283	26	291	18	0	335	39	38	13	0	90	7	36	21	0	64	772
Total	30	513	16	2	561	58	578	35	2	673	83	86	38	1	208	17	64	36	0	117	1559
05:00 PM	13	270	14	2	299	43	328	14	2	387	56	50	20	0	126	16	29	22	0	67	879
05:15 PM	10	288	4	0	302	34	283	23	0	340	51	65	18	0	134	12	34	16	0	62	838
05:30 PM	17	266	8	1	292	24	312	20	7	363	57	83	16	0	156	10	28	25	3	66	877
05:45 PM	11	256	9	0	276	31	333	25	0	389	46	61	13	2	122	9	29	14	2	54	841
Total	51	1080	35	3	1169	132	1256	82	9	1479	210	259	67	2	538	47	120	77	5	249	3435
06:00 PM	7	260	9	0	276	24	327	21	0	372	47	64	10	0	121	12	29	25	0	66	835
06:15 PM	13	275	11	0	299	28	262	11	0	301	44	56	7	0	107	6	18	20	0	44	751
Grand Total	474	7790	208	10	8482	751	8812	645	31	10239	1263	1242	450	13	2968	278	968	635	12	1893	23582
Apprch %	5.6	91.8	2.5	0.1		7.3	86.1	6.3	0.3		42.6	41.8	15.2	0.4		14.7	51.1	33.5	0.6		
Total %	2	33	0.9	0	36	3.2	37.4	2.7	0.1	43.4	5.4	5.3	1.9	0.1	12.6	1.2	4.1	2.7	0.1	8	

Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	18	209	2	0	229	17	294	20	0	331	34	41	21	0	96	2	38	16	0	56	712
08:15 AM	14	254	1	0	269	19	334	23	0	376	30	24	11	0	65	5	36	9	1	51	761
08:30 AM	23	237	6	0	266	16	290	24	0	330	46	53	15	0	114	8	47	18	0	73	783
08:45 AM	22	232	6	0	260	20	295	19	0	334	35	52	22	0	109	8	40	20	0	68	771
Total Volume	77	932	15	0	1024	72	1213	86	0	1371	145	170	69	0	384	23	161	63	1	248	3027
% App. Total	7.5	91	1.5	0		5.3	88.5	6.3	0		37.8	44.3	18	0		9.3	64.9	25.4	0.4		
PHF	.837	.917	.625	.000	.952	.900	.908	.896	.000	.912	.788	.802	.784	.000	.842	.719	.856	.788	.250	.849	.966

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:15 AM					07:30 AM					08:00 AM					08:00 AM				
+0 mins.	14	254	1	0	269	12	336	18	0	366	34	41	21	0	96	2	38	16	0	56
+15 mins.	23	237	6	0	266	17	309	28	1	355	30	24	11	0	65	5	36	9	1	51
+30 mins.	22	232	6	0	260	17	294	20	0	331	46	53	15	0	114	8	47	18	0	73
+45 mins.	18	231	7	1	257	19	334	23	0	376	35	52	22	0	109	8	40	20	0	68
Total Volume	77	954	20	1	1052	65	1273	89	1	1428	145	170	69	0	384	23	161	63	1	248
% App. Total	7.3	90.7	1.9	0.1		4.6	89.1	6.2	0.1		37.8	44.3	18	0		9.3	64.9	25.4	0.4	
PHF	.837	.939	.714	.250	.978	.855	.947	.795	.250	.949	.788	.802	.784	.000	.842	.719	.856	.788	.250	.849

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	16	275	8	0	299	18	254	16	0	288	35	33	21	0	89	13	18	23	0	54	730
12:15 PM	14	270	13	0	297	21	237	20	0	278	38	29	11	0	78	11	31	22	0	64	717
12:30 PM	16	208	8	0	232	26	234	13	1	274	58	40	16	1	115	12	29	28	1	70	691
12:45 PM	17	261	6	0	284	28	271	31	0	330	28	20	16	0	64	17	25	17	0	59	737
Total Volume	63	1014	35	0	1112	93	996	80	1	1170	159	122	64	1	346	53	103	90	1	247	2875
% App. Total	5.7	91.2	3.1	0		7.9	85.1	6.8	0.1		46	35.3	18.5	0.3		21.5	41.7	36.4	0.4		
PHF	.926	.922	.673	.000	.930	.830	.919	.645	.250	.886	.685	.763	.762	.250	.752	.779	.831	.804	.250	.882	.975

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:00 PM					12:45 PM					11:45 AM					12:15 PM				
+0 mins.	16	275	8	0	299	28	271	31	0	330	53	29	21	4	107	11	31	22	0	64
+15 mins.	14	270	13	0	297	15	240	23	0	278	35	33	21	0	89	12	29	28	1	70
+30 mins.	16	208	8	0	232	27	256	20	1	304	38	29	11	0	78	17	25	17	0	59
+45 mins.	17	261	6	0	284	29	252	18	0	299	58	40	16	1	115	17	31	34	1	83
Total Volume	63	1014	35	0	1112	99	1019	92	1	1211	184	131	69	5	389	57	116	101	2	276
% App. Total	5.7	91.2	3.1	0		8.2	84.1	7.6	0.1		47.3	33.7	17.7	1.3		20.7	42	36.6	0.7	
PHF	.926	.922	.673	.000	.930	.853	.940	.742	.250	.917	.793	.819	.821	.313	.846	.838	.935	.743	.500	.831

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	13	270	14	2	299	43	328	14	2	387	56	50	20	0	126	16	29	22	0	67	879
05:15 PM	10	288	4	0	302	34	283	23	0	340	51	65	18	0	134	12	34	16	0	62	838
05:30 PM	17	266	8	1	292	24	312	20	7	363	57	83	16	0	156	10	28	25	3	66	877
05:45 PM	11	256	9	0	276	31	333	25	0	389	46	61	13	2	122	9	29	14	2	54	841
Total Volume	51	1080	35	3	1169	132	1256	82	9	1479	210	259	67	2	538	47	120	77	5	249	3435
% App. Total	4.4	92.4	3	0.3		8.9	84.9	5.5	0.6		39	48.1	12.5	0.4		18.9	48.2	30.9	2		
PHF	.750	.938	.625	.375	.968	.767	.943	.820	.321	.951	.921	.780	.838	.250	.862	.734	.882	.770	.417	.929	.977

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:15 PM					05:00 PM					05:00 PM					02:15 PM				
+0 mins.	17	275	6	0	298	43	328	14	2	387	56	50	20	0	126	13	41	36	1	91
+15 mins.	15	275	8	0	298	34	283	23	0	340	51	65	18	0	134	6	27	15	0	48
+30 mins.	19	254	6	0	279	24	312	20	7	363	57	83	16	0	156	9	33	27	0	69
+45 mins.	14	283	4	1	302	31	333	25	0	389	46	61	13	2	122	8	36	20	1	65
Total Volume	65	1087	24	1	1177	132	1256	82	9	1479	210	259	67	2	538	36	137	98	2	273
% App. Total	5.5	92.4	2	0.1		8.9	84.9	5.5	0.6		39	48.1	12.5	0.4		13.2	50.2	35.9	0.7	
PHF	.855	.960	.750	.250	.974	.767	.943	.820	.321	.951	.921	.780	.838	.250	.862	.692	.835	.681	.500	.750

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Minnesota Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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Groups Printed- Heavy Trucks

	US 17-92 Northbound						US 17-92 Southbound						MINNESOTA BOULEVARD Eastbound						MINNESOTA BOULEVARD Westbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total				
07:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	4			
07:15 AM	0	2	0	0	2	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0	0	6			
07:30 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4			
07:45 AM	0	3	0	0	3	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	7			
Total	0	10	0	0	10	0	6	1	0	7	0	1	1	0	2	0	1	1	0	2	21				
08:00 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2				
08:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	1	1	4				
08:30 AM	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4				
08:45 AM	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	7				
Total	0	5	0	0	5	1	10	0	0	11	0	0	0	0	0	0	0	0	1	1	17				
09:00 AM	0	2	0	0	2	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0	6				
09:15 AM	0	3	0	0	3	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	6				
*** BREAK ***																									
Total	0	5	0	0	5	0	3	0	2	5	0	0	1	0	1	0	0	1	0	1	12				
*** BREAK ***																									
11:45 AM	0	5	0	0	5	0	2	0	4	6	0	0	0	3	3	0	0	0	0	0	14				
Total	0	5	0	0	5	0	2	0	4	6	0	0	0	3	3	0	0	0	0	0	14				
12:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2				
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	1	1	3				
12:45 PM	0	1	0	0	1	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	5				
Total	0	2	0	0	2	2	5	0	0	7	0	0	0	1	1	0	0	0	1	1	11				
01:00 PM	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	0	0	0	0	0	4				
01:15 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	4				
01:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2				
01:45 PM	0	2	0	0	2	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	5				
Total	0	4	0	0	4	0	5	2	1	8	0	1	0	0	1	0	2	0	0	2	15				
02:00 PM	0	1	0	0	1	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0	5				
02:15 PM	0	0	0	0	0	0	4	0	1	5	0	0	0	2	2	0	0	0	1	1	8				
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3				
02:45 PM	0	0	0	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	3				
Total	0	1	0	0	1	0	9	0	3	12	0	2	0	2	4	0	1	0	1	2	19				
03:00 PM	0	1	0	1	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4				
*** BREAK ***																									
Total	0	1	0	1	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4				
*** BREAK ***																									
04:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	3				
04:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
Total	0	1	0	2	3	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	5				
05:00 PM	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	2				
*** BREAK ***																									
05:30 PM	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	0	0	0	0	0	4				
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1				
Total	0	0	0	0	0	0	2	1	1	4	3	0	0	0	3	0	0	0	0	0	7				
*** BREAK ***																									
Grand Total	0	34	0	3	37	3	45	4	11	63	3	4	2	7	16	0	4	2	3	9	125				
Apprch %	0	91.9	0	8.1		4.8	71.4	6.3	17.5		18.8	25	12.5	43.8		0	44.4	22.2	33.3						
Total %	0	27.2	0	2.4	29.6	2.4	36	3.2	8.8	50.4	2.4	3.2	1.6	5.6	12.8	0	3.2	1.6	2.4	7.2					

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Minnesota Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
08:45 AM	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	7
09:00 AM	0	2	0	0	2	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0	6
09:15 AM	0	3	0	0	3	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	6
Total Volume	0	9	0	0	9	0	10	0	2	12	0	0	1	0	1	0	0	1	0	1	23
% App. Total	0	100	0	0		0	83.3	0	16.7		0	0	100	0		0	0	100	0		
PHF	.000	.750	.000	.000	.750	.000	.625	.000	.250	.750	.000	.000	.250	.000	.250	.000	.000	.250	.000	.250	.821

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					08:15 AM					07:00 AM					07:00 AM				
+0 mins.	0	2	0	0	2	1	2	0	0	3	0	0	0	0	0	0	1	1	0	2
+15 mins.	0	2	0	0	2	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0
+30 mins.	0	3	0	0	3	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	3	0	0	3	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0
Total Volume	0	10	0	0	10	1	11	0	2	14	0	1	1	0	2	0	1	1	0	2
% App. Total	0	100	0	0		7.1	78.6	0	14.3		0	50	50	0		0	50	50	0	
PHF	.000	.833	.000	.000	.833	.250	.688	.000	.250	.875	.000	.250	.250	.000	.500	.000	.250	.250	.000	.250

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	0	5	0	0	5	0	2	0	4	6	0	0	0	3	3	0	0	0	0	0	14
12:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	1	1	3
Total Volume	0	6	0	0	6	0	5	0	4	9	0	0	0	4	4	0	0	0	1	1	20
% App. Total	0	100	0	0		0	55.6	0	44.4		0	0	0	100		0	0	0	100		
PHF	.000	.300	.000	.000	.300	.000	.625	.000	.250	.375	.000	.000	.000	.333	.333	.000	.000	.000	.250	.250	.357

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:15 AM					12:15 PM					11:45 AM					12:30 PM				
+0 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	3	3	0	0	0	1	1
+15 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	5	0	0	5	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	2	1	0	3	0	0	0	1	1	0	2	0	0	2
Total Volume	0	6	0	0	6	2	7	1	0	10	0	0	0	4	4	0	2	0	1	3
% App. Total	0	100	0	0		20	70	10	0		0	0	0	100		0	66.7	0	33.3	
PHF	.000	.300	.000	.000	.300	.250	.875	.250	.000	.625	.000	.000	.000	.333	.333	.000	.250	.000	.250	.375

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	1	0	0	1	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0	5
02:15 PM	0	0	0	0	0	0	4	0	1	5	0	0	0	2	2	0	0	0	1	1	8
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
02:45 PM	0	0	0	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	1	0	0	1	0	9	0	3	12	0	2	0	2	4	0	1	0	1	2	19
% App. Total	0	100	0	0		0	75	0	25		0	50	0	50		0	50	0	50		
PHF	.000	.250	.000	.000	.250	.000	.563	.000	.750	.600	.000	.250	.000	.250	.500	.000	.250	.000	.250	.500	.594

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM					02:00 PM					02:00 PM					02:00 PM				
+0 mins.	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	4	0	1	5	0	0	0	2	2	0	0	0	1	1
+30 mins.	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1
+45 mins.	0	0	0	2	2	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	2	3	0	9	0	3	12	0	2	0	2	4	0	1	0	1	2
% App. Total	0	33.3	0	66.7		0	75	0	25		0	50	0	50		0	50	0	50	
PHF	.000	.250	.000	.250	.375	.000	.563	.000	.750	.600	.000	.250	.000	.250	.500	.000	.250	.000	.250	.500

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Minnesota Blvd TMC (8-hr)

Site Code : 00000000

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Groups Printed- UTurns

	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
*** BREAK ***																					
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					07:00 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 10:00 AM

	10:00 AM					10:00 AM					10:00 AM					10:00 AM					
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	10:00 AM					10:00 AM					10:00 AM					10:00 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Minnesota Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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	US 17-92 Northbound					US 17-92 Southbound					MINNESOTA BOULEVARD Eastbound					MINNESOTA BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM					02:00 PM					02:00 PM					02:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

VEHICLE TURNING MOVEMENT COUNT

SECTION: 75030
 STATE ROUTE: US 17-92
 OBSERVER: VHB
 WEATHER: CLEAR
 NORTH APPROACH: US 17-92
 SOUTH APPROACH: US 17-92

CITY: Winter Park
 INTERSECTING ROUTE: Fairbanks Avenue
 DATE OF COUNT: Thursday, February 7, 2019
 ROAD CONDITION: GOOD
 EAST APPROACH: Fairbanks Avenue
 WEST APPROACH: Fairbanks Avenue
 COUNT PERIODS: 6:00 AM - 9:00 AM, 11:00 AM - 1:00 PM, 3:00 PM - 6:00 PM

COUNTY: Orange
 MILEPOST: 5.373

ALL VEHICLES / ALL MOVEMENTS

START TIME	NORTHBOUND						SOUTHBOUND						NS TOTAL	EASTBOUND						WESTBOUND						EW TOTAL	GRAND TOTAL
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
6:00	0	1	39	0	1	41	0	4	85	13	13	115	156	0	8	68	14	1	91	0	2	71	6	1	80	171	327
6:15	0	6	56	0	1	63	0	21	136	16	22	195	258	0	19	100	16	1	136	0	2	86	3	0	91	227	485
6:30	0	11	59	3	4	77	0	9	160	30	12	211	288	1	16	97	22	0	136	0	6	111	9	0	126	262	550
6:45	0	18	76	4	1	99	0	21	201	36	12	270	369	0	24	136	22	1	183	0	6	150	5	1	162	345	714
Total	0	36	230	7	7	280	0	55	582	95	59	791	1,071	1	67	401	74	3	546	0	16	418	23	2	459	1,005	2,076
7:00	0	31	135	8	1	175	0	12	235	37	22	306	481	0	26	111	27	4	168	0	7	162	17	0	186	354	835
7:15	0	38	168	5	0	211	0	14	233	31	24	302	513	0	49	141	29	0	219	0	10	217	8	1	236	455	968
7:30	0	24	197	8	4	233	0	20	272	40	21	353	586	0	45	161	21	1	228	0	13	206	8	1	228	456	1,042
7:45	0	34	224	15	0	273	0	18	296	43	12	369	642	0	43	137	26	3	209	0	18	185	15	1	219	428	1,070
Total	0	127	724	36	5	892	0	64	1,036	151	79	1,330	2,222	0	163	550	103	8	824	0	48	770	48	3	869	1,693	3,915
8:00	0	40	201	5	2	248	0	14	227	42	24	307	555	0	58	155	31	1	245	0	17	184	17	1	219	464	1,019
8:15	0	30	238	16	3	287	0	16	282	42	13	353	640	0	73	153	20	0	246	0	12	129	11	2	154	400	1,040
8:30	0	29	214	13	1	257	0	19	260	43	12	334	591	0	57	153	30	3	243	0	17	179	20	2	218	461	1,052
8:45	0	25	227	13	1	266	0	21	253	48	15	337	603	0	65	163	36	0	264	0	16	144	21	3	184	448	1,051
Total	0	124	880	47	7	1,058	0	70	1,022	175	64	1,331	2,389	0	253	624	117	4	998	0	62	636	69	8	775	1,773	4,162
11:00	0	33	224	18	1	276	0	26	224	53	18	321	597	0	54	114	28	2	198	0	28	141	31	2	202	400	997
11:15	0	32	212	18	0	262	0	36	175	45	26	282	544	1	59	113	42	0	215	0	25	141	39	1	206	421	965
11:30	0	32	252	19	0	303	0	39	221	43	26	329	632	1	57	121	37	1	217	0	34	159	24	1	218	435	1,067
11:45	0	35	250	22	1	308	0	33	232	56	30	351	659	0	60	128	24	4	216	0	33	132	35	3	203	419	1,078
Total	0	132	938	77	2	1,149	0	134	852	197	100	1,283	2,432	2	230	476	131	7	846	0	120	573	129	7	829	1,675	4,107
12:00	0	39	248	16	0	303	0	35	249	50	16	350	653	0	54	119	36	4	213	0	31	124	23	1	179	392	1,045
12:15	1	41	238	15	3	298	1	39	227	58	25	350	648	0	49	116	22	8	195	0	34	131	29	2	196	391	1,039
12:30	0	30	243	20	0	293	0	36	238	51	20	345	638	0	52	122	16	0	190	0	21	154	36	1	212	402	1,040
12:45	0	39	244	21	0	304	0	40	234	63	25	362	666	0	55	125	30	2	212	0	34	140	29	3	206	418	1,084
Total	1	149	973	72	3	1,198	1	150	948	222	86	1,407	2,605	0	210	482	104	14	810	0	120	549	117	7	793	1,603	4,208
15:00	0	44	240	16	1	301	0	38	221	53	40	352	653	1	55	141	22	0	219	0	15	171	26	4	216	435	1,088
15:15	0	32	258	10	0	300	0	29	214	60	27	330	630	0	47	103	25	1	176	0	18	147	21	2	188	364	994
15:30	0	30	234	13	0	277	0	33	203	39	20	295	572	0	57	143	24	6	230	0	29	204	32	0	265	495	1,067
15:45	0	43	304	12	0	359	0	34	246	75	8	363	722	0	57	99	7	7	170	0	12	181	20	3	216	386	1,108
Total	0	149	1,036	51	1	1,237	0	134	884	227	95	1,340	2,577	1	216	486	78	14	795	0	74	703	99	9	885	1,680	4,257
16:00	0	30	243	10	0	283	0	29	201	55	24	309	592	0	59	165	23	2	249	0	36	199	27	1	263	512	1,104
16:15	0	30	323	10	0	363	0	31	247	54	21	353	716	0	48	115	24	0	187	0	16	139	22	7	184	371	1,087
16:30	0	29	258	13	0	300	0	24	208	46	22	300	600	0	66	137	25	0	228	0	19	184	34	3	240	468	1,068
16:45	0	43	299	18	0	360	0	27	262	54	20	363	723	0	52	138	21	0	211	0	24	148	21	1	194	405	1,128
Total	0	132	1,123	51	0	1,306	0	111	918	209	87	1,325	2,631	0	225	555	93	2	875	0	95	670	104	12	881	1,756	4,387
17:00	0	29	242	8	0	279	0	34	232	53	26	345	624	0	67	151	24	0	242	0	30	217	28	4	279	521	1,145
17:15	0	25	326	14	0	365	0	35	272	60	23	390	755	1	49	161	16	0	227	0	21	175	26	5	227	454	1,209
17:30	0	25	266	10	0	301	0	25	243	46	19	333	634	0	61	175	23	0	259	0	33	191	27	0	251	510	1,144
17:45	0	28	305	15	0	348	0	35	282	45	17	379	727	0	53	131	22	3	209	0	29	142	21	0	192	401	1,128
Total	0	107	1,139	47	0	1,293	0	129	1,029	204	85	1,447	2,740	1	230	618	85	3	937	0	113	725	102	9	949	1,886	4,626

VEHICLE TURNING MOVEMENT COUNT

SECTION: 75030
STATE ROUTE: US 17-92
OBSERVER: VHB
WEATHER: CLEAR
NORTH APPROACH: US 17-92
SOUTH APPROACH: US 17-92

CITY: Winter Park
INTERSECTING ROUTE: Fairbanks Avenue
DATE OF COUNT: Thursday, February 7, 2019
ROAD CONDITION: GOOD
EAST APPROACH: Fairbanks Avenue
WEST APPROACH: Fairbanks Avenue
COUNT PERIODS: 6:00 AM - 9:00 AM, 11:00 AM - 1:00 PM, 3:00 PM - 6:00 PM

COUNTY: Orange
MILEPOST: 5.373

HEAVY VEHICLES (TRUCKS + BUSES)

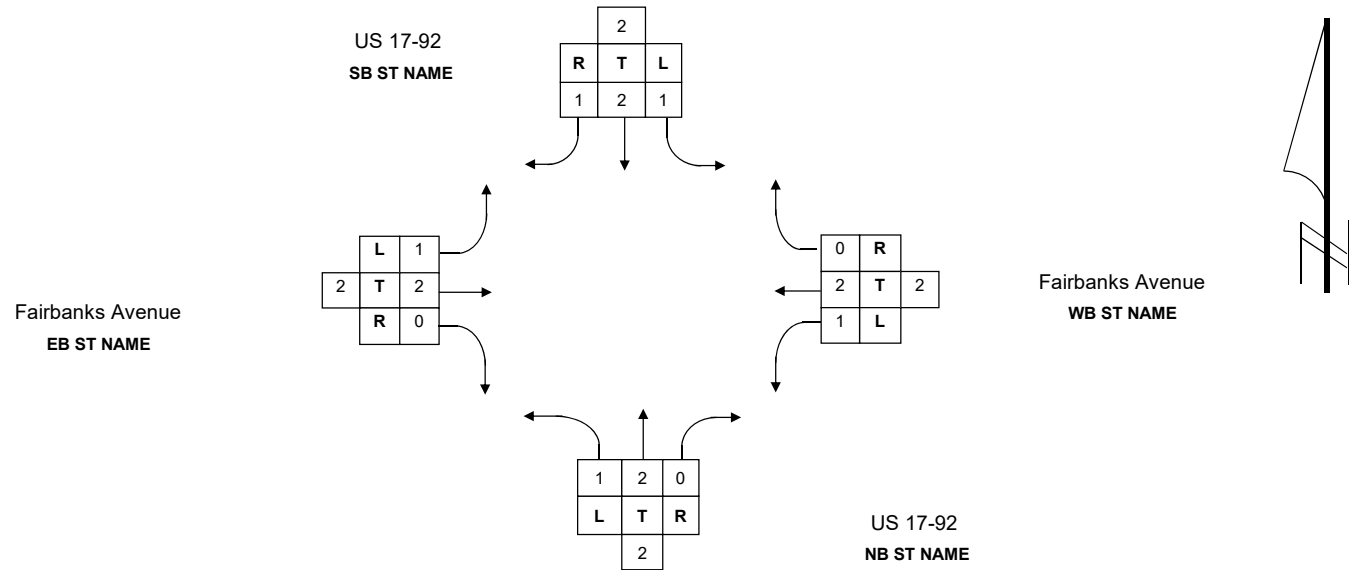
START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	RTOR	TOTAL	LEFT	THRU	RIGHT	RTOR	TOTAL		LEFT	THRU	RIGHT	RTOR	TOTAL	LEFT	THRU	RIGHT	RTOR	TOTAL		
6:00	0	2	0	0	2	0	2	1	0	3	5	1	1	0	0	2	0	1	1	0	2	4	9
6:15	1	3	0	0	4	1	1	0	0	2	6	1	3	0	0	4	0	4	0	0	4	8	14
6:30	0	2	0	0	2	0	1	1	0	2	4	0	1	0	0	1	0	2	0	0	2	3	7
6:45	0	0	0	0	0	1	2	1	0	4	4	1	8	0	0	9	0	1	1	0	2	11	15
Total	1	7	0	0	8	2	6	3	0	11	19	3	13	0	0	16	0	8	2	0	10	26	45
7:00	0	1	1	1	3	1	1	0	1	3	6	0	1	0	0	1	0	3	0	0	3	4	10
7:15	0	1	0	0	1	0	2	0	0	2	3	4	3	1	0	8	0	3	0	0	3	11	14
7:30	0	4	0	0	4	1	3	2	0	6	10	4	7	0	0	11	0	2	1	0	3	14	24
7:45	0	3	0	0	3	0	3	1	0	4	7	3	3	1	0	7	1	5	1	0	7	14	21
Total	0	9	1	1	11	2	9	3	1	15	26	11	14	2	0	27	1	13	2	0	16	43	69
8:00	1	6	0	1	8	2	3	0	0	5	13	1	5	1	0	7	1	4	1	0	6	13	26
8:15	0	2	1	0	3	2	2	3	0	7	10	3	5	0	0	8	0	4	0	0	4	12	22
8:30	0	4	2	0	6	0	2	1	0	3	9	1	7	2	1	11	0	4	0	0	4	15	24
8:45	0	3	1	0	4	1	3	2	1	7	11	5	5	4	0	14	0	6	1	0	7	21	32
Total	1	15	4	1	21	5	10	6	1	22	43	10	22	7	1	40	1	18	2	0	21	61	104
11:00	1	2	0	0	3	0	2	1	0	3	6	3	3	2	0	8	0	4	0	0	4	12	18
11:15	0	1	0	0	1	0	5	1	0	6	7	1	3	0	0	4	0	3	0	0	3	7	14
11:30	0	3	1	0	4	1	3	0	1	5	9	4	3	0	0	7	1	4	0	0	5	12	21
11:45	1	7	1	0	9	1	1	3	0	5	14	2	2	1	0	5	1	4	0	0	5	10	24
Total	2	13	2	0	17	2	11	5	1	19	36	10	11	3	0	24	2	15	0	0	17	41	77
12:00	0	0	0	0	0	2	3	3	0	8	8	3	4	0	0	7	1	4	0	0	5	12	20
12:15	0	2	1	0	3	0	1	1	1	3	6	1	3	0	0	4	1	2	0	1	4	8	14
12:30	1	3	1	0	5	4	2	1	2	9	14	1	6	0	0	7	0	1	0	0	1	8	22
12:45	1	1	0	0	2	1	2	3	1	7	9	3	5	1	0	9	0	3	1	0	4	13	22
Total	2	6	2	0	10	7	8	8	4	27	37	8	18	1	0	27	2	10	1	1	14	41	78
15:00	0	0	1	0	1	1	2	2	1	6	7	0	3	2	0	5	0	5	0	0	5	10	17
15:15	1	4	0	0	5	0	2	0	1	3	8	0	3	0	0	3	0	4	0	0	4	7	15
15:30	1	2	0	0	3	1	2	2	0	5	8	2	3	0	1	6	0	8	0	0	8	14	22
15:45	1	2	0	0	3	0	2	1	0	3	6	0	3	0	0	3	0	3	0	0	3	6	12
Total	3	8	1	0	12	2	8	5	2	17	29	2	12	2	1	17	0	20	0	0	20	37	66
16:00	0	3	0	0	3	0	2	1	0	3	6	1	3	0	0	4	0	3	1	0	4	8	14
16:15	1	4	0	0	5	0	3	2	0	5	10	0	0	0	0	0	0	1	2	0	3	3	13
16:30	0	2	0	0	2	1	1	2	0	4	6	0	2	0	0	2	0	6	3	0	9	11	17
16:45	0	1	0	0	1	0	1	0	0	1	2	1	2	0	0	3	0	1	0	0	1	4	6
Total	1	10	0	0	11	1	7	5	0	13	24	2	7	0	0	9	0	11	6	0	17	26	50
17:00	0	1	0	0	1	0	2	0	0	2	3	2	3	0	0	5	0	1	0	0	1	6	9
17:15	0	2	0	0	2	0	1	0	0	1	3	0	0	0	0	0	0	1	0	1	2	2	5
17:30	0	2	0	0	2	0	1	0	0	1	3	3	1	0	0	4	0	3	0	0	3	7	10
17:45	0	2	0	0	2	0	0	0	0	0	2	0	1	0	0	1	0	1	0	0	1	2	4
Total	0	7	0	0	7	0	4	0	0	4	11	5	5	0	0	10	0	6	0	1	7	17	28

FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION: 75030 CITY: Maitland COUNTY: Orange
 STATE ROUTE: US 17-92 INTERSECTING ROUTE: Fairbanks Avenue MILEPOST: 8.492
 OBSERVER: VHB DATE: 2/7/2019
 WEATHER: CLEAR ROAD CONDITION: GOOD
 REMARKS:

FORM COMPLETED BY: VHB DATE: 02/18/19



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
BEGIN/END	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	E/W
6 - 7	0	36	230	7	7	280	0	55	582	95	59	791	1,071	1	67	401	74	3	546	0	16	418	23	2	459	1,005
7 - 8	0	127	724	36	5	892	0	64	1,036	151	79	1,330	2,222	0	163	550	103	8	824	0	48	770	48	3	869	1,693
8 - 9	0	124	880	47	7	1,058	0	70	1,022	175	64	1,331	2,389	0	253	624	117	4	998	0	62	636	69	8	775	1,773
11 - 12	0	132	938	77	2	1,149	0	134	852	197	100	1,283	2,432	2	230	476	131	7	846	0	120	573	129	7	829	1,675
12 - 13	1	149	973	72	3	1,198	1	150	948	222	86	1,407	2,605	0	210	482	104	14	810	0	120	549	117	7	793	1,603
15 - 16	0	149	1,036	51	1	1,237	0	134	884	227	95	1,340	2,577	1	216	486	78	14	795	0	74	703	99	9	885	1,680
16 - 17	0	132	1,123	51	0	1,306	0	111	918	209	87	1,325	2,631	0	225	555	93	2	875	0	95	670	104	12	881	1,756
17 - 18	0	107	1,139	47	0	1,293	0	129	1,029	204	85	1,447	2,740	1	230	618	85	3	937	0	113	725	102	9	949	1,886
TOTAL	1	956	7,043	388	25	8,413	1	847	7,271	1,480	655	10,254	18,667	5	1,594	4,192	785	55	6,631	0	648	5,044	691	57	6,440	13,071

	Percentage	1.0%	11.4%	81.6%	5.0%	1.0%	100.0%	1.0%	8.3%	70.3%	14.4%	6.0%	100.0%	N/A	1.0%	24.0%	62.0%	12.0%	1.0%	100.0%	0.0%	10.0%	78.0%	11.0%	1.0%	100.0%	N/A		
	Maximum	1	149	1139	77	7	1139	1	150	1036	227	100	1036	1139	2	253	624	131	14	624	0	120	770	129	12	770	770		
	Minimum	0	36	230	7	0	0	0	55	582	95	59	0	0	0	67	401	74	2	0	0	16	418	23	2	0	0		
100%	total Heavy Veh	10			75	10	2	97		21		63	35	9	128	225	51		102	15	2	170	6		101	13	2	122	292
	% Heavy Veh	1.0%			1.1%	2.9%		1.2%		2.5%		0.9%	2.1%		1.2%	1.2%	3.2%		2.4%	2.0%		2.6%	0.9%		0.0%	2.0%		1.9%	2.2%

FLORIDA DEPARTMENT OF TRANSPORTATION

PEDESTRIAN MOVEMENT SUMMARY

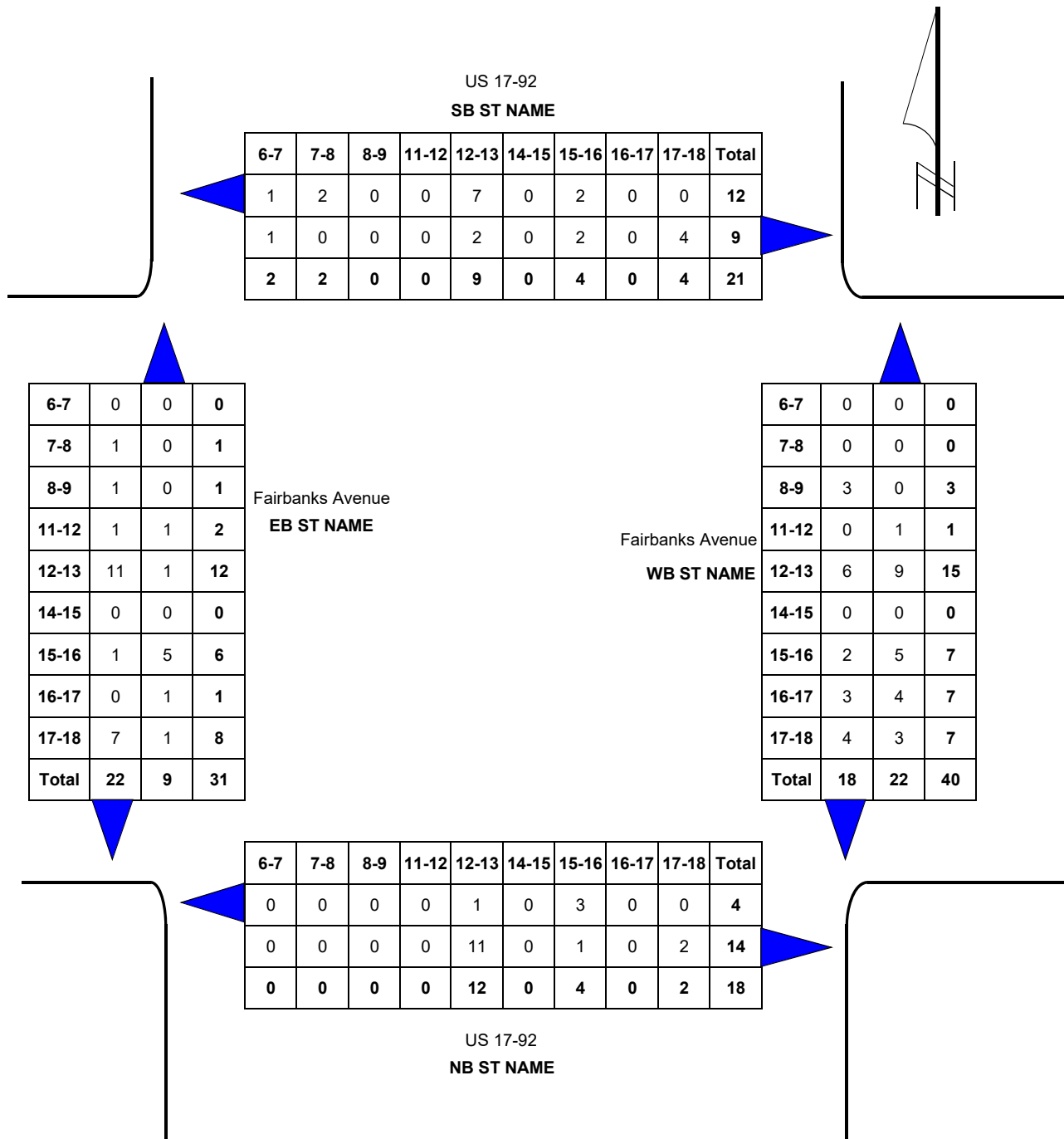
SECTION 75030
STATE ROUTE US 17-92
OBSERVER VHB

CITY Winter Park
INTERSECTING ROUTE Fairbanks Avenue
DATE 2/7/2019

COUNTY Orange
MILEPOST 5.373

REMARKS

DATE 02/18/19



FLORIDA DEPARTMENT OF TRANSPORTATION

BICYCLE MOVEMENT SUMMARY

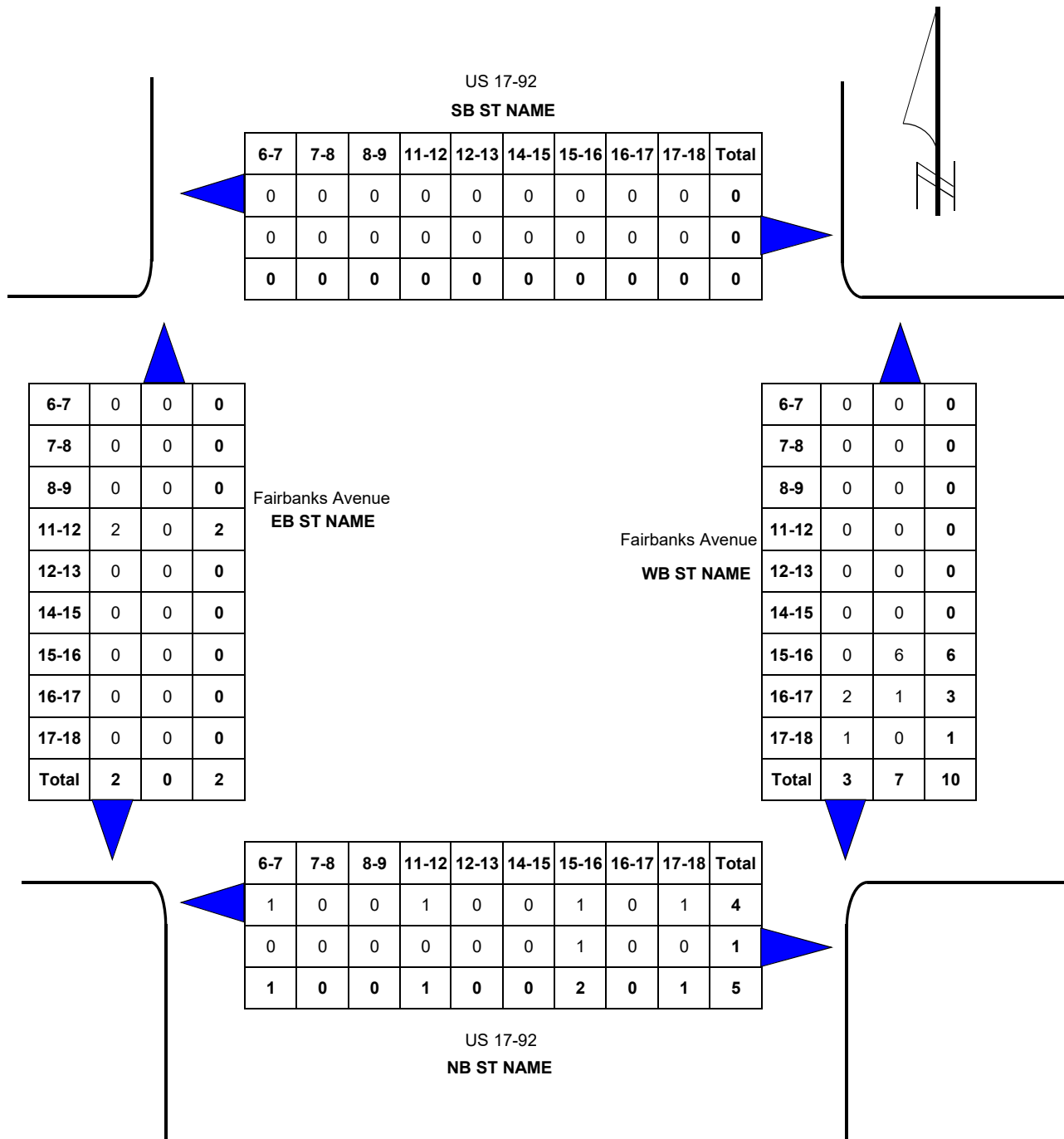
SECTION 75030
STATE ROUTE US 17-92
OBSERVER VHB

CITY Winter Park
INTERSECTING ROUTE Fairbanks Avenue
DATE 2/7/2019

COUNTY Orange
MILEPOST 5.373

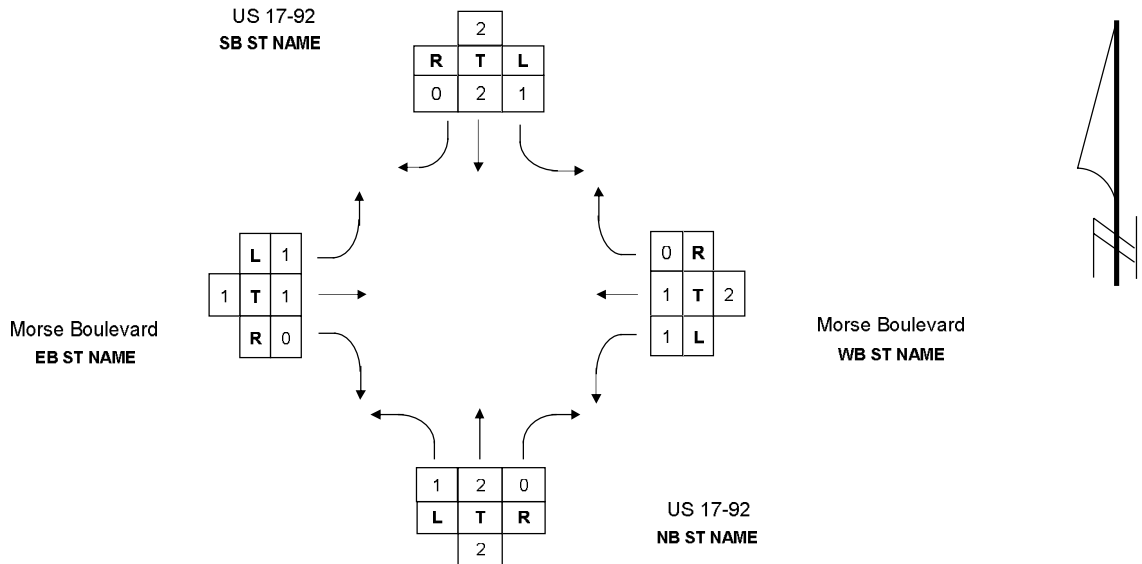
REMARKS

DATE 02/18/19



SUMMARY OF VEHICLE MOVEMENTS

SECTION	75030000	CITY	Winter Park	COUNTY	Orange
STATE ROUTE	US 17-92	INTERSECTING ROUTE	Morse Boulevard		
OBSERVER	TEDS	DATE	10/22/2019	MILEPOST	5.715
WEATHER	Sunny	ROAD CONDITION	Good		
REMARKS					
FORM COMPLETED BY		CML	DATE	12/31/19	



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	EW
7:00 - 8:00	12	804	103	0	919	89	1419	0	0	1508	2427	12	5	9	0	26	52	5	49	0	106	132
8:00 - 9:00	21	893	236	0	1150	153	1289	5	0	1447	2597	18	17	9	0	44	84	27	50	1	162	206
9:00 - 9:30	26	464	93	0	583	86	543	6	0	635	1218	17	7	12	0	36	55	20	45	0	120	156
11:45 - 1:00	85	1390	173	0	1648	199	1434	21	0	1654	3302	67	41	56	0	164	177	46	181	2	406	570
1:00 - 2:00	80	1153	127	0	1360	161	1204	11	1	1377	2737	70	26	51	0	147	116	32	153	1	302	449
2:00 - 3:15	91	1464	118	0	1673	138	1335	9	0	1482	3155	80	28	58	0	166	184	48	177	0	409	575
4:30 - 5:30	74	1288	84	0	1446	113	1210	8	0	1331	2777	56	27	56	0	139	155	38	160	1	354	493
5:30 - 6:30	60	1240	90	0	1390	121	1177	10	1	1309	2699	51	23	49	0	123	137	38	110	1	286	409
TOTAL	449	8696	1024	0	10169	1060	9611	70	2	10743	20912	371	174	300	0	845	960	254	925	6	2145	2990

PEDESTRIAN MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Morse Boulevard
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Morse Boulevard			Morse Boulevard			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	2	2	4	0	0	0	0	1	1	0	4	4	9
8:00 - 9:00	1	2	3	2	2	4	0	3	3	1	5	6	16
9:00 - 9:30	0	0	0	0	1	1	1	0	1	0	1	1	3
11:45 - 1:00	8	2	10	4	0	4	3	3	6	6	4	10	30
1:00 - 2:00	0	4	4	4	0	4	1	3	4	4	8	12	24
2:00 - 3:15	10	7	17	1	0	1	4	4	8	6	4	10	36
4:30 - 5:30	4	2	6	2	0	2	1	0	1	2	1	3	12
5:30 - 6:30	0	4	4	1	7	8	3	1	4	3	0	3	19
TOTAL	25	23	48	14	10	24	13	15	28	22	27	49	149



BICYCLE MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Morse Boulevard
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Morse Boulevard			Morse Boulevard			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	1	1	2	0	0	0	0	0	0	0	0	0	2
8:00 - 9:00	1	0	1	0	0	0	0	0	0	1	0	1	2
9:00 - 9:30	0	0	0	0	0	0	1	1	2	0	0	0	2
11:45 - 1:00	0	0	0	2	0	2	0	0	0	1	0	1	3
1:00 - 2:00	0	2	2	0	1	1	0	0	0	1	0	1	4
2:00 - 3:15	1	1	2	0	2	2	0	0	0	2	0	2	6
4:30 - 5:30	0	1	1	1	0	1	0	0	0	1	0	1	3
5:30 - 6:30	1	3	4	1	0	1	0	0	0	0	0	0	5
TOTAL	4	8	12	4	3	7	1	1	2	6	0	6	27



Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 1

Groups Printed- All Vehicles

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	124	18	0	142	15	355	0	2	372	7	1	6	0	14	7	0	13	0	20	548
07:15 AM	0	189	19	0	208	22	388	0	2	412	1	0	0	0	1	15	1	13	0	29	650
07:30 AM	5	265	27	0	297	23	325	0	0	348	3	4	2	2	11	13	1	14	0	28	684
07:45 AM	7	226	39	0	272	29	351	0	0	380	1	0	1	2	4	17	3	9	1	30	686
Total	12	804	103	0	919	89	1419	0	4	1512	12	5	9	4	30	52	5	49	1	107	2568
08:00 AM	3	196	48	0	247	28	344	0	1	373	2	6	3	0	11	24	6	14	0	44	675
08:15 AM	9	260	63	0	332	28	295	2	1	326	7	3	0	3	13	24	5	6	0	35	706
08:30 AM	5	230	62	2	299	42	338	2	0	382	6	4	2	1	13	11	1	10	1	23	717
08:45 AM	4	207	63	2	276	55	312	1	1	369	3	4	4	2	13	26	15	20	2	63	721
Total	21	893	236	4	1154	153	1289	5	3	1450	18	17	9	6	50	85	27	50	3	165	2819
09:00 AM	13	252	56	0	321	42	278	5	0	325	8	4	5	1	18	28	13	23	0	64	728
09:15 AM	13	212	37	1	263	44	265	1	0	310	9	3	7	0	19	27	7	22	1	57	649
*** BREAK ***																					
Total	26	464	93	1	584	86	543	6	0	635	17	7	12	1	37	55	20	45	1	121	1377
*** BREAK ***																					
11:45 AM	17	281	34	3	335	46	277	2	2	327	12	11	7	1	31	36	5	30	1	72	765
Total	17	281	34	3	335	46	277	2	2	327	12	11	7	1	31	36	5	30	1	72	765
12:00 PM	13	297	40	1	351	29	261	6	3	299	10	5	9	3	27	55	8	39	4	106	783
12:15 PM	21	285	25	0	331	38	305	9	2	354	10	6	9	2	27	31	11	32	1	75	787
12:30 PM	21	270	41	0	332	37	306	3	0	346	15	9	13	1	38	39	11	43	0	93	809
12:45 PM	13	257	33	0	303	49	285	1	3	338	20	10	18	3	51	18	11	37	0	66	758
Total	68	1109	139	1	1317	153	1157	19	8	1337	55	30	49	9	143	143	41	151	5	340	3137
01:00 PM	25	307	41	3	376	36	342	4	1	383	15	8	13	3	39	28	5	39	2	74	872
01:15 PM	16	291	28	0	335	47	266	2	1	316	30	10	10	2	52	36	7	46	2	91	794
01:30 PM	16	251	38	0	305	41	293	3	1	338	15	2	17	1	35	32	13	39	0	84	762
01:45 PM	23	304	20	1	348	38	303	2	1	344	10	6	11	6	33	21	7	29	0	57	782
Total	80	1153	127	4	1364	162	1204	11	4	1381	70	26	51	12	159	117	32	153	4	306	3210
02:00 PM	19	278	23	0	320	32	250	2	7	291	11	9	9	1	30	48	13	28	5	94	735
02:15 PM	17	276	27	0	320	35	277	1	2	315	16	6	13	2	37	36	7	54	0	97	769
02:30 PM	26	290	26	1	343	27	297	1	2	327	14	5	9	0	28	25	9	28	1	63	761
02:45 PM	14	345	18	0	377	27	260	2	2	291	29	5	20	3	57	28	8	27	1	64	789
Total	76	1189	94	1	1360	121	1084	6	13	1224	70	25	51	6	152	137	37	137	7	318	3054
03:00 PM	15	275	24	0	314	17	251	3	4	275	10	3	7	4	24	47	11	40	1	99	712
*** BREAK ***																					
Total	15	275	24	0	314	17	251	3	4	275	10	3	7	4	24	47	11	40	1	99	712
*** BREAK ***																					
04:30 PM	20	325	21	0	366	36	303	0	4	343	15	4	17	1	37	34	9	35	0	78	824
04:45 PM	13	329	16	0	358	27	289	3	1	320	11	4	13	0	28	39	8	34	0	81	787
Total	33	654	37	0	724	63	592	3	5	663	26	8	30	1	65	73	17	69	0	159	1611
05:00 PM	12	330	22	1	365	19	302	2	1	324	13	8	11	0	32	59	5	50	0	114	835
05:15 PM	29	304	25	1	359	31	316	3	0	350	17	11	15	2	45	24	16	41	1	82	836
05:30 PM	18	326	27	7	378	31	300	1	1	333	13	2	17	2	34	46	13	22	0	81	826
05:45 PM	11	301	28	0	340	31	294	3	0	328	12	4	13	0	29	30	12	35	0	77	774
Total	70	1261	102	9	1442	112	1212	9	2	1335	55	25	56	4	140	159	46	148	1	354	3271
06:00 PM	13	302	17	1	333	34	294	2	1	331	15	6	11	0	32	40	6	23	2	71	767
06:15 PM	18	311	18	0	347	26	289	4	2	321	11	11	8	1	31	22	7	30	2	61	760
Grand Total	449	8696	1024	24	10193	1062	9611	70	48	10791	371	174	300	49	894	966	254	925	28	2173	24051
Apprch %	4.4	85.3	10	0.2		9.8	89.1	0.6	0.4		41.5	19.5	33.6	5.5		44.5	11.7	42.6	1.3		
Total %	1.9	36.2	4.3	0.1	42.4	4.4	40	0.3	0.2	44.9	1.5	0.7	1.2	0.2	3.7	4	1.1	3.8	0.1	9	

Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	9	260	63	0	332	28	295	2	1	326	7	3	0	3	13	24	5	6	0	35	706
08:30 AM	5	230	62	2	299	42	338	2	0	382	6	4	2	1	13	11	1	10	1	23	717
08:45 AM	4	207	63	2	276	55	312	1	1	369	3	4	4	2	13	26	15	20	2	63	721
09:00 AM	13	252	56	0	321	42	278	5	0	325	8	4	5	1	18	28	13	23	0	64	728
Total Volume	31	949	244	4	1228	167	1223	10	2	1402	24	15	11	7	57	89	34	59	3	185	2872
% App. Total	2.5	77.3	19.9	0.3		11.9	87.2	0.7	0.1		42.1	26.3	19.3	12.3		48.1	18.4	31.9	1.6		
PHF	.596	.913	.968	.500	.925	.759	.905	.500	.500	.918	.750	.938	.550	.583	.792	.795	.567	.641	.375	.723	.986

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:15 AM					07:15 AM					08:30 AM					08:30 AM				
+0 mins.	9	260	63	0	332	22	388	0	2	412	6	4	2	1	13	11	1	10	1	23
+15 mins.	5	230	62	2	299	23	325	0	0	348	3	4	4	2	13	26	15	20	2	63
+30 mins.	4	207	63	2	276	29	351	0	0	380	8	4	5	1	18	28	13	23	0	64
+45 mins.	13	252	56	0	321	28	344	0	1	373	9	3	7	0	19	27	7	22	1	57
Total Volume	31	949	244	4	1228	102	1408	0	3	1513	26	15	18	4	63	92	36	75	4	207
% App. Total	2.5	77.3	19.9	0.3		6.7	93.1	0	0.2		41.3	23.8	28.6	6.3		44.4	17.4	36.2	1.9	
PHF	.596	.913	.968	.500	.925	.879	.907	.000	.375	.918	.722	.938	.643	.500	.829	.821	.600	.815	.500	.809

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	21	270	41	0	332	37	306	3	0	346	15	9	13	1	38	39	11	43	0	93	809
12:45 PM	13	257	33	0	303	49	285	1	3	338	20	10	18	3	51	18	11	37	0	66	758
01:00 PM	25	307	41	3	376	36	342	4	1	383	15	8	13	3	39	28	5	39	2	74	872
01:15 PM	16	291	28	0	335	47	266	2	1	316	30	10	10	2	52	36	7	46	2	91	794
Total Volume	75	1125	143	3	1346	169	1199	10	5	1383	80	37	54	9	180	121	34	165	4	324	3233
% App. Total	5.6	83.6	10.6	0.2		12.2	86.7	0.7	0.4		44.4	20.6	30	5		37.3	10.5	50.9	1.2		
PHF	.750	.916	.872	.250	.895	.862	.876	.625	.417	.903	.667	.925	.750	.750	.865	.776	.773	.897	.500	.871	.927

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	01:00 PM					12:15 PM					12:30 PM					11:45 AM				
+0 mins.	25	307	41	3	376	38	305	9	2	354	15	9	13	1	38	36	5	30	1	72
+15 mins.	16	291	28	0	335	37	306	3	0	346	20	10	18	3	51	55	8	39	4	106
+30 mins.	16	251	38	0	305	49	285	1	3	338	15	8	13	3	39	31	11	32	1	75
+45 mins.	23	304	20	1	348	36	342	4	1	383	30	10	10	2	52	39	11	43	0	93
Total Volume	80	1153	127	4	1364	160	1238	17	6	1421	80	37	54	9	180	161	35	144	6	346
% App. Total	5.9	84.5	9.3	0.3		11.3	87.1	1.2	0.4		44.4	20.6	30	5		46.5	10.1	41.6	1.7	
PHF	.800	.939	.774	.333	.907	.816	.905	.472	.500	.928	.667	.925	.750	.750	.865	.732	.795	.837	.375	.816

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	13	329	16	0	358	27	289	3	1	320	11	4	13	0	28	39	8	34	0	81	787
05:00 PM	12	330	22	1	365	19	302	2	1	324	13	8	11	0	32	59	5	50	0	114	835
05:15 PM	29	304	25	1	359	31	316	3	0	350	17	11	15	2	45	24	16	41	1	82	836
05:30 PM	18	326	27	7	378	31	300	1	1	333	13	2	17	2	34	46	13	22	0	81	826
Total Volume	72	1289	90	9	1460	108	1207	9	3	1327	54	25	56	4	139	168	42	147	1	358	3284
% App. Total	4.9	88.3	6.2	0.6		8.1	91	0.7	0.2		38.8	18	40.3	2.9		46.9	11.7	41.1	0.3		
PHF	.621	.977	.833	.321	.966	.871	.955	.750	.750	.948	.794	.568	.824	.500	.772	.712	.656	.735	.250	.785	.982

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM					05:15 PM					02:00 PM					04:45 PM				
+0 mins.	13	329	16	0	358	31	316	3	0	350	11	9	9	1	30	39	8	34	0	81
+15 mins.	12	330	22	1	365	31	300	1	1	333	16	6	13	2	37	59	5	50	0	114
+30 mins.	29	304	25	1	359	31	294	3	0	328	14	5	9	0	28	24	16	41	1	82
+45 mins.	18	326	27	7	378	34	294	2	1	331	29	5	20	3	57	46	13	22	0	81
Total Volume	72	1289	90	9	1460	127	1204	9	2	1342	70	25	51	6	152	168	42	147	1	358
% App. Total	4.9	88.3	6.2	0.6		9.5	89.7	0.7	0.1		46.1	16.4	33.6	3.9		46.9	11.7	41.1	0.3	
PHF	.621	.977	.833	.321	.966	.934	.953	.750	.500	.959	.603	.694	.638	.500	.667	.712	.656	.735	.250	.785

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Morse Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

Page No : 1

Groups Printed- Heavy Trucks

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	1	0	3	0	1	0	2	3	0	0	0	0	0	1	0	0	0	1	7
07:15 AM	0	3	0	0	3	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	7
07:30 AM	0	3	0	0	3	1	2	0	0	3	0	0	0	2	2	0	0	0	0	0	8
07:45 AM	0	2	1	0	3	1	2	0	0	3	0	0	0	2	2	2	0	0	0	2	10
Total	0	10	2	0	12	3	8	0	2	13	0	0	0	4	4	3	0	0	0	3	32
08:00 AM	0	2	1	0	3	1	3	0	0	4	0	0	0	0	0	2	0	0	0	2	9
08:15 AM	0	0	0	0	0	1	3	0	1	5	0	0	0	3	3	0	0	0	0	0	8
08:30 AM	0	1	0	2	3	1	3	0	0	4	0	0	0	1	1	0	0	0	0	0	8
08:45 AM	0	3	0	0	3	3	4	0	0	7	0	0	0	1	1	0	0	0	0	0	11
Total	0	6	1	2	9	6	13	0	1	20	0	0	0	5	5	2	0	0	0	2	36
09:00 AM	0	2	1	0	3	1	5	0	0	6	0	0	0	1	1	0	0	1	0	1	11
09:15 AM	0	4	0	1	5	2	3	0	0	5	0	0	0	0	0	1	0	0	1	2	12
*** BREAK ***																					
Total	0	6	1	1	8	3	8	0	0	11	0	0	0	1	1	1	0	1	1	3	23
*** BREAK ***																					
11:45 AM	0	7	0	0	7	1	4	0	1	6	0	0	0	1	1	1	0	0	0	1	15
Total	0	7	0	0	7	1	4	0	1	6	0	0	0	1	1	1	0	0	0	1	15
12:00 PM	0	2	0	0	2	0	1	0	2	3	0	0	0	0	0	0	0	2	3	5	10
12:15 PM	0	1	1	0	2	0	2	0	2	4	0	0	0	0	0	0	0	0	0	0	6
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	4	0	0	4	2	3	0	3	8	1	0	0	3	4	0	0	0	0	0	16
Total	0	7	1	0	8	2	7	0	7	16	1	0	0	3	4	0	1	2	3	6	34
01:00 PM	0	1	1	0	2	1	5	0	0	6	0	0	0	1	1	0	0	0	1	1	10
01:15 PM	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
01:30 PM	0	2	0	0	2	1	1	0	0	2	0	0	0	1	1	1	0	0	0	1	6
01:45 PM	0	1	0	0	1	2	3	0	0	5	0	0	0	6	6	0	0	0	0	0	12
Total	0	5	1	0	6	4	11	0	0	15	0	0	0	8	8	1	0	0	1	2	31
02:00 PM	0	3	0	0	3	0	5	0	6	11	0	0	0	0	0	1	0	0	4	5	19
02:15 PM	0	1	0	0	1	0	4	0	0	4	0	0	0	1	1	0	0	2	0	2	8
02:30 PM	0	1	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	3
02:45 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	2	2	0	0	1	0	1	6
Total	0	5	0	0	5	1	11	0	8	20	0	0	0	3	3	1	0	3	4	8	36
03:00 PM	0	0	0	0	0	0	3	0	2	5	0	0	0	1	1	0	0	0	0	0	6
*** BREAK ***																					
Total	0	0	0	0	0	0	3	0	2	5	0	0	0	1	1	0	0	0	0	0	6
*** BREAK ***																					
04:30 PM	0	1	1	0	2	1	1	0	3	5	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	1	0	2	2	1	0	3	6	0	0	0	0	0	0	0	0	0	0	8
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	2	0	0	2	0	1	0	0	1	0	0	0	1	1	0	0	0	1	1	5
05:30 PM	0	2	0	7	9	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	13
05:45 PM	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	0	6	0	7	13	1	5	0	1	7	0	0	0	1	1	0	0	0	1	1	22
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
06:15 PM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2	5
Grand Total	0	55	7	10	72	23	72	0	25	120	1	0	0	27	28	9	1	6	13	29	249
Apprch %	0	76.4	9.7	13.9		19.2	60	0	20.8		3.6	0	0	96.4		31	3.4	20.7	44.8		
Total %	0	22.1	2.8	4	28.9	9.2	28.9	0	10	48.2	0.4	0	0	10.8	11.2	3.6	0.4	2.4	5.2	11.6	

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Morse Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	1	0	2	3	1	3	0	0	4	0	0	0	1	1	0	0	0	0	0	8
08:45 AM	0	3	0	0	3	3	4	0	0	7	0	0	0	1	1	0	0	0	0	0	11
09:00 AM	0	2	1	0	3	1	5	0	0	6	0	0	0	1	1	0	0	1	0	1	11
09:15 AM	0	4	0	1	5	2	3	0	0	5	0	0	0	0	0	1	0	0	1	2	12
Total Volume	0	10	1	3	14	7	15	0	0	22	0	0	0	3	3	1	0	1	1	3	42
% App. Total	0	71.4	7.1	21.4		31.8	68.2	0	0		0	0	0	100		33.3	0	33.3	33.3		
PHF	.000	.625	.250	.375	.700	.583	.750	.000	.000	.786	.000	.000	.000	.750	.750	.250	.000	.250	.250	.375	.875

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:30 AM					08:15 AM					07:30 AM					07:15 AM				
+0 mins.	0	1	0	2	3	1	3	0	1	5	0	0	0	2	2	0	0	0	0	0
+15 mins.	0	3	0	0	3	1	3	0	0	4	0	0	0	2	2	0	0	0	0	0
+30 mins.	0	2	1	0	3	3	4	0	0	7	0	0	0	0	0	2	0	0	0	2
+45 mins.	0	4	0	1	5	1	5	0	0	6	0	0	0	3	3	2	0	0	0	2
Total Volume	0	10	1	3	14	6	15	0	1	22	0	0	0	7	7	4	0	0	0	4
% App. Total	0	71.4	7.1	21.4		27.3	68.2	0	4.5		0	0	0	100		100	0	0	0	
PHF	.000	.625	.250	.375	.700	.500	.750	.000	.250	.786	.000	.000	.000	.583	.583	.500	.000	.000	.000	.500

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:45 PM

12:45 PM	0	4	0	0	4	2	3	0	3	8	1	0	0	3	4	0	0	0	0	0	16
01:00 PM	0	1	1	0	2	1	5	0	0	6	0	0	0	1	1	0	0	0	1	1	10
01:15 PM	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
01:30 PM	0	2	0	0	2	1	1	0	0	2	0	0	0	1	1	1	0	0	0	1	6
Total Volume	0	8	1	0	9	4	11	0	3	18	1	0	0	5	6	1	0	0	1	2	35
% App. Total	0	88.9	11.1	0		22.2	61.1	0	16.7		16.7	0	0	83.3		50	0	0	50		
PHF	.000	.500	.250	.000	.563	.500	.550	.000	.250	.563	.250	.000	.000	.417	.375	.250	.000	.000	.250	.500	.547

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30 AM					12:15 PM					01:00 PM					11:45 AM				
+0 mins.	0	0	0	0	0	0	2	0	2	4	0	0	0	1	1	1	0	0	0	1
+15 mins.	0	7	0	0	7	0	1	0	0	1	0	0	0	0	0	0	0	2	3	5
+30 mins.	0	2	0	0	2	2	3	0	3	8	0	0	0	1	1	0	0	0	0	0
+45 mins.	0	1	1	0	2	1	5	0	0	6	0	0	0	6	6	0	1	0	0	1
Total Volume	0	10	1	0	11	3	11	0	5	19	0	0	0	8	8	1	1	2	3	7
% App. Total	0	90.9	9.1	0		15.8	57.9	0	26.3		0	0	0	100		14.3	14.3	28.6	42.9	
PHF	.000	.357	.250	.000	.393	.375	.550	.000	.417	.594	.000	.000	.000	.333	.333	.250	.250	.250	.250	.350

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	3	0	0	3	0	5	0	6	11	0	0	0	0	0	1	0	0	4	5	19
02:15 PM	0	1	0	0	1	0	4	0	0	4	0	0	0	1	1	0	0	2	0	2	8
02:30 PM	0	1	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	3
02:45 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	2	2	0	0	1	0	1	6
Total Volume	0	5	0	0	5	1	11	0	8	20	0	0	0	3	3	1	0	3	4	8	36
% App. Total	0	100	0	0		5	55	0	40		0	0	0	100		12.5	0	37.5	50		
PHF	.000	.417	.000	.000	.417	.250	.550	.000	.333	.455	.000	.000	.000	.375	.375	.250	.000	.375	.250	.400	.474

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM					02:00 PM					02:15 PM					02:00 PM				
+0 mins.	0	0	0	0	0	0	5	0	6	11	0	0	0	1	1	1	0	0	4	5
+15 mins.	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	2	0	7	9	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
+45 mins.	0	2	0	0	2	1	2	0	0	3	0	0	0	1	1	0	0	1	0	1
Total Volume	0	6	0	7	13	1	11	0	8	20	0	0	0	4	4	1	0	3	4	8
% App. Total	0	46.2	0	53.8		5	55	0	40		0	0	0	100		12.5	0	37.5	50	
PHF	.000	.750	.000	.250	.361	.250	.550	.000	.333	.455	.000	.000	.000	.500	.500	.250	.000	.375	.250	.400

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Morse Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

Page No : 1

Groups Printed- UTurns

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
*** BREAK ***																					
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
*** BREAK ***																					
01:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
*** BREAK ***																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
*** BREAK ***																					
Grand Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	6	0	0	0	6	8
Apprch %	0	0	0	0		100	0	0	0		0	0	0	0		100	0	0	0		
Total %	0	0	0	0	0	25	0	0	0	25	0	0	0	0	0	75	0	0	0	75	

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					07:15 AM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Morse Blvd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					MORSE BOULEVARD Eastbound					MORSE BOULEVARD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	3
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.750

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	10:00 AM					12:30 PM					10:00 AM					12:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

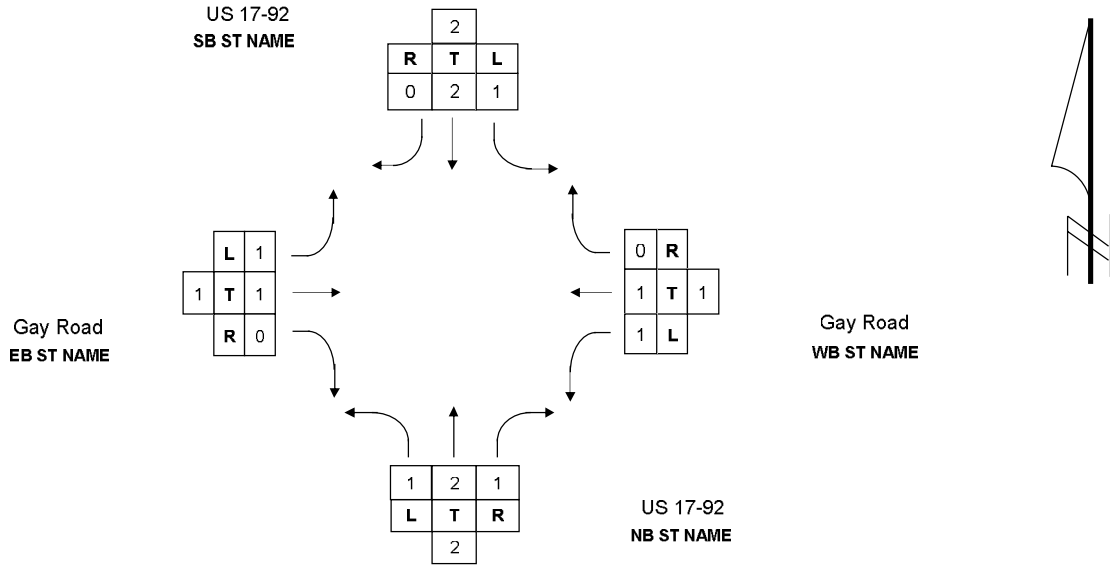
Peak Hour for Each Approach Begins at:

	02:00 PM					05:00 PM					02:00 PM					04:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250

SUMMARY OF VEHICLE MOVEMENTS

SECTION 75030000 CITY Winter Park COUNTY Orange
 STATE ROUTE US 17-92 INTERSECTING ROUTE Gay Road
 OBSERVER TEDS DATE 10/22/2019 MILEPOST 6.002
 WEATHER Sunny ROAD CONDITION Good
 REMARKS

FORM COMPLETED BY CML DATE 12/31/19



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	EW
7:00 - 8:00	29	740	64	0	833	73	1519	4	1	1597	2430	6	8	43	0	57	44	4	20	0	68	125
8:00 - 9:00	46	801	82	0	929	103	1497	12	4	1616	2545	21	20	47	0	88	38	2	26	0	66	154
9:00 - 9:30	27	435	54	0	516	58	703	8	2	771	1287	9	5	16	0	30	12	5	15	0	32	62
11:45 - 1:00	78	1419	167	1	1665	187	1527	26	18	1758	3423	44	54	130	0	228	125	25	103	0	253	481
1:00 - 2:00	87	1170	114	0	1371	143	1235	29	12	1419	2790	42	23	119	0	184	103	27	79	0	209	393
2:00 - 3:15	111	1491	128	0	1730	130	1258	22	6	1416	3146	32	31	132	0	195	148	31	111	0	290	485
4:30 - 5:30	68	1278	111	0	1457	116	1152	21	2	1291	2748	31	31	97	0	159	89	23	114	0	226	385
5:30 - 6:30	75	1222	118	1	1416	133	1164	15	8	1320	2736	37	30	104	0	171	101	18	87	0	206	377
TOTAL	521	8556	838	2	9917	943	10055	137	53	11188	21105	222	202	688	0	1112	660	135	555	0	1350	2462

PEDESTRIAN MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Gay Road
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Gay Road			Gay Road			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	0	0	0	0	0	0	0	1	1	2	0	2	3
8:00 - 9:00	1	2	3	1	1	2	3	0	3	2	3	5	13
9:00 - 9:30	0	1	1	0	0	0	0	0	0	0	1	1	2
11:45 - 1:00	1	0	1	0	0	0	2	2	4	1	2	3	8
1:00 - 2:00	0	0	0	1	1	2	3	1	4	1	4	5	11
2:00 - 3:15	1	1	2	2	0	2	0	1	1	6	2	8	13
4:30 - 5:30	3	4	7	2	0	2	1	0	1	2	3	5	15
5:30 - 6:30	0	2	2	1	0	1	1	0	1	1	2	3	7
TOTAL	6	10	16	7	2	9	10	5	15	15	17	32	72



BICYCLE MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Gay Road
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Gay Road			Gay Road			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	1	1	2	0	0	0	0	0	0	0	0	0	2
8:00 - 9:00	0	0	0	0	0	0	1	1	2	0	0	0	2
9:00 - 9:30	0	0	0	1	0	1	0	0	0	0	0	0	1
11:45 - 1:00	2	1	3	1	0	1	0	1	1	2	0	2	7
1:00 - 2:00	1	0	1	0	0	0	0	1	1	0	0	0	2
2:00 - 3:15	0	1	1	1	0	1	0	1	1	0	1	1	4
4:30 - 5:30	1	0	1	1	0	1	1	0	1	0	0	0	3
5:30 - 6:30	2	0	2	0	0	0	2	1	3	0	1	1	6
TOTAL	7	3	10	4	0	4	4	5	9	2	2	4	27



File Name : Not Named 1

Site Code : 00000000

Start Date : 10/22/2019

Page No : 1

Groups Printed- All Vehicles

	US 17-92 Northbound					US 17-92 Southbound					GAY ROAD Eastbound					GAY ROAD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	131	6	0	141	15	360	2	0	377	2	2	13	0	17	8	0	4	0	12	547
07:15 AM	5	187	10	0	202	14	413	1	0	428	0	3	9	0	12	12	4	1	1	18	660
07:30 AM	11	222	25	0	258	22	398	0	0	420	1	1	13	0	15	11	0	5	0	16	709
07:45 AM	9	200	23	0	232	23	348	1	0	372	3	2	8	2	15	13	0	10	0	23	642
Total	29	740	64	0	833	74	1519	4	0	1597	6	8	43	2	59	44	4	20	1	69	2558
08:00 AM	10	197	15	1	223	27	404	5	0	436	5	6	12	1	24	3	0	4	0	7	690
08:15 AM	15	232	18	1	266	30	362	2	1	395	5	5	11	1	22	7	1	6	0	14	697
08:30 AM	15	187	24	0	226	26	370	4	0	400	6	4	12	1	23	7	0	6	0	13	662
08:45 AM	6	185	25	0	216	24	361	1	2	388	5	5	12	2	24	21	1	10	3	35	663
Total	46	801	82	2	931	107	1497	12	3	1619	21	20	47	5	93	38	2	26	3	69	2712
09:00 AM	19	218	33	0	270	34	359	4	1	398	4	2	8	0	14	6	2	5	0	13	695
09:15 AM	8	217	21	0	246	26	344	4	0	374	5	3	8	1	17	6	3	10	0	19	656
*** BREAK ***																					
Total	27	435	54	0	516	60	703	8	1	772	9	5	16	1	31	12	5	15	0	32	1351
*** BREAK ***																					
11:45 AM	10	280	37	0	327	39	321	1	1	362	9	10	20	0	39	11	5	14	0	30	758
Total	10	280	37	0	327	39	321	1	1	362	9	10	20	0	39	11	5	14	0	30	758
12:00 PM	14	294	28	0	336	45	323	5	0	373	7	8	23	1	39	23	5	20	1	49	797
12:15 PM	19	289	36	0	344	41	282	7	0	330	8	14	30	1	53	30	2	17	1	50	777
12:30 PM	16	284	33	0	333	46	339	8	0	393	4	9	30	0	43	27	4	23	1	55	824
12:45 PM	20	272	33	0	325	34	262	5	0	301	16	13	27	1	57	34	9	29	1	73	756
Total	69	1139	130	0	1338	166	1206	25	0	1397	35	44	110	3	192	114	20	89	4	227	3154
01:00 PM	22	320	31	0	373	38	348	12	0	398	3	6	26	0	35	21	5	22	0	48	854
01:15 PM	26	322	28	1	377	43	286	7	0	336	13	9	38	1	61	33	9	23	2	67	841
01:30 PM	20	242	26	0	288	42	277	8	0	327	15	4	31	4	54	30	8	14	1	53	722
01:45 PM	19	286	29	1	335	32	324	2	0	358	11	4	24	0	39	19	5	20	1	45	777
Total	87	1170	114	2	1373	155	1235	29	0	1419	42	23	119	5	189	103	27	79	4	213	3194
02:00 PM	21	280	20	0	321	37	247	1	0	285	3	8	21	1	33	29	8	25	1	63	702
02:15 PM	22	305	33	0	360	24	258	4	1	287	11	2	27	1	41	32	6	27	0	65	753
02:30 PM	26	279	31	0	336	30	262	8	1	301	3	9	32	1	45	33	7	17	0	57	739
02:45 PM	19	313	28	2	362	28	250	5	0	283	8	7	23	4	42	25	6	23	0	54	741
Total	88	1177	112	2	1379	119	1017	18	2	1156	25	26	103	7	161	119	27	92	1	239	2935
03:00 PM	23	314	16	0	353	17	241	4	0	262	7	5	29	1	42	29	4	19	0	52	709
*** BREAK ***																					
Total	23	314	16	0	353	17	241	4	0	262	7	5	29	1	42	29	4	19	0	52	709
*** BREAK ***																					
04:30 PM	14	340	34	1	389	25	287	4	3	319	6	8	25	0	39	17	8	23	1	49	796
04:45 PM	17	336	29	0	382	31	268	6	2	307	10	7	23	2	42	19	7	28	0	54	785
Total	31	676	63	1	771	56	555	10	5	626	16	15	48	2	81	36	15	51	1	103	1581
05:00 PM	23	321	19	0	363	28	290	5	1	324	6	7	31	1	45	32	6	39	0	77	809
05:15 PM	14	281	29	1	325	34	307	6	1	348	9	9	18	2	38	21	2	24	0	47	758
05:30 PM	29	317	33	0	379	40	281	6	1	328	9	9	33	0	51	24	6	22	0	52	810
05:45 PM	12	305	26	0	343	31	301	2	0	334	7	4	22	0	33	22	4	24	1	51	761
Total	78	1224	107	1	1410	133	1179	19	3	1334	31	29	104	3	167	99	18	109	1	227	3138
06:00 PM	21	290	32	1	344	31	303	4	1	339	12	10	23	1	46	28	4	18	0	50	779
06:15 PM	14	310	27	0	351	39	279	3	0	321	9	7	26	2	44	27	4	23	0	54	770
Grand Total	523	8556	838	9	9926	996	10055	137	16	11204	222	202	688	32	1144	660	135	555	15	1365	23639
Apprch %	5.3	86.2	8.4	0.1		8.9	89.7	1.2	0.1		19.4	17.7	60.1	2.8		48.4	9.9	40.7	1.1		
Total %	2.2	36.2	3.5	0	42	4.2	42.5	0.6	0.1	47.4	0.9	0.9	2.9	0.1	4.8	2.8	0.6	2.3	0.1	5.8	

Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					GAY ROAD Eastbound					GAY ROAD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	11	222	25	0	258	22	398	0	0	420	1	1	13	0	15	11	0	5	0	16	709
07:45 AM	9	200	23	0	232	23	348	1	0	372	3	2	8	2	15	13	0	10	0	23	642
08:00 AM	10	197	15	1	223	27	404	5	0	436	5	6	12	1	24	3	0	4	0	7	690
08:15 AM	15	232	18	1	266	30	362	2	1	395	5	5	11	1	22	7	1	6	0	14	697
Total Volume	45	851	81	2	979	102	1512	8	1	1623	14	14	44	4	76	34	1	25	0	60	2738
% App. Total	4.6	86.9	8.3	0.2		6.3	93.2	0.5	0.1		18.4	18.4	57.9	5.3		56.7	1.7	41.7	0		
PHF	.750	.917	.810	.500	.920	.850	.936	.400	.250	.931	.700	.583	.846	.500	.792	.654	.250	.625	.000	.652	.965

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM					07:15 AM					08:00 AM					08:30 AM				
+0 mins.	11	222	25	0	258	14	413	1	0	428	5	6	12	1	24	7	0	6	0	13
+15 mins.	9	200	23	0	232	22	398	0	0	420	5	5	11	1	22	21	1	10	3	35
+30 mins.	10	197	15	1	223	23	348	1	0	372	6	4	12	1	23	6	2	5	0	13
+45 mins.	15	232	18	1	266	27	404	5	0	436	5	5	12	2	24	6	3	10	0	19
Total Volume	45	851	81	2	979	86	1563	7	0	1656	21	20	47	5	93	40	6	31	3	80
% App. Total	4.6	86.9	8.3	0.2		5.2	94.4	0.4	0		22.6	21.5	50.5	5.4		50	7.5	38.8	3.8	
PHF	.750	.917	.810	.500	.920	.796	.946	.350	.000	.950	.875	.833	.979	.625	.969	.476	.500	.775	.250	.571

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	16	284	33	0	333	46	339	8	0	393	4	9	30	0	43	27	4	23	1	55	824
12:45 PM	20	272	33	0	325	34	262	5	0	301	16	13	27	1	57	34	9	29	1	73	756
01:00 PM	22	320	31	0	373	38	348	12	0	398	3	6	26	0	35	21	5	22	0	48	854
01:15 PM	26	322	28	1	377	43	286	7	0	336	13	9	38	1	61	33	9	23	2	67	841
Total Volume	84	1198	125	1	1408	161	1235	32	0	1428	36	37	121	2	196	115	27	97	4	243	3275
% App. Total	6	85.1	8.9	0.1		11.3	86.5	2.2	0		18.4	18.9	61.7	1		47.3	11.1	39.9	1.6		
PHF	.808	.930	.947	.250	.934	.875	.887	.667	.000	.897	.563	.712	.796	.500	.803	.846	.750	.836	.500	.832	.959

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM					11:45 AM					12:45 PM					12:30 PM				
+0 mins.	16	284	33	0	333	39	321	1	1	362	16	13	27	1	57	27	4	23	1	55
+15 mins.	20	272	33	0	325	45	323	5	0	373	3	6	26	0	35	34	9	29	1	73
+30 mins.	22	320	31	0	373	41	282	7	0	330	13	9	38	1	61	21	5	22	0	48
+45 mins.	26	322	28	1	377	46	339	8	0	393	15	4	31	4	54	33	9	23	2	67
Total Volume	84	1198	125	1	1408	171	1265	21	1	1458	47	32	122	6	207	115	27	97	4	243
% App. Total	6	85.1	8.9	0.1		11.7	86.8	1.4	0.1		22.7	15.5	58.9	2.9		47.3	11.1	39.9	1.6	
PHF	.808	.930	.947	.250	.934	.929	.933	.656	.250	.927	.734	.615	.803	.375	.848	.846	.750	.836	.500	.832

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	17	336	29	0	382	31	268	6	2	307	10	7	23	2	42	19	7	28	0	54	785
05:00 PM	23	321	19	0	363	28	290	5	1	324	6	7	31	1	45	32	6	39	0	77	809
05:15 PM	14	281	29	1	325	34	307	6	1	348	9	9	18	2	38	21	2	24	0	47	758
05:30 PM	29	317	33	0	379	40	281	6	1	328	9	9	33	0	51	24	6	22	0	52	810
Total Volume	83	1255	110	1	1449	133	1146	23	5	1307	34	32	105	5	176	96	21	113	0	230	3162
% App. Total	5.7	86.6	7.6	0.1		10.2	87.7	1.8	0.4		19.3	18.2	59.7	2.8		41.7	9.1	49.1	0		
PHF	.716	.934	.833	.250	.948	.831	.933	.958	.625	.939	.850	.889	.795	.625	.863	.750	.750	.724	.000	.747	.976

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM					05:15 PM					04:45 PM					02:00 PM				
+0 mins.	14	340	34	1	389	34	307	6	1	348	10	7	23	2	42	29	8	25	1	63
+15 mins.	17	336	29	0	382	40	281	6	1	328	6	7	31	1	45	32	6	27	0	65
+30 mins.	23	321	19	0	363	31	301	2	0	334	9	9	18	2	38	33	7	17	0	57
+45 mins.	14	281	29	1	325	31	303	4	1	339	9	9	33	0	51	25	6	23	0	54
Total Volume	68	1278	111	2	1459	136	1192	18	3	1349	34	32	105	5	176	119	27	92	1	239
% App. Total	4.7	87.6	7.6	0.1		10.1	88.4	1.3	0.2		19.3	18.2	59.7	2.8		49.8	11.3	38.5	0.4	
PHF	.739	.940	.816	.500	.938	.850	.971	.750	.750	.969	.850	.889	.795	.625	.863	.902	.844	.852	.250	.919

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Gay Rd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

Page No : 1

Groups Printed- Heavy Trucks

	US 17-92 Northbound					US 17-92 Southbound					GAY ROAD Eastbound					GAY ROAD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	5
07:30 AM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	5
07:45 AM	0	2	0	0	2	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	4
Total	0	6	0	0	6	1	7	0	0	8	0	0	0	0	0	1	0	0	0	1	15
08:00 AM	0	1	0	0	1	0	3	0	0	3	2	0	0	1	3	0	0	0	0	0	7
08:15 AM	0	1	0	1	2	1	3	0	1	5	0	0	0	1	1	0	0	0	0	0	8
08:30 AM	0	1	0	0	1	0	2	0	0	2	1	0	0	1	2	0	0	0	0	0	5
08:45 AM	0	1	1	0	2	2	5	0	0	7	0	1	1	0	2	0	0	0	3	3	14
Total	0	4	1	1	6	3	13	0	1	17	3	1	1	3	8	0	0	0	3	3	34
09:00 AM	0	2	0	0	2	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	8
09:15 AM	0	4	0	0	4	0	4	0	0	4	0	0	0	1	1	1	0	0	0	1	10
*** BREAK ***																					
Total	0	6	0	0	6	0	10	0	0	10	0	0	0	1	1	1	0	0	0	1	18
*** BREAK ***																					
11:45 AM	0	4	1	0	5	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	10
Total	0	4	1	0	5	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	10
12:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	2	0	0	2	1	3	0	0	4	0	0	0	1	1	1	0	0	0	1	8
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	1	4	6
12:45 PM	0	2	1	0	3	1	4	0	0	5	0	0	0	1	1	1	0	0	1	2	11
Total	0	5	1	0	6	2	10	0	0	12	0	0	0	2	2	2	0	3	2	7	27
01:00 PM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	6
01:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	2	2	5
01:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	4	4	0	0	0	1	1	7
01:45 PM	0	1	0	1	2	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	7
Total	0	6	0	1	7	1	9	0	0	10	0	0	1	4	5	0	0	0	3	3	25
02:00 PM	0	2	0	0	2	0	5	0	0	5	0	0	0	1	1	1	0	1	0	2	10
02:15 PM	0	2	1	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	6
02:30 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	1	1	0	0	0	0	0	3
Total	0	5	1	0	6	0	10	0	1	11	0	0	0	2	2	1	0	1	0	2	21
03:00 PM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	5
*** BREAK ***																					
Total	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	5
*** BREAK ***																					
04:30 PM	0	0	0	0	0	0	3	0	1	4	1	0	0	0	1	0	0	0	1	1	6
04:45 PM	0	0	0	0	0	0	1	0	1	2	0	0	0	1	1	0	0	0	0	0	3
Total	0	0	0	0	0	0	4	0	2	6	1	0	0	1	2	0	0	0	1	1	9
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
05:15 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	3
05:30 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	3
Total	0	2	1	0	3	0	4	0	1	5	0	0	0	2	2	0	0	0	1	1	11
*** BREAK ***																					
06:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	3
Grand Total	0	39	6	2	47	8	74	0	6	88	4	1	2	17	24	5	0	4	10	19	178
Apprch %	0	83	12.8	4.3		9.1	84.1	0	6.8		16.7	4.2	8.3	70.8		26.3	0	21.1	52.6		
Total %	0	21.9	3.4	1.1	26.4	4.5	41.6	0	3.4	49.4	2.2	0.6	1.1	9.6	13.5	2.8	0	2.2	5.6	10.7	

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Gay Rd TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

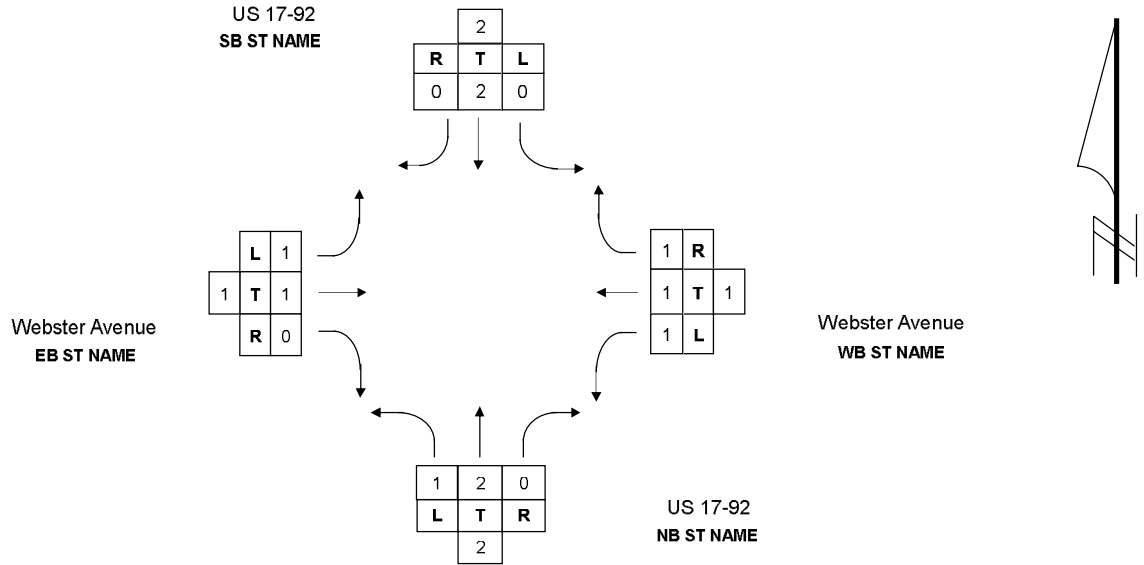
Page No : 1

Groups Printed- UTurns

	US 17-92 Northbound					US 17-92 Southbound					GAY ROAD Eastbound					GAY ROAD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
*** BREAK ***																					
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
09:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
09:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
11:45 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
12:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	1	0	0	0	1	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
12:45 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	1	0	0	0	1	13	0	0	0	13	0	0	0	0	0	0	0	0	0	0	14
01:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
01:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:30 PM	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
01:45 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12
02:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
02:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
03:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
05:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Total	1	0	0	0	1	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	6
06:00 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
06:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Grand Total	2	0	0	0	2	53	0	0	0	53	0	0	0	0	0	0	0	0	0	0	55
Apprch %	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
Total %	3.6	0	0	0	3.6	96.4	0	0	0	96.4	0	0	0	0	0	0	0	0	0	0	

SUMMARY OF VEHICLE MOVEMENTS

SECTION	75030000	CITY	Winter Park	COUNTY	Orange
STATE ROUTE	US 17-92	INTERSECTING ROUTE	Webster Avenue		
OBSERVER	TEDS	DATE	10/22/2019	MILEPOST	6.147
WEATHER	Sunny	ROAD CONDITION	Good		
REMARKS					
FORM COMPLETED BY CML DATE 12/31/19					



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	EW
7:00 - 8:00	46	677	50	2	775	0	1549	12	0	1561	2336	25	42	29	0	96	40	36	68	0	144	240
8:00 - 9:00	53	730	82	1	866	1	1529	26	0	1556	2422	23	66	33	0	122	42	41	82	0	165	287
9:00 - 9:30	40	392	35	0	467	3	728	26	0	757	1224	20	32	19	0	71	27	30	58	0	115	186
11:45 - 1:00	183	1331	107	7	1628	1	1481	116	0	1598	3226	221	144	136	0	501	99	169	155	0	423	924
1:00 - 2:00	140	1081	86	4	1311	1	1174	76	0	1251	2562	197	97	111	0	405	71	116	160	0	347	752
2:00 - 3:15	143	1416	99	4	1662	2	1199	100	0	1301	2963	181	139	123	0	443	81	126	170	0	377	820
4:30 - 5:30	123	1247	62	0	1432	0	1141	54	0	1195	2627	151	103	75	0	329	63	90	113	0	266	595
5:30 - 6:30	136	1188	66	2	1392	0	1130	70	0	1200	2592	144	76	113	0	333	56	89	104	0	249	582
TOTAL	864	8062	587	20	9533	8	9931	480	0	10419	19952	962	699	639	0	2300	479	697	910	0	2086	4386

PEDESTRIAN MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Webster Avenue
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Webster Avenue			Webster Avenue			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	3	1	4	1	1	2	4	1	5	0	1	1	12
8:00 - 9:00	0	2	2	1	2	3	2	1	3	2	1	3	11
9:00 - 9:30	0	0	0	1	0	1	0	1	1	1	0	1	3
11:45 - 1:00	1	1	2	2	0	2	0	0	0	2	1	3	7
1:00 - 2:00	1	1	2	4	1	5	0	7	7	1	1	2	16
2:00 - 3:15	1	0	1	1	2	3	2	2	4	3	5	8	16
4:30 - 5:30	3	0	3	1	0	1	1	1	2	1	3	4	10
5:30 - 6:30	0	2	2	1	0	1	2	0	2	1	0	1	6
TOTAL	9	7	16	12	6	18	11	13	24	11	12	23	81



BICYCLE MOVEMENT SUMMARY

SECTION 75030000
 STATE ROUTE US 17-92
 OBSERVER TEDS

CITY Winter Park
 INTERSECTING ROUTE Webster Avenue
 DATE 10/22/2019

COUNTY Orange

REMARKS _____

FORM COMPLETED BY CML

DATE 12/31/19

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	US 17-92			US 17-92			Webster Avenue			Webster Avenue			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	1	1	2	0	0	0	1	0	1	2	1	3	6
9:00 - 9:30	0	1	1	1	0	1	0	1	1	0	0	0	3
11:45 - 1:00	0	2	2	0	0	0	0	1	1	1	1	2	5
1:00 - 2:00	0	1	1	1	0	1	0	0	0	1	0	1	3
2:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 5:30	0	4	4	0	0	0	1	1	2	0	1	1	7
5:30 - 6:30	1	1	2	0	0	0	0	1	1	2	1	3	6
TOTAL	2	10	12	2	0	2	2	4	6	6	4	10	30



Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
Site Code : 00000000
Start Date : 10/22/2019
Page No : 1

Groups Printed- All Vehicles

	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	15	115	9	0	139	0	355	1	2	358	8	5	6	0	19	13	3	17	0	33	549
07:15 AM	11	172	9	1	193	0	417	5	1	423	5	9	6	1	21	7	8	12	4	31	668
07:30 AM	9	188	18	1	216	0	406	2	1	409	9	15	10	0	34	11	12	19	0	42	701
07:45 AM	13	202	14	0	229	0	371	4	0	375	3	13	7	0	23	9	13	20	1	43	670
Total	48	677	50	2	777	0	1549	12	4	1565	25	42	29	1	97	40	36	68	5	149	2588
08:00 AM	16	172	23	1	212	1	426	5	0	432	4	12	8	0	24	11	12	15	0	38	706
08:15 AM	13	206	25	2	246	0	365	6	1	372	4	21	6	0	31	9	7	30	1	47	696
08:30 AM	9	169	15	0	193	0	374	8	0	382	9	15	5	0	29	12	8	15	2	37	641
08:45 AM	16	183	19	0	218	0	364	7	1	372	6	18	14	3	41	10	14	22	0	46	677
Total	54	730	82	3	869	1	1529	26	2	1558	23	66	33	3	125	42	41	82	3	168	2720
09:00 AM	21	194	16	0	231	3	384	12	0	399	7	11	8	1	27	6	12	27	0	45	702
09:15 AM	19	198	19	1	237	0	344	14	0	358	13	21	11	0	45	21	18	31	1	71	711
*** BREAK ***																					
Total	40	392	35	1	468	3	728	26	0	757	20	32	19	1	72	27	30	58	1	116	1413
*** BREAK ***																					
11:45 AM	36	247	23	0	306	0	308	22	0	330	24	29	20	0	73	17	31	26	0	74	783
Total	36	247	23	0	306	0	308	22	0	330	24	29	20	0	73	17	31	26	0	74	783
12:00 PM	46	271	21	1	339	0	310	25	1	336	44	15	33	1	93	25	39	42	0	106	874
12:15 PM	37	260	23	0	320	0	255	25	0	280	49	28	33	0	110	20	44	29	0	93	803
12:30 PM	37	262	20	0	319	0	352	23	1	376	43	33	21	2	99	14	28	25	0	67	861
12:45 PM	34	291	20	1	346	1	256	21	0	278	61	39	29	0	129	23	27	33	0	83	836
Total	154	1084	84	2	1324	1	1173	94	2	1270	197	115	116	3	431	82	138	129	0	349	3374
01:00 PM	43	272	19	0	334	0	316	22	1	339	46	26	22	1	95	24	18	33	2	77	845
01:15 PM	28	292	32	1	353	0	293	14	0	307	57	27	28	0	112	12	30	45	1	88	860
01:30 PM	37	233	16	3	289	1	260	19	1	281	60	30	36	1	127	16	41	40	1	98	795
01:45 PM	36	284	19	1	340	0	305	21	0	326	34	14	25	0	73	19	27	42	3	91	830
Total	144	1081	86	5	1316	1	1174	76	2	1253	197	97	111	2	407	71	116	160	7	354	3330
02:00 PM	30	260	25	0	315	0	235	24	1	260	41	35	24	2	102	15	30	32	1	78	755
02:15 PM	28	286	18	0	332	0	251	22	0	273	32	29	22	0	83	13	24	41	0	78	766
02:30 PM	28	279	20	2	329	1	243	18	0	262	37	22	25	4	88	27	19	28	1	75	754
02:45 PM	33	297	18	0	348	1	258	18	0	277	27	28	23	2	80	9	25	32	1	67	772
Total	119	1122	81	2	1324	2	987	82	1	1072	137	114	94	8	353	64	98	133	3	298	3047
03:00 PM	28	294	18	1	341	0	212	18	0	230	44	25	29	0	98	17	28	37	1	83	752
*** BREAK ***																					
Total	28	294	18	1	341	0	212	18	0	230	44	25	29	0	98	17	28	37	1	83	752
*** BREAK ***																					
04:30 PM	24	332	18	0	374	0	273	13	0	286	36	18	24	0	78	20	12	29	1	62	800
04:45 PM	32	334	14	0	380	0	268	9	3	280	42	29	17	1	89	15	21	25	1	62	811
Total	56	666	32	0	754	0	541	22	3	566	78	47	41	1	167	35	33	54	2	124	1611
05:00 PM	46	308	17	0	371	0	290	19	0	309	36	23	14	2	75	13	34	21	0	68	823
05:15 PM	21	273	13	1	308	0	310	13	0	323	37	33	20	1	91	15	23	38	0	76	798
05:30 PM	28	306	17	0	351	0	281	20	1	302	41	26	23	0	90	15	30	26	1	72	815
05:45 PM	46	312	17	0	375	0	310	20	0	330	35	20	26	0	81	13	16	29	0	58	844
Total	141	1199	64	1	1405	0	1191	72	1	1264	149	102	83	3	337	56	103	114	1	274	3280
06:00 PM	28	268	17	1	314	0	280	13	1	294	39	15	27	1	82	19	20	28	1	68	758
06:15 PM	36	302	15	0	353	0	259	17	0	276	29	15	37	0	81	9	23	21	0	53	763
Grand Total	884	8062	587	18	9551	8	9931	480	16	10435	962	699	639	23	2323	479	697	910	24	2110	24419
Apprch %	9.3	84.4	6.1	0.2		0.1	95.2	4.6	0.2		41.4	30.1	27.5	1		22.7	33	43.1	1.1		
Total %	3.6	33	2.4	0.1	39.1	0	40.7	2	0.1	42.7	3.9	2.9	2.6	0.1	9.5	2	2.9	3.7	0.1	8.6	

Traffic Engineering Data Solutions Inc.

File Name : Not Named 1
 Site Code : 00000000
 Start Date : 10/22/2019
 Page No : 2

	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	9	188	18	1	216	0	406	2	1	409	9	15	10	0	34	11	12	19	0	42	701
07:45 AM	13	202	14	0	229	0	371	4	0	375	3	13	7	0	23	9	13	20	1	43	670
08:00 AM	16	172	23	1	212	1	426	5	0	432	4	12	8	0	24	11	12	15	0	38	706
08:15 AM	13	206	25	2	246	0	365	6	1	372	4	21	6	0	31	9	7	30	1	47	696
Total Volume	51	768	80	4	903	1	1568	17	2	1588	20	61	31	0	112	40	44	84	2	170	2773
% App. Total	5.6	85	8.9	0.4		0.1	98.7	1.1	0.1		17.9	54.5	27.7	0		23.5	25.9	49.4	1.2		
PHF	.797	.932	.800	.500	.918	.250	.920	.708	.500	.919	.556	.726	.775	.000	.824	.909	.846	.700	.500	.904	.982

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM					07:15 AM					08:30 AM					08:30 AM				
+0 mins.	9	188	18	1	216	0	417	5	1	423	9	15	5	0	29	12	8	15	2	37
+15 mins.	13	202	14	0	229	0	406	2	1	409	6	18	14	3	41	10	14	22	0	46
+30 mins.	16	172	23	1	212	0	371	4	0	375	7	11	8	1	27	6	12	27	0	45
+45 mins.	13	206	25	2	246	1	426	5	0	432	13	21	11	0	45	21	18	31	1	71
Total Volume	51	768	80	4	903	1	1620	16	2	1639	35	65	38	4	142	49	52	95	3	199
% App. Total	5.6	85	8.9	0.4		0.1	98.8	1	0.1		24.6	45.8	26.8	2.8		24.6	26.1	47.7	1.5	
PHF	.797	.932	.800	.500	.918	.250	.951	.800	.500	.948	.673	.774	.679	.333	.789	.583	.722	.766	.375	.701

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM

12:30 PM	37	262	20	0	319	0	352	23	1	376	43	33	21	2	99	14	28	25	0	67	861
12:45 PM	34	291	20	1	346	1	256	21	0	278	61	39	29	0	129	23	27	33	0	83	836
01:00 PM	43	272	19	0	334	0	316	22	1	339	46	26	22	1	95	24	18	33	2	77	845
01:15 PM	28	292	32	1	353	0	293	14	0	307	57	27	28	0	112	12	30	45	1	88	860
Total Volume	142	1117	91	2	1352	1	1217	80	2	1300	207	125	100	3	435	73	103	136	3	315	3402
% App. Total	10.5	82.6	6.7	0.1		0.1	93.6	6.2	0.2		47.6	28.7	23	0.7		23.2	32.7	43.2	1		
PHF	.826	.956	.711	.500	.958	.250	.864	.870	.500	.864	.848	.801	.862	.375	.843	.760	.858	.756	.375	.895	.988

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM					11:45 AM					12:45 PM					01:00 PM				
+0 mins.	37	262	20	0	319	0	308	22	0	330	61	39	29	0	129	24	18	33	2	77
+15 mins.	34	291	20	1	346	0	310	25	1	336	46	26	22	1	95	12	30	45	1	88
+30 mins.	43	272	19	0	334	0	255	25	0	280	57	27	28	0	112	16	41	40	1	98
+45 mins.	28	292	32	1	353	0	352	23	1	376	60	30	36	1	127	19	27	42	3	91
Total Volume	142	1117	91	2	1352	0	1225	95	2	1322	224	122	115	2	463	71	116	160	7	354
% App. Total	10.5	82.6	6.7	0.1		0	92.7	7.2	0.2		48.4	26.3	24.8	0.4		20.1	32.8	45.2	2	
PHF	.826	.956	.711	.500	.958	.000	.870	.950	.500	.879	.918	.782	.799	.500	.897	.740	.707	.889	.583	.903

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	46	308	17	0	371	0	290	19	0	309	36	23	14	2	75	13	34	21	0	68	823
05:15 PM	21	273	13	1	308	0	310	13	0	323	37	33	20	1	91	15	23	38	0	76	798
05:30 PM	28	306	17	0	351	0	281	20	1	302	41	26	23	0	90	15	30	26	1	72	815
05:45 PM	46	312	17	0	375	0	310	20	0	330	35	20	26	0	81	13	16	29	0	58	844
Total Volume	141	1199	64	1	1405	0	1191	72	1	1264	149	102	83	3	337	56	103	114	1	274	3280
% App. Total	10	85.3	4.6	0.1		0	94.2	5.7	0.1		44.2	30.3	24.6	0.9		20.4	37.6	41.6	0.4		
PHF	.766	.961	.941	.250	.937	.000	.960	.900	.250	.958	.909	.773	.798	.375	.926	.933	.757	.750	.250	.901	.972

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM					05:00 PM					02:00 PM					02:15 PM				
+0 mins.	24	332	18	0	374	0	290	19	0	309	41	35	24	2	102	13	24	41	0	78
+15 mins.	32	334	14	0	380	0	310	13	0	323	32	29	22	0	83	27	19	28	1	75
+30 mins.	46	308	17	0	371	0	281	20	1	302	37	22	25	4	88	9	25	32	1	67
+45 mins.	21	273	13	1	308	0	310	20	0	330	27	28	23	2	80	17	28	37	1	83
Total Volume	123	1247	62	1	1433	0	1191	72	1	1264	137	114	94	8	353	66	96	138	3	303
% App. Total	8.6	87	4.3	0.1		0	94.2	5.7	0.1		38.8	32.3	26.6	2.3		21.8	31.7	45.5	1	
PHF	.668	.933	.861	.250	.943	.000	.960	.900	.250	.958	.835	.814	.940	.500	.865	.611	.857	.841	.750	.913

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Webster Ave TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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Groups Printed- Heavy Trucks

	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	1	0	2	0	2	0	2	4	0	0	0	0	0	0	0	1	0	1	7
07:15 AM	1	1	0	1	3	0	4	1	1	6	0	0	0	1	1	0	0	5	4	9	19
07:30 AM	1	1	2	0	4	0	3	0	0	3	1	0	0	0	1	0	0	0	0	0	8
07:45 AM	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	0	1	3	0	4	9
Total	3	3	4	1	11	0	12	1	3	16	1	0	0	1	2	0	1	9	4	14	43
08:00 AM	0	1	1	0	2	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	6
08:15 AM	1	0	0	2	3	0	6	0	0	6	0	0	0	0	0	1	0	5	1	7	16
08:30 AM	0	3	1	0	4	0	3	1	0	4	1	0	0	0	1	0	0	0	1	1	10
08:45 AM	0	2	1	0	3	0	7	0	0	7	0	0	1	1	2	0	0	2	0	2	14
Total	1	6	3	2	12	0	19	1	0	20	1	0	1	1	3	1	0	8	2	11	46
09:00 AM	0	4	0	0	4	1	5	0	0	6	0	0	0	0	0	0	0	2	0	2	12
09:15 AM	0	5	1	0	6	0	4	0	0	4	0	0	0	0	0	0	0	3	0	3	13
*** BREAK ***																					
Total	0	9	1	0	10	1	9	0	0	10	0	0	0	0	0	0	0	5	0	5	25
*** BREAK ***																					
11:45 AM	1	4	0	0	5	0	6	0	0	6	0	0	0	0	0	0	0	2	0	2	13
Total	1	4	0	0	5	0	6	0	0	6	0	0	0	0	0	0	0	2	0	2	13
12:00 PM	0	3	0	0	3	0	1	0	1	2	0	0	0	1	1	0	0	1	0	1	7
12:15 PM	0	1	0	0	1	0	3	0	0	3	1	0	0	0	1	0	0	4	0	4	9
12:30 PM	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	6
12:45 PM	0	2	2	0	4	0	5	0	0	5	0	0	0	0	0	0	0	3	0	3	12
Total	0	9	2	0	11	0	11	0	1	12	1	0	0	1	2	0	0	9	0	9	34
01:00 PM	0	1	1	0	2	0	4	0	0	4	0	0	0	0	0	1	1	0	0	2	8
01:15 PM	0	2	0	0	2	0	1	0	0	1	1	0	0	0	1	0	0	5	0	5	9
01:30 PM	0	2	0	0	2	0	0	0	1	1	1	0	0	1	2	0	0	1	0	1	6
01:45 PM	0	3	0	1	4	0	4	0	0	4	0	0	1	0	1	0	0	2	0	2	11
Total	0	8	1	1	10	0	9	0	1	10	2	0	1	1	4	1	1	8	0	10	34
02:00 PM	0	3	1	0	4	0	3	0	1	4	0	0	1	1	2	1	0	2	0	3	13
02:15 PM	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	1	0	3	0	4	9
02:30 PM	0	3	0	1	4	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	8
02:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	3	1	5	7
Total	0	9	1	1	11	0	7	0	1	8	0	0	1	5	6	3	0	8	1	12	37
03:00 PM	0	1	0	1	2	0	3	0	0	3	0	0	0	0	0	0	0	1	1	2	7
*** BREAK ***																					
Total	0	1	0	1	2	0	3	0	0	3	0	0	0	0	0	0	0	1	1	2	7
*** BREAK ***																					
04:30 PM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	7
04:45 PM	0	0	0	0	0	0	1	0	3	4	0	0	0	1	1	0	0	2	1	3	8
Total	0	2	0	0	2	0	5	0	3	8	0	0	0	1	1	0	0	3	1	4	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	3	0	3	5
05:30 PM	0	4	0	0	4	0	4	0	0	4	0	0	0	0	0	0	0	1	1	2	10
05:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
Total	0	5	0	0	5	0	6	0	0	6	0	0	0	2	2	0	0	6	1	7	20
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
06:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	5
Grand Total	5	58	12	6	81	1	87	2	9	99	5	0	3	12	20	5	2	64	11	82	282
Apprch %	6.2	71.6	14.8	7.4		1	87.9	2	9.1		25	0	15	60		6.1	2.4	78	13.4		
Total %	1.8	20.6	4.3	2.1	28.7	0.4	30.9	0.7	3.2	35.1	1.8	0	1.1	4.3	7.1	1.8	0.7	22.7	3.9	29.1	

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Webster Ave TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	1	0	0	2	3	0	6	0	0	6	0	0	0	0	0	1	0	5	1	7	16
08:30 AM	0	3	1	0	4	0	3	1	0	4	1	0	0	0	1	0	0	0	1	1	10
08:45 AM	0	2	1	0	3	0	7	0	0	7	0	0	1	1	2	0	0	2	0	2	14
09:00 AM	0	4	0	0	4	1	5	0	0	6	0	0	0	0	0	0	0	2	0	2	12
Total Volume	1	9	2	2	14	1	21	1	0	23	1	0	1	1	3	1	0	9	2	12	52
% App. Total	7.1	64.3	14.3	14.3		4.3	91.3	4.3	0		33.3	0	33.3	33.3		8.3	0	75	16.7		
PHF	.250	.563	.500	.250	.875	.250	.750	.250	.000	.821	.250	.000	.250	.250	.375	.250	.000	.450	.500	.429	.813

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:30 AM					08:15 AM					08:00 AM					07:00 AM				
+0 mins.	0	3	1	0	4	0	6	0	0	6	0	0	0	0	0	0	0	1	0	1
+15 mins.	0	2	1	0	3	0	3	1	0	4	0	0	0	0	0	0	0	5	4	9
+30 mins.	0	4	0	0	4	0	7	0	0	7	1	0	0	0	1	0	0	0	0	0
+45 mins.	0	5	1	0	6	1	5	0	0	6	0	0	1	1	2	0	1	3	0	4
Total Volume	0	14	3	0	17	1	21	1	0	23	1	0	1	1	3	0	1	9	4	14
% App. Total	0	82.4	17.6	0		4.3	91.3	4.3	0		33.3	0	33.3	33.3		0	7.1	64.3	28.6	
PHF	.000	.700	.750	.000	.708	.250	.750	.250	.000	.821	.250	.000	.250	.250	.375	.000	.250	.450	.250	.389

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	1	4	0	0	5	0	6	0	0	6	0	0	0	0	0	0	0	2	0	2	13
12:00 PM	0	3	0	0	3	0	1	0	1	2	0	0	0	1	1	0	0	1	0	1	7
12:15 PM	0	1	0	0	1	0	3	0	0	3	1	0	0	0	1	0	0	4	0	4	9
12:30 PM	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	6
Total Volume	1	11	0	0	12	0	12	0	1	13	1	0	0	1	2	0	0	8	0	8	35
% App. Total	8.3	91.7	0	0		0	92.3	0	7.7		50	0	0	50		0	0	100	0		
PHF	.250	.688	.000	.000	.600	.000	.500	.000	.250	.542	.250	.000	.000	.250	.500	.000	.000	.500	.000	.500	.673

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45 AM					12:15 PM					01:00 PM					12:30 PM				
+0 mins.	1	4	0	0	5	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1
+15 mins.	0	3	0	0	3	0	2	0	0	2	1	0	0	0	1	0	0	3	0	3
+30 mins.	0	1	0	0	1	0	5	0	0	5	1	0	0	1	2	1	1	0	0	2
+45 mins.	0	3	0	0	3	0	4	0	0	4	0	0	1	0	1	0	0	5	0	5
Total Volume	1	11	0	0	12	0	14	0	0	14	2	0	1	1	4	1	1	9	0	11
% App. Total	8.3	91.7	0	0		0	100	0	0		50	0	25	25		9.1	9.1	81.8	0	
PHF	.250	.688	.000	.000	.600	.000	.700	.000	.000	.700	.500	.000	.250	.250	.500	.250	.250	.450	.000	.550

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	3	1	0	4	0	3	0	1	4	0	0	1	1	2	1	0	2	0	3	13
02:15 PM	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	1	0	3	0	4	9
02:30 PM	0	3	0	1	4	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	8
02:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	3	1	5	7
Total Volume	0	9	1	1	11	0	7	0	1	8	0	0	1	5	6	3	0	8	1	12	37
% App. Total	0	81.8	9.1	9.1		0	87.5	0	12.5		0	0	16.7	83.3		25	0	66.7	8.3		
PHF	.000	.750	.250	.250	.688	.000	.583	.000	.250	.500	.000	.000	.250	.313	.375	.750	.000	.667	.250	.600	.712

Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM					04:30 PM					02:00 PM					02:00 PM				
+0 mins.	0	3	1	0	4	0	4	0	0	4	0	0	1	1	2	1	0	2	0	3
+15 mins.	0	2	0	0	2	0	1	0	3	4	0	0	0	0	0	1	0	3	0	4
+30 mins.	0	3	0	1	4	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	3	1	5
Total Volume	0	9	1	1	11	0	6	0	3	9	0	0	1	5	6	3	0	8	1	12
% App. Total	0	81.8	9.1	9.1		0	66.7	0	33.3		0	0	16.7	83.3		25	0	66.7	8.3	
PHF	.000	.750	.250	.250	.688	.000	.375	.000	.250	.563	.000	.000	.250	.313	.375	.750	.000	.667	.250	.600

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Webster Ave TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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Groups Printed- UTurns

	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																					
Total	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
01:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
01:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																					
Total	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
*** BREAK ***																					
02:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
06:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Apprch %	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Traffic Engineering Data Solutions Inc.

File Name : US 17-92 at Webster Ave TMC (8-hr)

Site Code : 00000000

Start Date : 10/22/2019

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	US 17-92 Northbound					US 17-92 Southbound					WEBSTER AVENUE Eastbound					WEBSTER AVENUE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					07:00 AM					07:00 AM					07:00 AM					
+0 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.583	.000	.000	.000	.583	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	11:45 AM					10:00 AM					10:00 AM					10:00 AM					
+0 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.583	.000	.000	.000	.583	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:15 PM																					
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500
Peak Hour Analysis From 02:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	02:15 PM					02:00 PM					02:00 PM					02:00 PM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

VEHICLE TURNING MOVEMENT COUNT

SECTION: 75030
 STATE ROUTE: US 17-92
 OBSERVER: VHB
 WEATHER: CLEAR
 NORTH APPROACH: US 17-92
 SOUTH APPROACH: US 17-92

CITY: Winter Park
 INTERSECTING ROUTE: Lee Road
 DATE OF COUNT: Thursday, December 12, 2019
 ROAD CONDITION: GOOD
 EAST APPROACH: Lee Road
 WEST APPROACH: Lee Road
 COUNT PERIODS: 6:00 - 9:00,11:00 -13:00,15:00 -18:00

COUNTY: Orange
 MILEPOST: 6.289

ALL VEHICLES / ALL MOVEMENTS

START TIME	NORTHBOUND						SOUTHBOUND						NS TOTAL	EASTBOUND						WESTBOUND						EW TOTAL	GRAND TOTAL
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
6:00	0	6	30	1	0	37	0	5	93	41	19	158	195	1	19	11	11	5	47	0	1	6	1	0	8	55	250
6:15	0	20	56	0	0	76	0	3	146	72	34	255	331	1	46	20	17	9	93	0	0	8	0	1	9	102	433
6:30	1	36	47	0	0	84	0	3	176	68	65	312	396	0	54	23	11	21	109	0	1	17	0	0	18	127	523
6:45	0	42	72	2	0	116	0	9	292	127	68	496	612	1	49	35	28	24	137	0	4	14	3	0	21	158	770
Total	1	104	205	3	0	313	0	20	707	308	186	1,221	1,534	3	168	89	67	59	386	0	6	45	4	1	56	442	1,976
7:00	0	55	86	2	0	143	0	7	250	144	74	475	618	1	67	52	22	20	162	0	2	36	2	2	42	204	822
7:15	0	66	132	3	0	201	0	9	292	159	84	544	745	1	97	46	22	35	201	0	0	43	2	1	46	247	992
7:30	0	94	153	2	2	251	0	3	321	157	65	546	797	0	108	79	47	27	261	0	2	56	4	1	63	324	1,121
7:45	1	106	138	3	0	248	0	7	268	130	72	477	725	3	106	98	74	27	308	0	3	72	0	0	75	383	1,108
Total	1	321	509	10	2	843	0	26	1,131	590	295	2,042	2,885	5	378	275	165	109	932	0	7	207	8	4	226	1,158	4,043
8:00	0	94	129	0	0	223	0	6	327	164	65	562	785	2	80	59	51	30	222	0	1	59	3	1	64	286	1,071
8:15	1	94	146	1	1	243	0	8	276	154	85	523	766	1	114	73	65	36	289	0	4	69	1	1	75	364	1,130
8:30	0	99	140	4	1	244	0	6	296	158	64	524	768	1	116	61	71	39	288	0	5	57	4	2	68	356	1,124
8:45	0	73	143	7	0	223	0	6	328	139	64	537	760	1	84	62	57	27	231	0	6	52	3	0	61	292	1,052
Total	1	360	558	12	2	933	0	26	1,227	615	278	2,146	3,079	5	394	255	244	132	1,030	0	16	237	11	4	268	1,298	4,377
11:00	0	93	175	14	4	286	1	7	196	65	38	307	593	1	94	63	44	58	260	0	17	46	4	7	74	334	927
11:15	0	86	188	7	3	284	0	14	211	60	37	322	606	3	102	66	50	69	290	0	17	44	8	2	71	361	967
11:30	0	90	195	11	1	297	0	13	205	53	32	303	600	2	100	84	63	43	292	0	16	57	1	3	77	369	969
11:45	0	114	229	16	1	360	0	17	212	63	28	320	680	2	113	76	72	70	333	0	15	44	7	2	68	401	1,081
Total	0	383	787	48	9	1,227	1	51	824	241	135	1,252	2,479	8	409	289	229	240	1,175	0	65	191	20	14	290	1,465	3,944
12:00	1	83	195	9	3	291	0	24	220	68	14	326	617	1	123	76	72	53	325	0	31	58	7	3	99	424	1,041
12:15	0	106	193	17	0	316	0	17	200	54	38	309	625	4	122	78	74	53	331	0	26	49	6	0	81	412	1,037
12:30	0	110	223	22	0	355	0	17	205	65	44	331	686	1	113	71	66	44	295	0	23	78	8	0	109	404	1,090
12:45	0	119	201	17	0	337	0	13	187	72	39	311	648	5	118	82	57	54	316	0	23	66	15	0	104	420	1,068
Total	1	418	812	65	3	1,299	0	71	812	259	135	1,277	2,576	11	476	307	269	204	1,267	0	103	251	36	3	393	1,660	4,236
15:00	0	110	222	9	0	341	0	15	149	45	49	258	599	5	128	61	33	41	268	0	16	75	12	1	104	372	971
15:15	0	117	235	8	3	363	0	13	172	45	36	266	629	1	140	69	57	24	291	0	18	71	7	3	99	390	1,019
15:30	0	114	307	11	0	432	0	6	187	69	53	315	747	1	139	64	51	39	294	0	9	52	7	0	68	362	1,109
15:45	1	79	216	11	0	307	0	10	185	54	50	299	606	3	166	71	68	27	335	0	9	62	5	2	78	413	1,019
Total	1	420	980	39	3	1,443	0	44	693	213	188	1,138	2,581	10	573	265	209	131	1,188	0	52	260	31	6	349	1,537	4,118
16:00	1	119	277	6	0	403	0	13	217	41	31	302	705	0	179	61	39	40	319	0	12	48	5	3	68	387	1,092
16:15	1	83	241	7	1	333	0	12	175	35	49	271	604	0	197	78	56	40	371	0	7	70	9	1	87	458	1,062
16:30	0	108	305	9	0	422	1	13	209	45	32	300	722	1	169	63	45	66	344	0	13	63	6	5	87	431	1,153
16:45	1	76	269	1	1	348	0	19	197	41	31	288	636	1	206	101	48	46	402	0	14	65	8	3	90	492	1,128
Total	3	386	1,092	23	2	1,506	1	57	798	162	143	1,161	2,667	2	751	303	188	192	1,436	0	46	246	28	12	332	1,768	4,435
17:00	1	104	301	10	2	418	0	13	206	49	22	290	708	0	158	93	38	36	325	0	14	61	10	1	86	411	1,119
17:15	0	91	241	10	0	342	0	22	240	57	23	342	684	1	181	107	65	48	402	0	14	63	15	3	95	497	1,181
17:30	0	99	269	15	0	383	0	7	201	55	25	288	671	1	155	83	61	51	351	0	18	52	12	0	82	433	1,104
17:45	0	89	220	15	0	324	0	20	194	39	43	296	620	0	174	110	88	20	392	0	14	49	14	4	81	473	1,093
Total	1	383	1,031	50	2	1,467	0	62	841	200	113	1,216	2,683	2	668	393	252	155	1,470	0	60	225	51	8	344	1,814	4,497

VEHICLE TURNING MOVEMENT COUNT

SECTION: 75030
STATE ROUTE: US 17-92
OBSERVER: VHB
WEATHER: CLEAR
NORTH APPROACH: US 17-92
SOUTH APPROACH: US 17-92

CITY: Winter Park
INTERSECTING ROUTE: Lee Road
DATE OF COUNT: Thursday, December 12, 2019
ROAD CONDITION: GOOD
EAST APPROACH: Lee Road
WEST APPROACH: Lee Road
COUNT PERIODS: 6:00 - 9:00, 9:00 - 11:00, 11:00 - 13:00, 15:00 - 18:00

COUNTY: Orange
MILEPOST: 6.289

HEAVY VEHICLES (TRUCKS + BUSES)

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	RTOR	TOTAL	LEFT	THRU	RIGHT	RTOR	TOTAL		LEFT	THRU	RIGHT	RTOR	TOTAL	LEFT	THRU	RIGHT	RTOR	TOTAL		
6:00	1	2	0	0	3	2	0	1	1	4	7	1	0	1	0	2	0	0	0	0	0	2	9
6:15	1	4	0	0	5	1	2	4	0	7	12	1	0	2	0	3	0	0	0	0	0	3	15
6:30	0	1	0	0	1	1	3	0	1	5	6	3	1	0	1	5	0	0	0	0	0	5	11
6:45	0	4	0	0	4	1	3	1	1	6	10	0	0	0	3	3	0	0	1	0	1	4	14
Total	2	11	0	0	13	5	8	6	3	22	35	5	1	3	4	13	0	0	1	0	1	14	49
7:00	0	4	0	0	4	1	2	1	0	4	8	4	1	1	0	6	0	1	0	0	1	7	15
7:15	1	5	0	0	6	2	5	2	2	11	17	3	1	2	0	6	0	0	0	0	0	6	23
7:30	3	1	0	0	4	0	8	6	2	16	20	1	2	2	0	5	0	1	0	0	1	6	26
7:45	6	6	0	0	12	2	5	1	1	9	21	2	2	1	1	6	0	2	0	0	2	8	29
Total	10	16	0	0	26	5	20	10	5	40	66	10	6	6	1	23	0	4	0	0	4	27	93
8:00	2	4	0	0	6	2	1	1	0	4	10	0	1	1	1	3	0	2	0	0	2	5	15
8:15	5	3	0	0	8	2	5	1	0	8	16	3	0	0	0	2	5	0	0	0	0	5	21
8:30	1	4	0	0	5	0	3	3	0	6	11	6	3	1	0	10	0	0	0	0	0	10	21
8:45	2	4	0	0	6	1	8	1	4	14	20	3	1	1	2	7	1	0	0	0	1	8	28
Total	10	15	0	0	25	5	17	6	4	32	57	12	5	3	5	25	1	2	0	0	3	28	85
11:00	2	4	0	0	6	1	2	2	0	5	11	4	1	0	1	6	0	2	0	0	2	8	19
11:15	7	6	1	0	14	3	2	5	0	10	24	1	0	2	0	3	0	0	0	0	0	3	27
11:30	2	7	0	0	9	1	3	2	1	7	16	5	2	2	0	9	1	1	0	0	2	11	27
11:45	2	9	0	0	11	2	4	4	0	10	21	2	3	0	1	6	1	2	0	0	3	9	30
Total	13	26	1	0	40	7	11	13	1	32	72	12	6	4	2	24	2	5	0	0	7	31	103
12:00	4	3	0	0	7	1	1	2	0	4	11	2	4	0	0	6	0	0	0	0	0	6	17
12:15	3	7	0	0	10	2	5	0	0	7	17	3	1	1	0	5	0	1	0	0	1	6	23
12:30	4	3	1	0	8	1	2	0	3	6	14	3	0	0	0	3	0	2	0	0	2	5	19
12:45	3	3	0	0	6	1	4	4	0	9	15	3	1	2	1	7	0	0	2	0	2	9	24
Total	14	16	1	0	31	5	12	6	3	26	57	11	6	3	1	21	0	3	2	0	5	26	83
15:00	3	8	0	0	11	1	2	4	1	8	19	1	2	0	0	3	0	0	0	0	0	3	22
15:15	3	3	0	1	7	2	3	2	0	7	14	3	0	1	1	5	0	1	0	0	1	6	20
15:30	4	5	0	0	9	1	3	2	1	7	16	2	0	0	1	3	0	2	0	0	2	5	21
15:45	1	4	0	0	5	1	1	1	0	3	8	1	0	0	0	1	0	0	0	0	0	1	9
Total	11	20	0	1	32	5	9	9	2	25	57	7	2	1	2	12	0	3	0	0	3	15	72
16:00	1	4	1	0	6	1	1	0	0	2	8	4	2	0	1	7	0	1	0	0	1	8	16
16:15	2	1	0	0	3	2	3	0	2	7	10	1	2	0	0	3	0	1	0	0	1	4	14
16:30	3	2	0	0	5	1	4	1	2	8	13	4	1	0	0	5	0	0	0	0	0	5	18
16:45	0	6	0	0	6	1	3	0	0	4	10	3	2	0	0	5	0	0	0	0	0	5	15
Total	6	13	1	0	20	5	11	1	4	21	41	12	7	0	1	20	0	2	0	0	2	22	63
17:00	0	6	0	0	6	1	2	0	0	3	9	0	1	0	0	1	0	3	0	0	3	4	13
17:15	1	5	0	0	6	2	1	0	0	3	9	3	1	0	0	4	0	0	0	0	0	4	13
17:30	0	6	0	0	6	1	0	1	0	2	8	0	1	0	0	1	0	0	0	0	0	1	9
17:45	1	3	0	0	4	1	2	1	1	5	9	0	0	0	0	0	0	0	0	0	0	0	9
Total	2	20	0	0	22	5	5	2	1	13	35	3	3	0	0	6	0	3	0	0	3	9	44

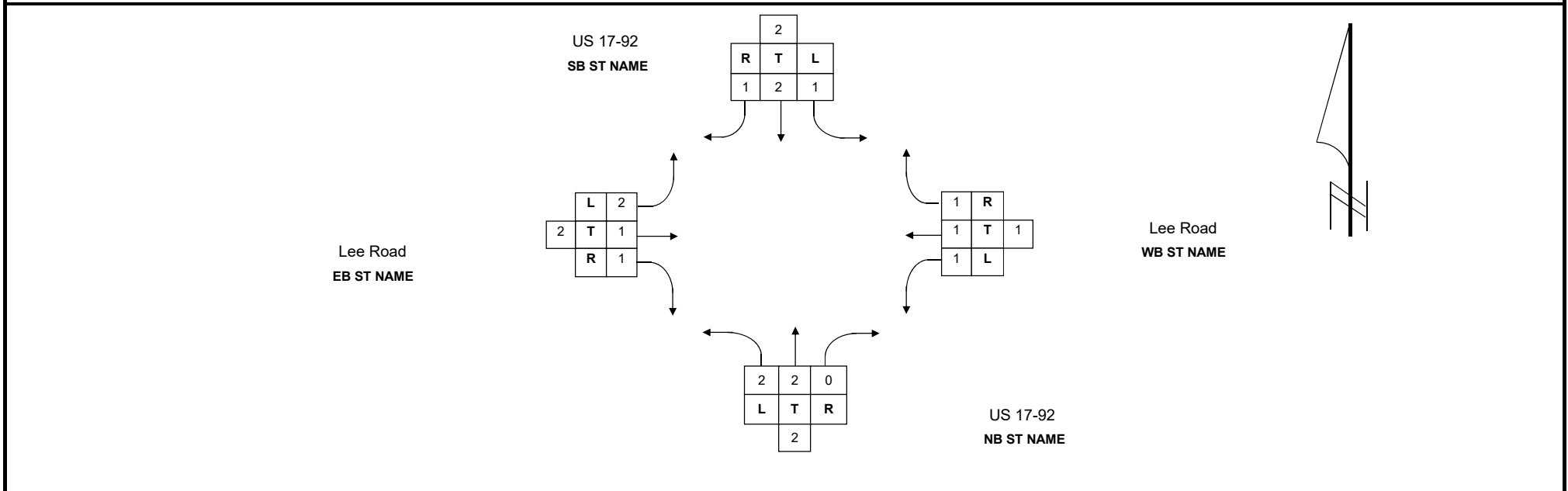
FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION: 75030 CITY: Winter Park COUNTY: Orange
 STATE ROUTE: US 17-92 INTERSECTING ROUTE: Lee Road MILEPOST: 6.289
 OBSERVER: VHB DATE: 12/12/2019
 WEATHER: CLEAR ROAD CONDITION: GOOD
 REMARKS:

FORM COMPLETED BY: VHB

DATE: 02/18/19



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
BEGIN/END	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	E/W
6 - 7	1	104	205	3	0	313	0	20	707	308	186	1,221	1,534	3	168	89	67	59	386	0	6	45	4	1	56	442
7 - 8	1	321	509	10	2	843	0	26	1,131	590	295	2,042	2,885	5	378	275	165	109	932	0	7	207	8	4	226	1,158
8 - 9	1	360	558	12	2	933	0	26	1,227	615	278	2,146	3,079	5	394	255	244	132	1,030	0	16	237	11	4	268	1,298
11 - 12	0	383	787	48	9	1,227	1	51	824	241	135	1,252	2,479	8	409	289	229	240	1,175	0	65	191	20	14	290	1,465
12 - 13	1	418	812	65	3	1,299	0	71	812	259	135	1,277	2,576	11	476	307	269	204	1,267	0	103	251	36	3	393	1,660
15 - 16	1	420	980	39	3	1,443	0	44	693	213	188	1,138	2,581	10	573	265	209	131	1,188	0	52	260	31	6	349	1,537
16 - 17	3	386	1,092	23	2	1,506	1	57	798	162	143	1,161	2,667	2	751	303	188	192	1,436	0	46	246	28	12	332	1,768
17 - 18	1	383	1,031	50	2	1,467	0	62	841	200	113	1,216	2,683	2	668	393	252	155	1,470	0	60	225	51	8	344	1,814
TOTAL	9	2,775	5,974	250	23	9,031	2	357	7,033	2,588	1,473	11,453	20,484	46	3,817	2,176	1,623	1,222	8,884	0	355	1,662	189	52	2,258	11,142

Percentage	0.1%	30.7%	65.4%	2.8%	1.0%	100.0%	0.0%	3.1%	61.3%	22.6%	13.0%	100.0%	N/A	0.5%	43.0%	24.2%	18.3%	14.0%	100.0%	0.0%	15.7%	73.6%	8.4%	2.3%	100.0%	N/A
Maximum	3	420	1092	65	9	1506	1	71	1227	615	295	2146	N/A	11	751	393	269	240	1470	0	103	260	51	14	393	1470
Minimum	0	104	205	3	0	0	0	20	693	162	113	0	0	2	168	89	67	59	2	0	6	45	4	1	0	0
Heavy Veh	68		137	3	1	209	42		93	53	23	211	420	72		36	20	16	144	3		22	3	0	28	172
Heavy Veh	2.4%		2.3%	1.5%		2.3%	11.7%		1.3%	1.9%		1.8%	2.1%	1.9%		1.7%		1.3%	1.6%	0.8%		0.0%		1.2%		1.5%

FLORIDA DEPARTMENT OF TRANSPORTATION

PEDESTRIAN MOVEMENT SUMMARY

SECTION 75030	CITY Winter Park	COUNTY Orange
STATE ROUTE US 17-92	INTERSECTING ROUTE Lee Road	
OBSERVER VHB	DATE 12/12/2019	MILEPOST 6.289

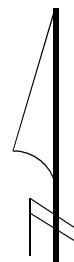
REMARKS _____

FORM COMPLETED BY VHB

US 17-92

SB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
0	1	2	0	3	2	0	0	8
2	2	0	3	0	1	0	2	10
2	3	2	3	3	3	0	2	18



Lee Road
EB ST NAME

6-7	1	1	2
7-8	2	2	4
8-9	1	1	2
11-12	2	0	2
12-13	1	2	3
15-16	2	2	4
16-17	0	2	2
17-18	3	3	6
Total	12	13	25

Lee Road
WB ST NAME

6-7	2	1	3
7-8	1	0	1
8-9	0	1	1
11-12	1	4	5
12-13	0	2	2
15-16	1	1	2
16-17	1	1	2
17-18	0	0	0
Total	6	10	16

US 17-92

NB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
1	1	1	0	0	1	2	0	6
0	1	1	2	0	1	0	0	5
1	2	2	2	0	2	2	0	11

FLORIDA DEPARTMENT OF TRANSPORTATION

BICYCLE MOVEMENT SUMMARY

SECTION 75030
STATE ROUTE US 17-92
OBSERVER VHB

CITY Winter Park
INTERSECTING ROUTE Lee Road
DATE 12/12/2019

COUNTY Orange
MILEPOST 6.289

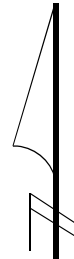
REMARKS

FORM COMPLETED BY VHB

US 17-92

SB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
0	0	0	0	0	2	0	0	2
0	0	0	1	0	0	0	0	1
0	0	0	1	0	2	0	0	3



Lee Road
EB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	1	1	0	0	0	0	3
1	0	1	1	0	0	0	0	3
0	0	0	0	0	0	0	0	0
1	0	1	1	0	0	0	0	3
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	0	3	3	0	0	0	0	9

Lee Road
WB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	1	1	0	0	0	0	3
3	1	4	1	0	0	0	0	9
0	1	1	0	0	0	0	0	2
4	2	6	2	0	0	0	0	12

US 17-92

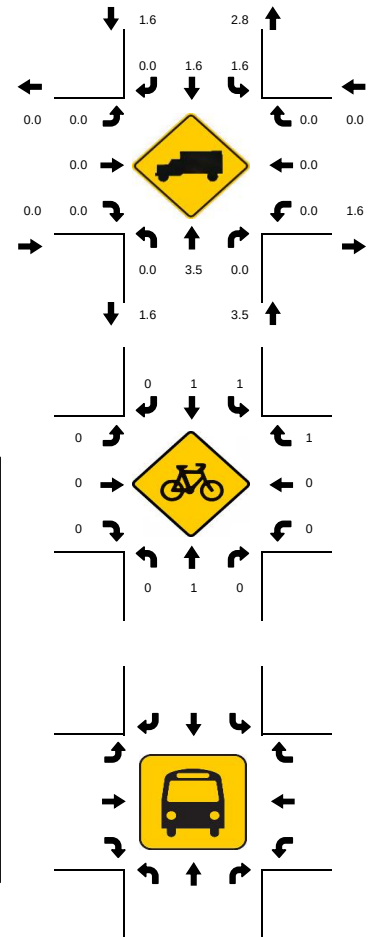
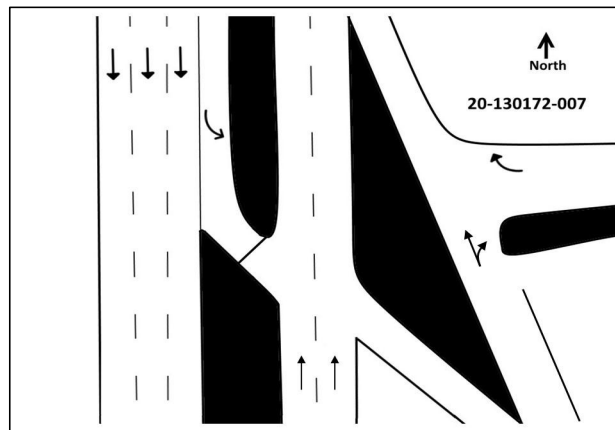
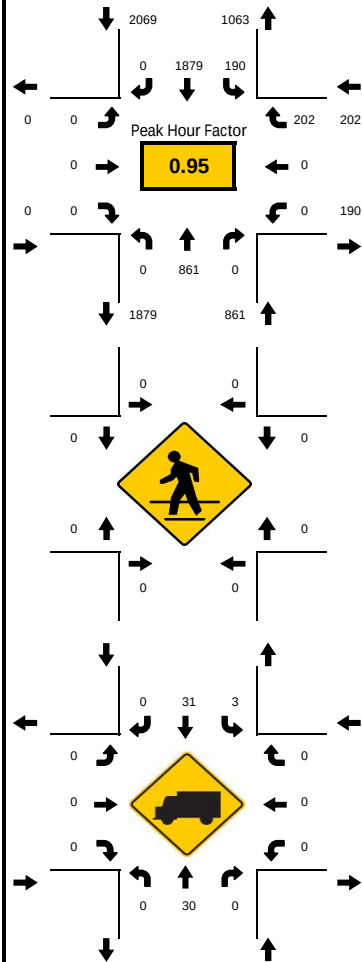
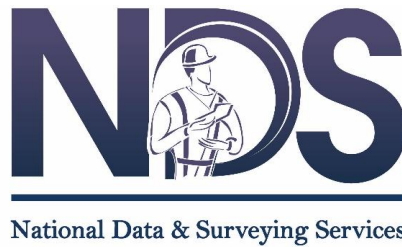
NB ST NAME

6-7	7-8	8-9	11-12	12-13	15-16	16-17	17-18	Total
0	0	0	0	0	0	1	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	1

LOCATION: Orlando Ave & N Park Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-007
DATE: 09/17/2020

Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

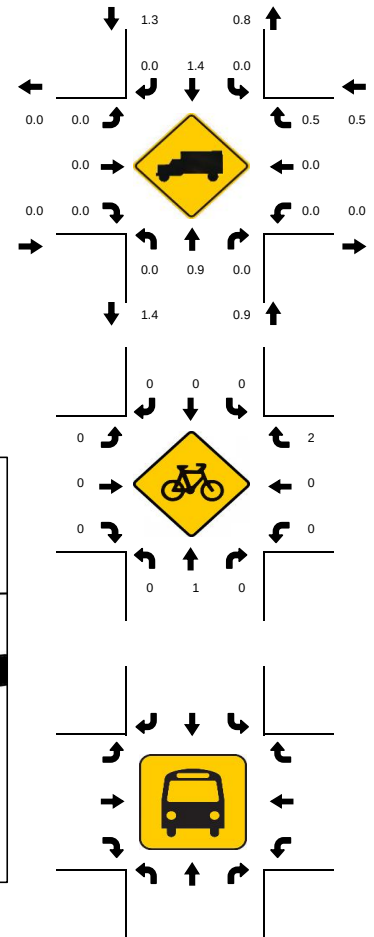
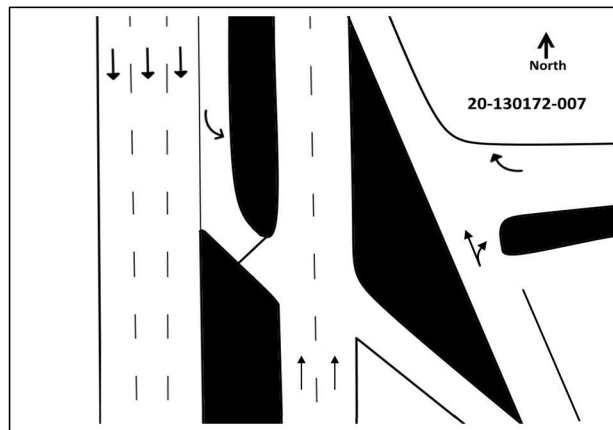
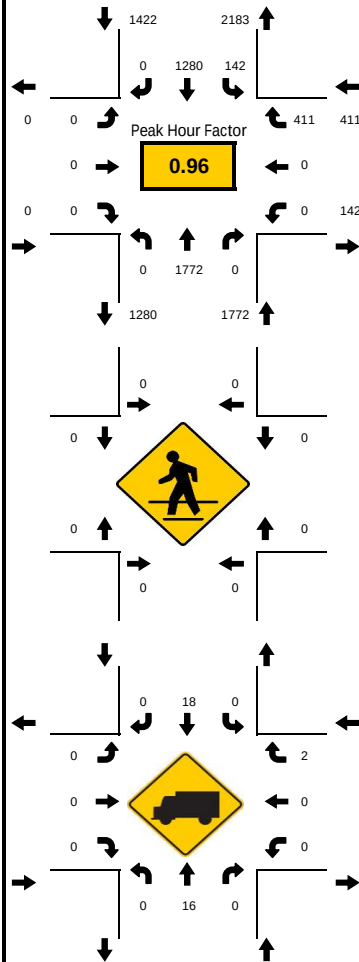
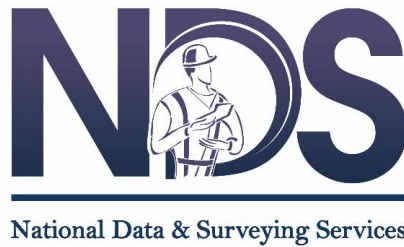


15-Min Count Period Beginning At	Orlando Ave Northbound					Orlando Ave Southbound					N Park Ave Eastbound					N Park Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	102	0	0		20	332	0	0		0	0	0	0		0	0	15	0		469	2716
07:15 AM	0	172	0	0		21	411	0	0		0	0	0	0		0	0	50	0		654	2964
07:30 AM	0	208	0	0		54	492	0	0		0	0	0	0		0	0	72	0		826	3132
07:45 AM	0	194	0	0		37	485	0	0		0	0	0	0		0	0	51	0		767	3081
08:00 AM	0	206	0	0		38	440	0	0		0	0	0	0		0	0	33	0		717	2980
08:15 AM	0	253	0	0		59	462	0	2		0	0	0	0		0	0	46	0		822	2263
08:30 AM	0	227	0	0		58	454	0	0		0	0	0	0		0	0	36	0		775	1441
08:45 AM	0	196	0	0		53	385	0	1		0	0	0	0		0	0	31	0		666	666
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	1012	0	0		236	1968	0	8		0	0	0	0		0	0	288	0		3512	
Heavy Trucks	0	40	0			8	40	0			0	0	0			0	0	0			88	
Pedestrians		0					0					0					0				0	
Bicycles	0	4	0			4	4	0			0	0	0			0	0	4			16	
Railroad																						
Stopped Buses																						

LOCATION: Orlando Ave & N Park Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-007
DATE: 09/17/2020

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:30 PM - 05:45 PM

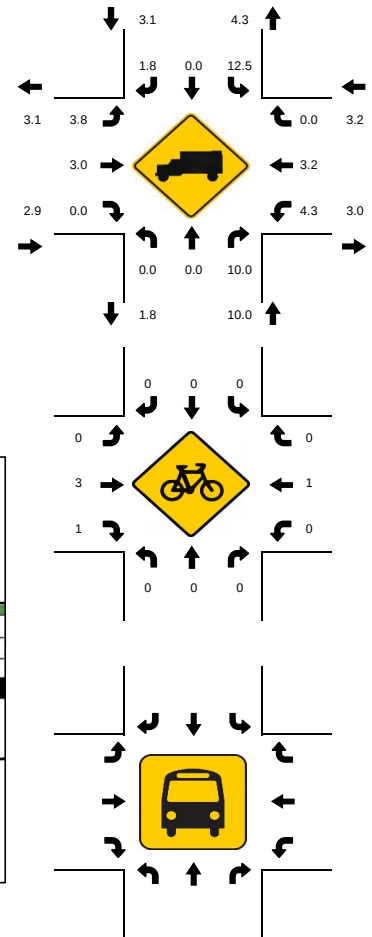
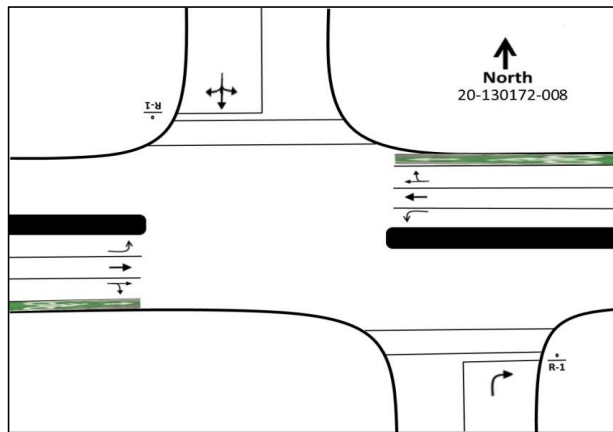
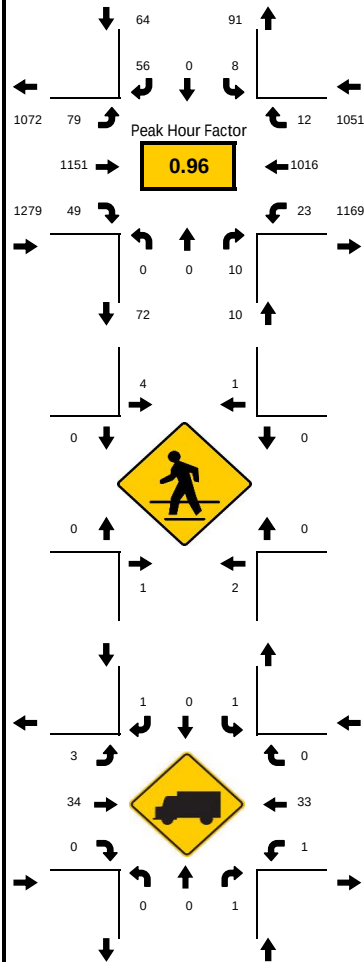
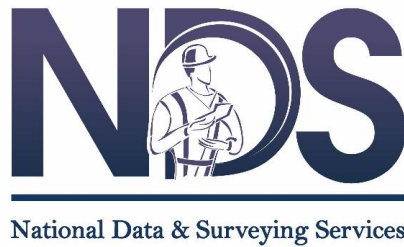


15-Min Count Period Beginning At	Orlando Ave Northbound					Orlando Ave Southbound					N Park Ave Eastbound					N Park Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	419	0	0		30	255	0	0		0	0	0	0		0	0	81	0		785	3407
04:15 PM	0	475	0	0		28	295	0	0		0	0	0	0		0	0	72	0		870	3555
04:30 PM	0	498	0	0		40	270	0	0		0	0	0	0		0	0	70	0		878	3538
04:45 PM	0	452	0	0		32	303	0	1		0	0	0	0		0	0	86	0		874	3605
05:00 PM	0	466	0	0		25	325	0	0		0	0	0	0		0	0	117	0		933	3515
05:15 PM	0	412	0	0		39	283	0	1		0	0	0	0		0	0	118	0		853	2582
05:30 PM	0	442	0	0		44	369	0	0		0	0	0	0		0	0	90	0		945	1729
05:45 PM	0	418	0	0		38	268	0	0		0	0	0	0		0	0	60	0		784	784
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	1864	0	0		176	1476	0	4		0	0	0	0		0	0	472	0		3992	
Heavy Trucks	0	20	0			0	28	0			0	0	0			0	0	4			52	
Pedestrians		0					0					0					0				0	
Bicycles	0	4	0			0	0	0			0	0	0			0	0	8			12	
Railroad																						
Stopped Buses																						

LOCATION: Bennett Ave/Executive Dr & Lee Rd/SR 423
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-008
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

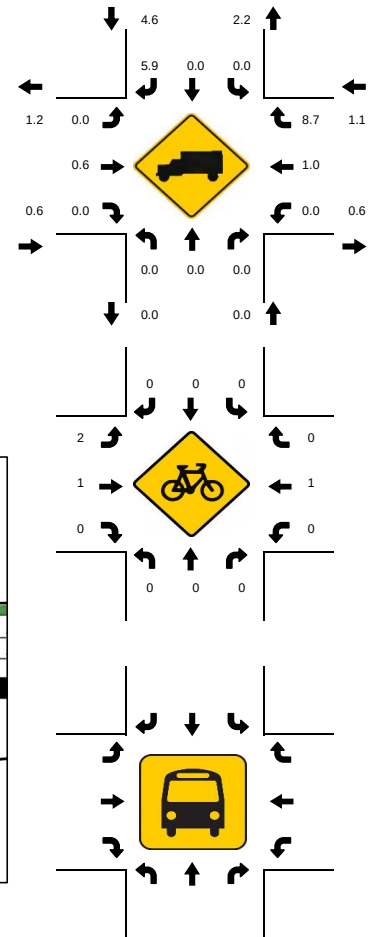
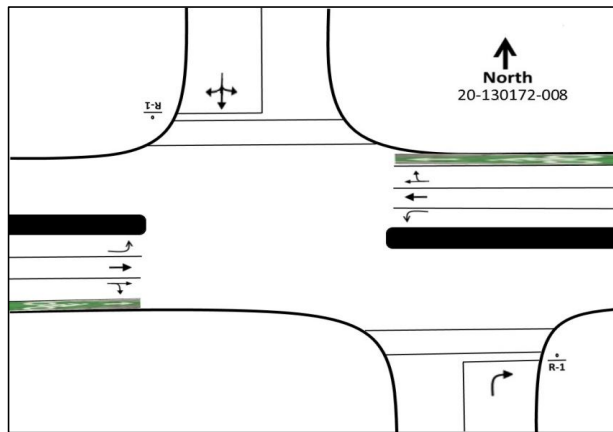
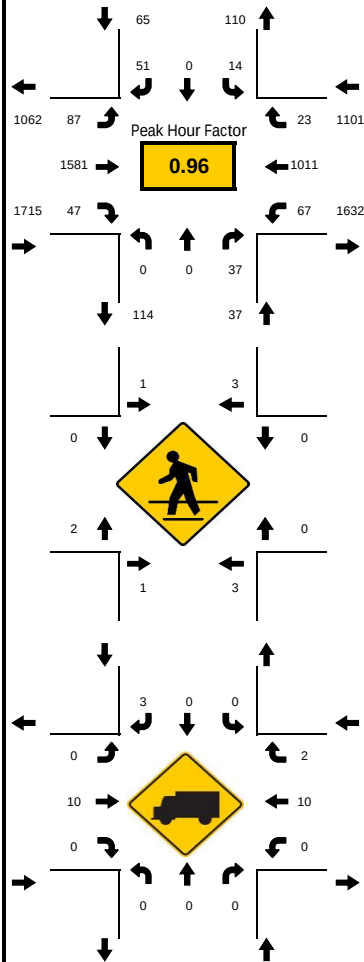
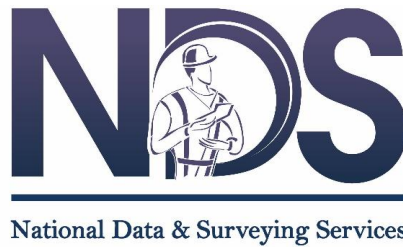


15-Min Count Period Beginning At	Bennett Ave/Executive Dr Northbound					Bennett Ave/Executive Dr Southbound					Lee Rd/SR 423 Eastbound					Lee Rd/SR 423 Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	0	1	0		3	1	15	0		5	160	5	3		1	174	2	1		371	1996
07:15 AM	0	0	0	0		2	0	12	0		11	172	1	4		2	250	2	1		457	2217
07:30 AM	0	0	1	0		3	1	19	0		9	236	15	12		1	242	1	3		543	2355
07:45 AM	0	0	2	0		1	0	19	0		9	300	15	6		2	262	4	5		625	2404
08:00 AM	0	0	3	0		1	0	8	0		13	300	8	4		1	247	4	3		592	2338
08:15 AM	0	0	3	0		4	0	13	0		20	285	9	5		3	246	2	5		595	1746
08:30 AM	0	0	2	0		2	0	16	0		16	266	17	6		2	261	2	2		592	1151
08:45 AM	0	0	1	0		4	0	12	0		18	256	10	2		1	250	3	2		559	559
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	0	0	12	0		16	0	76	0		80	1200	68	24		12	1048	16	20		2572	
Heavy Trucks	0	0	4			4	0	4			8	48	0			4	44	0			116	
Pedestrians		12					16					0					0				28	
Bicycles	0	0	0			0	0	0			0	4	4			0	4	0			12	
Railroad																						
Stopped Buses																						

LOCATION: Bennett Ave/Executive Dr & Lee Rd/SR 423
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-008
DATE: 09/16/2020

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:00 PM - 05:15 PM

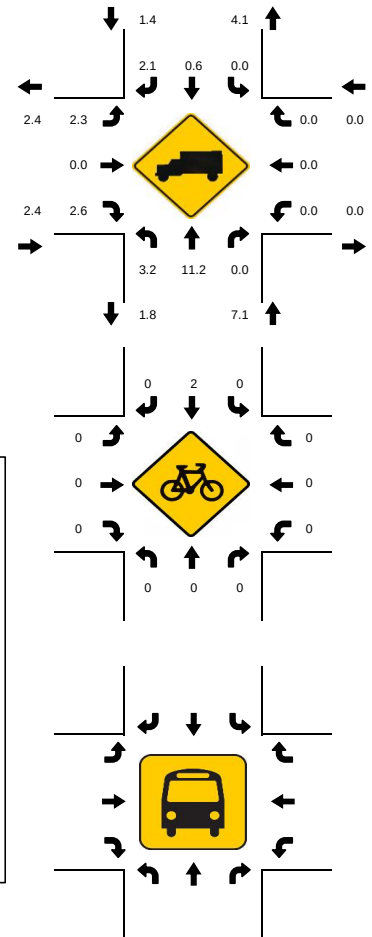
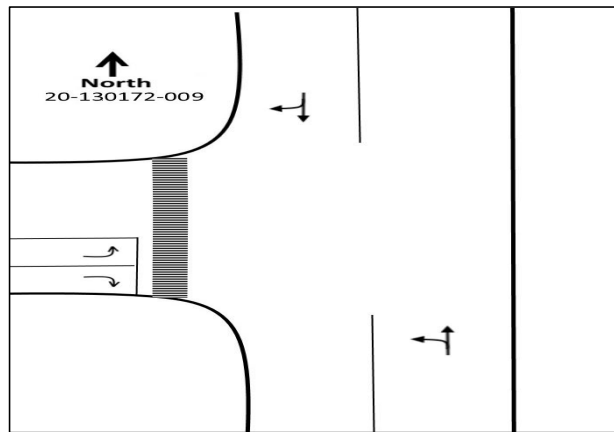
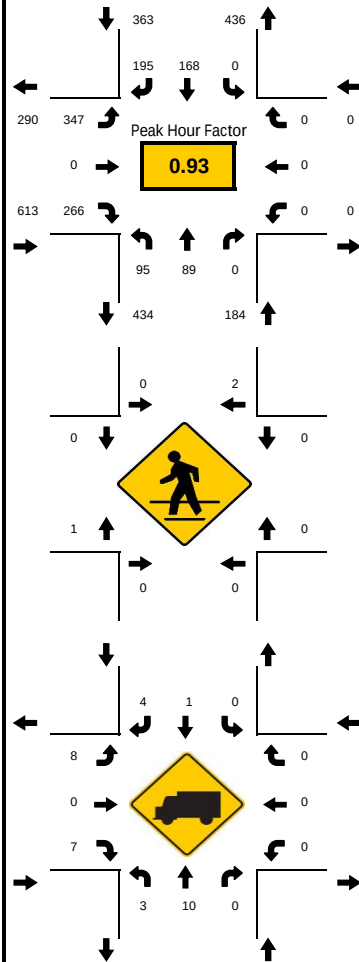
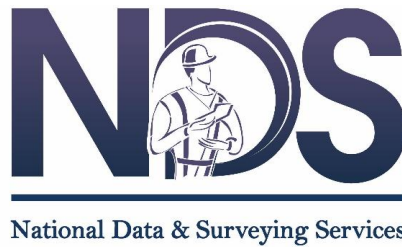


15-Min Count Period Beginning At	Bennett Ave/Executive Dr Northbound					Bennett Ave/Executive Dr Southbound					Lee Rd/SR 423 Eastbound					Lee Rd/SR 423 Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	0	6	0		0	0	20	0		10	304	10	6		1	261	6	9		633	2607
04:15 PM	0	0	10	0		6	0	12	0		20	312	8	1		1	249	6	12		637	2734
04:30 PM	0	0	7	0		2	0	24	0		13	329	12	6		0	240	3	12		648	2847
04:45 PM	0	0	13	0		6	0	12	0		14	379	8	4		2	234	7	10		689	2918
05:00 PM	0	0	13	0		3	0	12	0		17	385	15	6		1	285	4	19		760	2870
05:15 PM	0	0	6	0		3	0	20	0		21	398	11	5		1	255	6	24		750	2110
05:30 PM	0	0	5	0		2	0	7	0		15	419	13	5		0	237	6	10		719	1360
05:45 PM	0	0	7	0		3	0	9	0		12	357	7	3		0	228	4	11		641	641
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	0	52	0		24	0	80	0		84	1676	60	24		8	1140	28	96		3272	
Heavy Trucks	0	0	0			0	0	4			0	16	0			0	20	4			44	
Pedestrians		12						8				8					0				28	
Bicycles	0	0	0			0	0	0			8	4	0			0	4	0			16	
Railroad																						
Stopped Buses																						

LOCATION: Clay St & E Par St
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-009
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

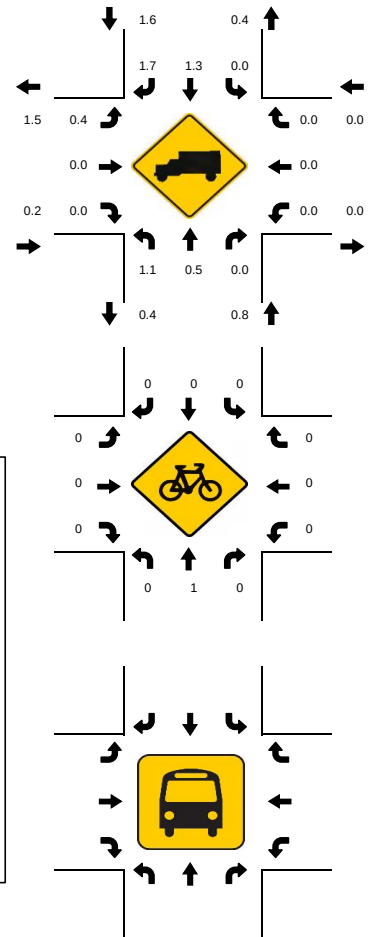
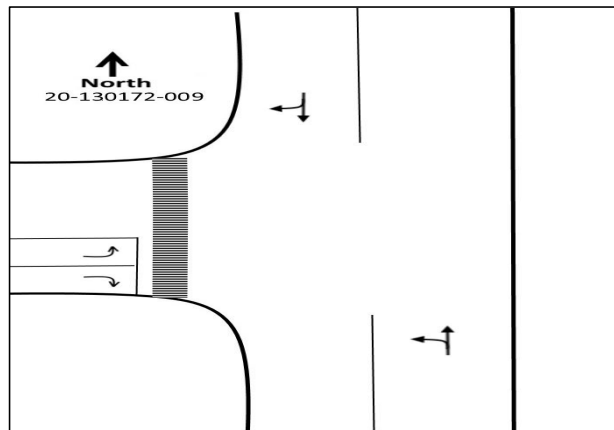
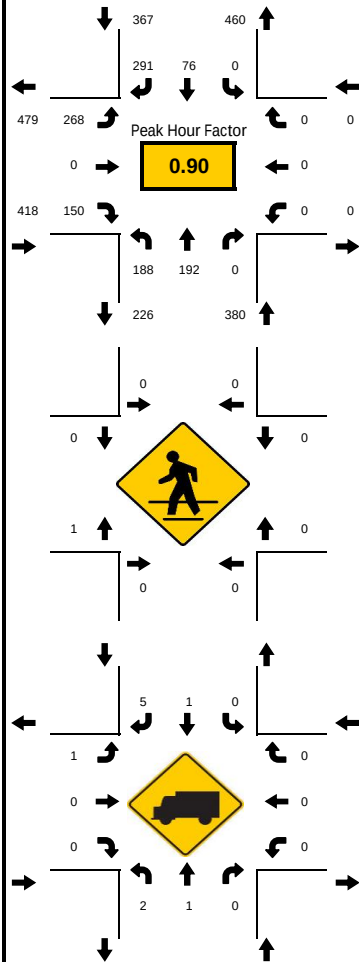
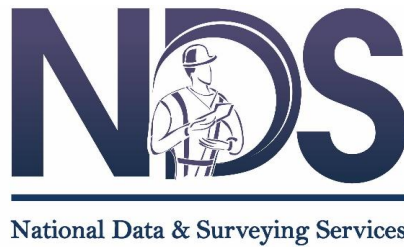


15-Min Count Period Beginning At	Clay St Northbound					Clay St Southbound					E Par St Eastbound					E Par St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	29	18	0	0		0	18	29	0		46	0	53	0		0	0	0	0		193	980
07:15 AM	25	16	0	0		0	23	35	0		48	0	47	0		0	0	0	0		194	1039
07:30 AM	18	25	0	0		0	53	35	0		61	0	88	0		0	0	0	0		280	1141
07:45 AM	26	28	0	0		0	56	39	0		84	0	80	0		0	0	0	0		313	1160
08:00 AM	23	14	0	0		0	43	41	0		73	0	58	0		0	0	0	0		252	1125
08:15 AM	27	23	0	0		0	35	57	0		90	0	64	0		0	0	0	0		296	873
08:30 AM	19	24	0	0		0	34	58	0		100	0	64	0		0	0	0	0		299	577
08:45 AM	11	15	0	0		0	41	60	0		93	0	58	0		0	0	0	0		278	278
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	108	112	0	0		0	224	232	0		400	0	320	0		0	0	0	0		1396	
Heavy Trucks	8	24	0			0	4	8			16	0	12			0	0	0			72	
Pedestrians		0						4				4					0				8	
Bicycles	0	0	0			0	4	0			0	0	0			0	0	0			4	
Railroad																						
Stopped Buses																						

LOCATION: Clay St & E Par St
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-009
DATE: 09/16/2020

Peak-Hour: 04:30 PM - 05:30 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

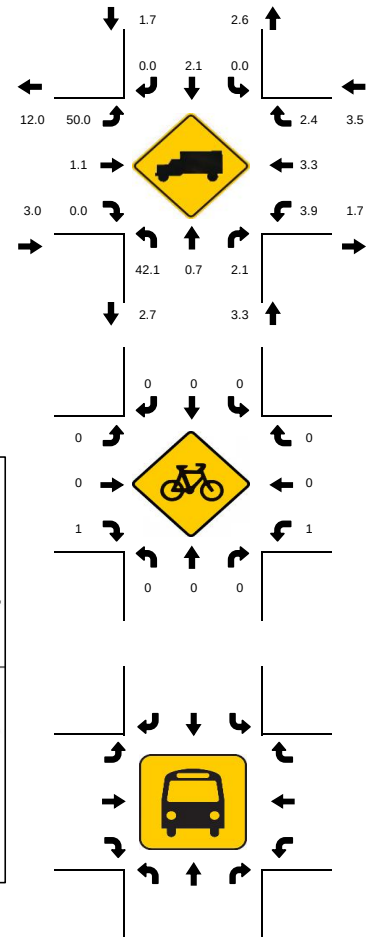
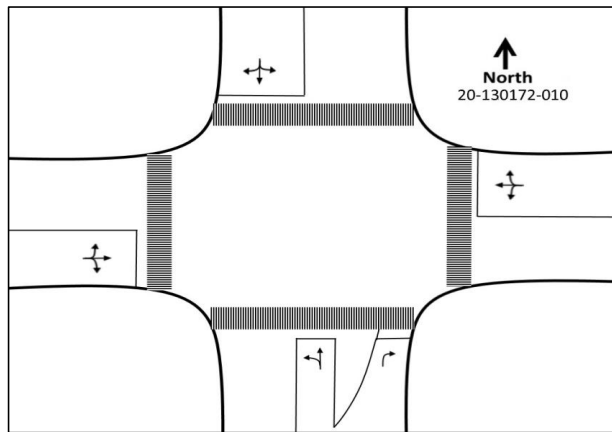
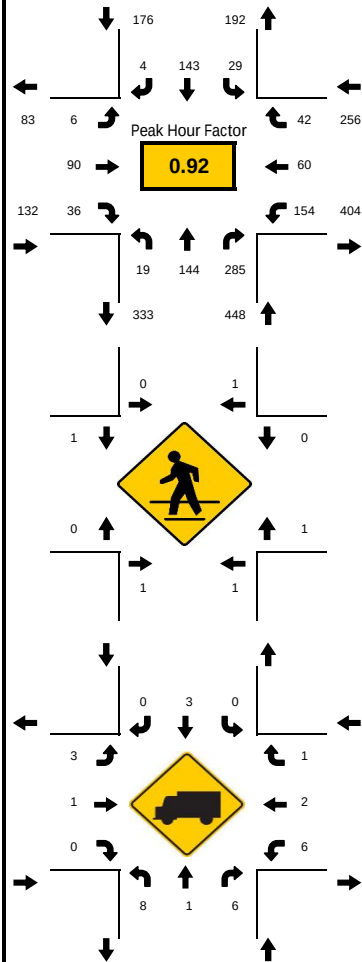
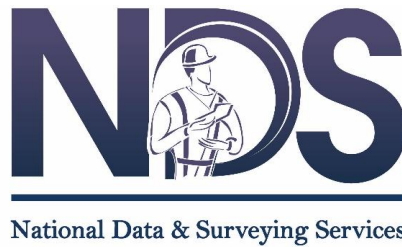


15-Min Count Period Beginning At	Clay St Northbound					Clay St Southbound					E Par St Eastbound					E Par St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	42	46	0	0		0	28	65	0		52	0	32	0		0	0	0	0		265	1117
04:15 PM	36	45	0	0		0	24	82	0		74	0	31	0		0	0	0	0		292	1133
04:30 PM	45	52	0	0		0	19	82	0		73	0	23	0		0	0	0	0		294	1165
04:45 PM	33	42	0	0		0	19	69	0		61	0	42	0		0	0	0	0		266	1157
05:00 PM	58	46	0	0		0	16	64	0		50	0	47	0		0	0	0	0		281	1153
05:15 PM	52	52	0	0		0	22	76	0		84	0	38	0		0	0	0	0		324	872
05:30 PM	38	37	0	0		0	33	55	0		86	0	37	0		0	0	0	0		286	548
05:45 PM	36	42	0	0		0	25	57	0		61	0	41	0		0	0	0	0		262	262
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	232	208	0	0		0	88	328	0		336	0	188	0		0	0	0	0		1380	
Heavy Trucks	4	4	0			0	4	12			4	0	0			0	0	0			28	
Pedestrians	0					0					4					0					4	
Bicycles	0	4	0			0	0	0			0	0	0			0	0	0			4	
Railroad																						
Stopped Buses																						

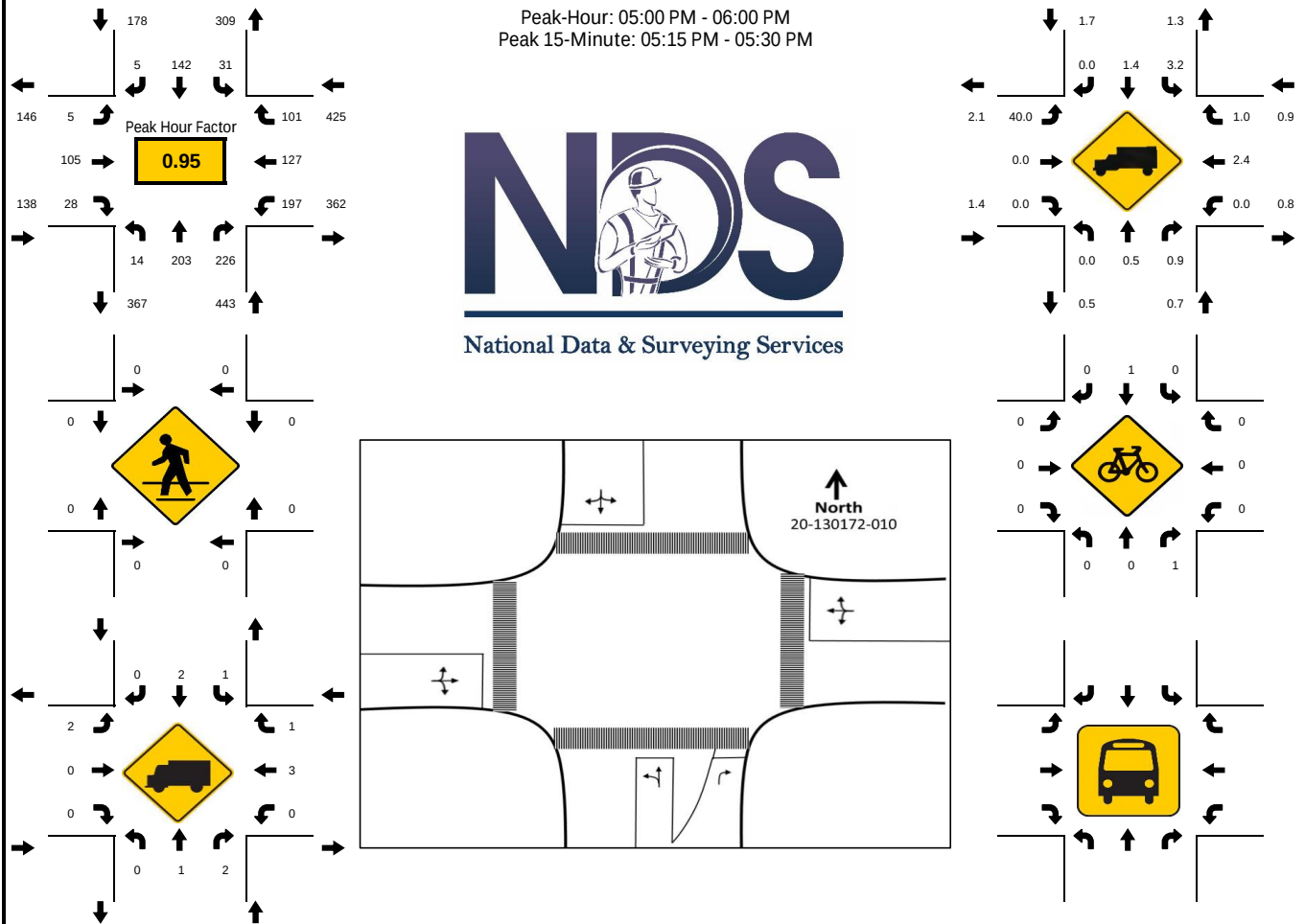
LOCATION: Clay St & Minnesota Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-010
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM



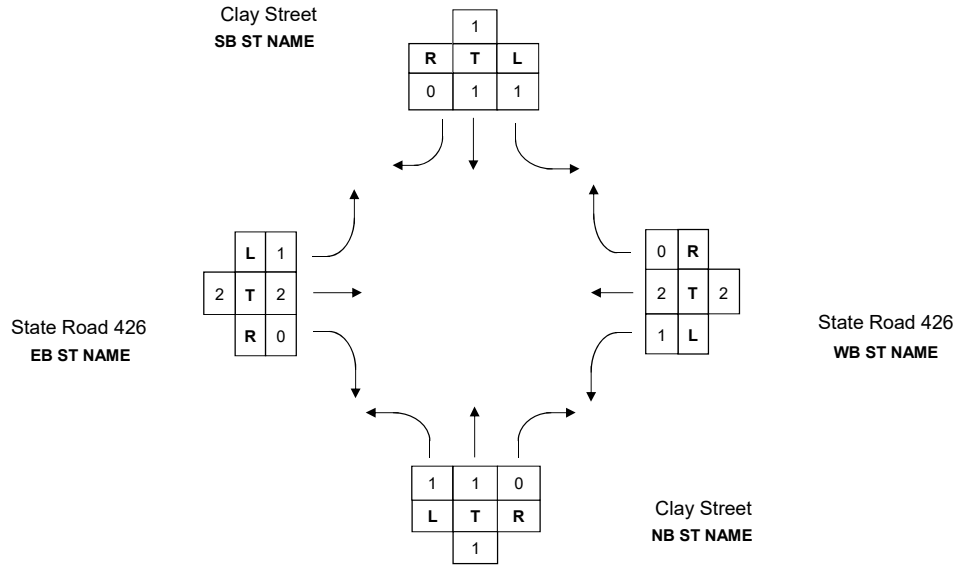
15-Min Count Period Beginning At	Clay St Northbound					Clay St Southbound					Minnesota Ave Eastbound					Minnesota Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	3	25	29	0		2	20	0	0		1	12	2	0		23	8	5	0		130	765
07:15 AM	2	23	36	0		4	35	1	0		3	14	5	0		17	6	8	0		154	869
07:30 AM	2	31	47	0		8	42	1	0		0	26	9	0		20	10	9	0		205	953
07:45 AM	3	44	78	0		11	46	0	0		1	31	10	0		30	12	10	0		276	1012
08:00 AM	4	30	61	0		2	33	1	0		0	26	11	0		35	22	9	0		234	980
08:15 AM	2	32	79	0		9	34	1	0		2	14	5	0		42	13	5	0		238	746
08:30 AM	10	38	67	0		7	30	2	0		3	19	10	0		47	13	18	0		264	508
08:45 AM	2	30	64	0		7	44	2	0		1	23	26	0		23	13	9	0		244	244
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	40	176	316	0		44	184	8	0		12	124	44	0		188	88	72	0		1296	
Heavy Trucks	24	4	8			0	4	0			4	4	0			12	8	4			72	
Pedestrians		4					4					4					4				16	
Bicycles	0	0	0			0	0	0			0	0	4			4	0	0			8	
Railroad																						
Stopped Buses																						

[illegible]

FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION	CITY Winter Park		COUNTY	Orange
STATE ROUTE	State Road 426	INTERSECTING ROUTE	Clay Street	
OBSERVER	TEDS	DATE	9/11/2018	SINGAL ID 75052
WEATHER	Sunny	ROAD CONDITION	Good	
REMARKS				
FORM COMPLETED BY		CML	DATE	11/14/18



TIME	NORTHBOUND					SOUTHBOUND					TOTAL	EASTBOUND					WESTBOUND					TOTAL
BEGIN/END	L	T	R	U	TOT	L	T	R	U	TOT	N/S	L	T	R	U	TOT	L	T	R	U	TOT	E/W
7:00 - 8:00	132	2	73	0	207	9	3	3	0	15	222	0	989	212	0	1201	107	968	0	0	1075	2276
8:00 - 9:00	168	5	96	0	269	10	9	4	0	23	292	4	1192	197	0	1393	89	882	2	0	973	2366
11:00 - 12:00	154	5	111	0	270	13	1	5	0	19	289	3	941	117	0	1061	65	964	10	1	1040	2101
12:00 - 1:00	165	9	130	0	304	10	3	3	0	16	320	5	944	116	0	1065	81	1075	9	0	1165	2230
2:00 - 3:00	194	8	105	0	307	10	8	8	0	26	333	7	833	93	1	934	90	1144	9	0	1243	2177
3:00 - 4:00	252	6	112	0	370	13	3	9	0	25	395	6	901	86	0	993	69	1232	7	1	1309	2302
4:00 - 5:00	302	10	114	0	426	15	6	5	0	26	452	3	867	91	0	961	88	1229	11	0	1328	2289
5:00 - 6:00	313	14	112	0	439	8	7	7	0	22	461	2	1100	162	0	1264	127	1294	21	0	1442	2706
TOTAL	1680	59	853	0	2592	88	40	44	0	172	2764	30	7767	1074	1	8872	716	8788	69	2	9575	18447

FLORIDA DEPARTMENT OF TRANSPORTATION

PEDESTRIAN MOVEMENT SUMMARY

SECTION	0	CITY Winter Park	COUNTY Orange
STATE ROUTE	State Road 426	INTERSECTING ROUTE Clay Street	
OBSERVER	TEDS	DATE 9/11/2018	
REMARKS _____			
FORM COMPLETED BY CML DATE 11/14/18			

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	Clay Street			Clay Street			State Road 426			State Road 426			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	0	1	1	0	0	0	0	0	0	0	0	0	1
8:00 - 9:00	1	0	1	0	0	0	0	2	2	0	0	0	3
11:00 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 1:00	0	0	0	0	6	6	0	0	0	0	8	8	14
2:00 - 3:00	0	0	0	0	0	0	0	1	1	0	1	1	2
3:00 - 4:00	0	0	0	0	0	0	0	0	0	0	2	2	2
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 6:00	0	0	0	0	0	0	0	2	2	0	1	1	3
TOTAL	1	1	2	0	6	6	0	5	5	0	12	12	25



FLORIDA DEPARTMENT OF TRANSPORTATION

BICYCLE MOVEMENT SUMMARY

SECTION	0	CITY Winter Park	COUNTY Orange
STATE ROUTE	State Road 426	INTERSECTING ROUTE Clay Street	
OBSERVER	TEDS	DATE 9/11/2018	

REMARKS _____

FORM COMPLETED BY CML DATE 11/14/18

H O U R S	West side of			East side of			North side of			South side of			GRAND TOTAL
	Clay Street			Clay Street			State Road 426			State Road 426			
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	
7:00 - 8:00	0	0	0	0	0	0	0	1	1	0	0	0	1
8:00 - 9:00	0	0	0	0	0	0	1	0	1	0	0	0	1
11:00 - 12:00	0	1	1	0	0	0	1	0	1	0	0	0	2
12:00 - 1:00	0	0	0	0	0	0	0	1	1	0	0	0	1
2:00 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 5:00	0	0	0	0	0	0	0	1	1	0	0	0	1
5:00 - 6:00	0	0	0	0	0	0	1	1	2	1	0	1	3
TOTAL	0	1	1	0	0	0	3	4	7	1	0	1	9



File Name : Not Named 1

Site Code : 00000000

Start Date : 9/11/2018

Page No : 1

Groups Printed- All Vehicles

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	24	0	16	0	40	0	0	1	0	1	0	206	34	0	240	21	186	0	0	207	488
07:15 AM	27	1	13	0	41	3	0	2	1	6	0	201	57	0	258	27	253	0	0	280	585
07:30 AM	42	0	26	0	68	2	2	0	0	4	0	306	58	0	364	17	289	0	0	306	742
07:45 AM	39	1	18	0	58	4	1	0	0	5	0	276	63	0	339	42	240	0	0	282	684
Total	132	2	73	0	207	9	3	3	1	16	0	989	212	0	1201	107	968	0	0	1075	2499
08:00 AM	41	2	26	0	69	1	3	0	0	4	2	279	53	0	334	21	203	1	2	227	634
08:15 AM	41	2	20	0	63	1	3	1	0	5	0	277	69	0	346	21	250	0	0	271	685
08:30 AM	47	1	30	0	78	2	2	2	0	6	2	322	42	0	366	25	218	1	0	244	694
08:45 AM	39	0	20	0	59	6	1	1	1	9	0	314	33	0	347	22	211	0	0	233	648
Total	168	5	96	0	269	10	9	4	1	24	4	1192	197	0	1393	89	882	2	2	975	2661
*** BREAK ***																					
11:00 AM	28	2	24	0	54	3	1	3	0	7	2	234	24	0	260	12	237	1	0	250	571
11:15 AM	37	0	22	0	59	2	0	0	0	2	0	230	27	0	257	15	234	5	0	254	572
11:30 AM	49	1	32	0	82	7	0	2	0	9	1	259	34	0	294	16	230	3	0	249	634
11:45 AM	40	2	33	0	75	1	0	0	0	1	0	218	32	0	250	23	263	1	0	287	613
Total	154	5	111	0	270	13	1	5	0	19	3	941	117	0	1061	66	964	10	0	1040	2390
12:00 PM	39	3	28	2	72	1	0	0	0	1	0	231	28	2	261	27	242	0	0	269	603
12:15 PM	49	3	41	0	93	3	2	0	0	5	0	236	30	2	268	15	287	6	0	308	674
12:30 PM	40	3	28	4	75	3	1	1	0	5	0	242	23	4	269	18	280	0	0	298	647
12:45 PM	37	0	33	0	70	3	0	2	0	5	5	235	35	0	275	21	266	3	0	290	640
Total	165	9	130	6	310	10	3	3	0	16	5	944	116	8	1073	81	1075	9	0	1165	2564
*** BREAK ***																					
02:00 PM	39	1	23	0	63	2	1	2	0	5	2	205	16	1	224	17	257	1	1	276	568
02:15 PM	49	3	25	0	77	2	2	0	0	4	3	188	17	0	208	31	298	6	0	335	624
02:30 PM	55	2	23	0	80	5	3	2	0	10	1	215	25	0	241	21	299	1	0	321	652
02:45 PM	51	2	34	0	87	1	2	4	0	7	2	225	35	0	262	21	290	1	0	312	668
Total	194	8	105	0	307	10	8	8	0	26	8	833	93	1	935	90	1144	9	1	1244	2512
03:00 PM	47	1	22	0	70	0	1	1	0	2	4	230	26	2	262	18	298	1	0	317	651
03:15 PM	65	2	28	0	95	4	1	4	0	9	0	235	20	0	255	18	303	2	0	323	682
03:30 PM	71	2	34	0	107	7	0	3	0	10	1	225	20	0	246	14	333	2	0	349	712
03:45 PM	69	1	28	0	98	2	1	1	0	4	1	211	20	0	232	20	298	2	0	320	654
Total	252	6	112	0	370	13	3	9	0	25	6	901	86	2	995	70	1232	7	0	1309	2699
04:00 PM	77	1	26	0	104	2	1	0	0	3	1	211	31	0	243	20	318	3	0	341	691
04:15 PM	80	2	21	0	103	5	1	3	0	9	0	201	20	0	221	20	309	5	0	334	667
04:30 PM	84	3	34	0	121	4	3	2	0	9	1	211	22	0	234	23	275	2	0	300	664
04:45 PM	61	4	33	0	98	4	1	0	0	5	1	244	18	0	263	25	327	1	0	353	719
Total	302	10	114	0	426	15	6	5	0	26	3	867	91	0	961	88	1229	11	0	1328	2741
05:00 PM	86	5	26	0	117	2	0	3	0	5	0	258	31	0	289	18	348	8	2	376	787
05:15 PM	83	5	29	0	117	2	1	1	0	4	1	293	36	0	330	34	378	7	0	419	870
05:30 PM	91	4	31	0	126	4	4	1	0	9	1	256	43	1	301	32	306	3	0	341	777
05:45 PM	53	0	26	0	79	0	2	2	0	4	0	293	52	0	345	43	262	3	0	308	736
Total	313	14	112	0	439	8	7	7	0	22	2	1100	162	1	1265	127	1294	21	2	1444	3170
Grand Total	1680	59	853	6	2598	88	40	44	2	174	31	7767	1074	12	8884	718	8788	69	5	9580	21236
Apprch %	64.7	2.3	32.8	0.2		50.6	23	25.3	1.1		0.3	87.4	12.1	0.1		7.5	91.7	0.7	0.1		
Total %	7.9	0.3	4	0	12.2	0.4	0.2	0.2	0	0.8	0.1	36.6	5.1	0.1	41.8	3.4	41.4	0.3	0	45.1	

File Name : Not Named 1

Site Code : 00000000

Start Date : 9/11/2018

Page No : 2

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	42	0	26	0	68	2	2	0	0	4	0	306	58	0	364	17	289	0	0	306	742
07:45 AM	39	1	18	0	58	4	1	0	0	5	0	276	63	0	339	42	240	0	0	282	684
08:00 AM	41	2	26	0	69	1	3	0	0	4	2	279	53	0	334	21	203	1	2	227	634
08:15 AM	41	2	20	0	63	1	3	1	0	5	0	277	69	0	346	21	250	0	0	271	685
Total Volume	163	5	90	0	258	8	9	1	0	18	2	1138	243	0	1383	101	982	1	2	1086	2745
% App. Total	63.2	1.9	34.9	0		44.4	50	5.6	0		0.1	82.3	17.6	0		9.3	90.4	0.1	0.2		
PHF	.970	.625	.865	.000	.935	.500	.750	.250	.000	.900	.250	.930	.880	.000	.950	.601	.849	.250	.250	.887	.925

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM					08:00 AM					08:00 AM					07:15 AM				
+0 mins.	41	2	26	0	69	1	3	0	0	4	2	279	53	0	334	27	253	0	0	280
+15 mins.	41	2	20	0	63	1	3	1	0	5	0	277	69	0	346	17	289	0	0	306
+30 mins.	47	1	30	0	78	2	2	2	0	6	2	322	42	0	366	42	240	0	0	282
+45 mins.	39	0	20	0	59	6	1	1	1	9	0	314	33	0	347	21	203	1	2	227
Total Volume	168	5	96	0	269	10	9	4	1	24	4	1192	197	0	1393	107	985	1	2	1095
% App. Total	62.5	1.9	35.7	0		41.7	37.5	16.7	4.2		0.3	85.6	14.1	0		9.8	90	0.1	0.2	
PHF	.894	.625	.800	.000	.862	.417	.750	.500	.250	.667	.500	.925	.714	.000	.952	.637	.852	.250	.250	.895

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	39	3	28	2	72	1	0	0	0	1	0	231	28	2	261	27	242	0	0	269	603
12:15 PM	49	3	41	0	93	3	2	0	0	5	0	236	30	2	268	15	287	6	0	308	674
12:30 PM	40	3	28	4	75	3	1	1	0	5	0	242	23	4	269	18	280	0	0	298	647
12:45 PM	37	0	33	0	70	3	0	2	0	5	5	235	35	0	275	21	266	3	0	290	640
Total Volume	165	9	130	6	310	10	3	3	0	16	5	944	116	8	1073	81	1075	9	0	1165	2564
% App. Total	53.2	2.9	41.9	1.9		62.5	18.8	18.8	0		0.5	88	10.8	0.7		7	92.3	0.8	0		
PHF	.842	.750	.793	.375	.833	.833	.375	.375	.000	.800	.250	.975	.829	.500	.975	.750	.936	.375	.000	.946	.951

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30 AM					11:30 AM					11:30 AM					12:00 PM				
+0 mins.	49	1	32	0	82	3	1	3	0	7	1	259	34	0	294	27	242	0	0	269
+15 mins.	40	2	33	0	75	2	0	0	0	2	0	218	32	0	250	15	287	6	0	308
+30 mins.	39	3	28	2	72	7	0	2	0	9	0	231	28	2	261	18	280	0	0	298
+45 mins.	49	3	41	0	93	1	0	0	0	1	0	236	30	2	268	21	266	3	0	290
Total Volume	177	9	134	2	322	13	1	5	0	19	1	944	124	4	1073	81	1075	9	0	1165
% App. Total	55	2.8	41.6	0.6		68.4	5.3	26.3	0		0.1	88	11.6	0.4		7	92.3	0.8	0	
PHF	.903	.750	.817	.250	.866	.464	.250	.417	.000	.528	.250	.911	.912	.500	.912	.750	.936	.375	.000	.946

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	86	5	26	0	117	2	0	3	0	5	0	258	31	0	289	18	348	8	2	376	787
05:15 PM	83	5	29	0	117	2	1	1	0	4	1	293	36	0	330	34	378	7	0	419	870
05:30 PM	91	4	31	0	126	4	4	1	0	9	1	256	43	1	301	32	306	3	0	341	777
05:45 PM	53	0	26	0	79	0	2	2	0	4	0	293	52	0	345	43	262	3	0	308	736
Total Volume	313	14	112	0	439	8	7	7	0	22	2	1100	162	1	1265	127	1294	21	2	1444	3170
% App. Total	71.3	3.2	25.5	0		36.4	31.8	31.8	0		0.2	87	12.8	0.1		8.8	89.6	1.5	0.1		
PHF	.860	.700	.903	.000	.871	.500	.438	.583	.000	.611	.500	.939	.779	.250	.917	.738	.856	.656	.250	.862	.911

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM					02:30 PM					05:00 PM					04:45 PM				
+0 mins.	61	4	33	0	98	5	3	2	0	10	0	258	31	0	289	25	327	1	0	353
+15 mins.	86	5	26	0	117	1	2	4	0	7	1	293	36	0	330	18	348	8	2	376
+30 mins.	83	5	29	0	117	0	1	1	0	2	1	256	43	1	301	34	378	7	0	419
+45 mins.	91	4	31	0	126	4	1	4	0	9	0	293	52	0	345	32	306	3	0	341
Total Volume	321	18	119	0	458	10	7	11	0	28	2	1100	162	1	1265	109	1359	19	2	1489
% App. Total	70.1	3.9	26	0		35.7	25	39.3	0		0.2	87	12.8	0.1		7.3	91.3	1.3	0.1	
PHF	.882	.900	.902	.000	.909	.500	.583	.688	.000	.700	.500	.939	.779	.250	.917	.801	.899	.594	.250	.888

File Name : State Road 426 at Clay Street
 Site Code : 00000000
 Start Date : 9/11/2018
 Page No : 1

Groups Printed- Heavy Trucks

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	5	1	0	6	0	3	0	0	3	10
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	5	0	0	5	13
07:30 AM	0	0	2	0	2	0	0	0	0	0	0	3	2	0	5	1	9	0	0	10	17
07:45 AM	2	0	0	0	2	0	0	0	0	0	0	6	1	0	7	1	4	0	0	5	14
Total	3	0	2	0	5	0	0	0	0	0	0	22	4	0	26	2	21	0	0	23	54
08:00 AM	1	0	0	0	1	0	0	0	0	0	0	4	1	0	5	0	3	0	0	3	9
08:15 AM	2	0	0	0	2	0	0	0	0	0	0	5	1	0	6	0	7	0	0	7	15
08:30 AM	1	0	1	0	2	0	0	0	0	0	0	3	2	0	5	0	5	0	0	5	12
08:45 AM	2	0	0	0	2	0	0	0	1	1	0	4	0	0	4	1	9	0	0	10	17
Total	6	0	1	0	7	0	0	0	1	1	0	16	4	0	20	1	24	0	0	25	53
*** BREAK ***																					
11:00 AM	1	0	2	0	3	1	0	0	0	1	0	5	0	0	5	0	5	0	0	5	14
11:15 AM	2	0	0	0	2	0	0	0	0	0	0	5	1	0	6	1	3	1	0	5	13
11:30 AM	2	0	2	0	4	0	0	0	0	0	0	3	2	0	5	1	10	0	0	11	20
11:45 AM	4	0	0	0	4	0	0	0	0	0	0	2	1	0	3	2	6	0	0	8	15
Total	9	0	4	0	13	1	0	0	0	1	0	15	4	0	19	4	24	1	0	29	62
12:00 PM	0	0	1	2	3	0	0	0	0	0	0	4	1	2	7	1	6	0	0	7	17
12:15 PM	1	0	2	0	3	0	0	0	0	0	0	3	2	2	7	1	7	0	0	8	18
12:30 PM	0	0	3	4	7	0	0	0	0	0	0	6	0	4	10	0	10	0	0	10	27
12:45 PM	1	0	1	0	2	0	0	0	0	0	0	3	2	0	5	1	9	0	0	10	17
Total	2	0	7	6	15	0	0	0	0	0	0	16	5	8	29	3	32	0	0	35	79
*** BREAK ***																					
02:00 PM	3	0	0	0	3	0	0	0	0	0	0	5	0	1	6	1	6	0	0	7	16
02:15 PM	2	0	0	0	2	0	0	0	0	0	0	5	1	0	6	0	10	0	0	10	18
02:30 PM	1	0	1	0	2	0	0	0	0	0	0	3	1	0	4	0	5	0	0	5	11
02:45 PM	2	0	0	0	2	0	0	0	0	0	0	5	0	0	5	1	8	0	0	9	16
Total	8	0	1	0	9	0	0	0	0	0	0	18	2	1	21	2	29	0	0	31	61
03:00 PM	2	0	0	0	2	0	0	0	0	0	0	4	0	2	6	0	5	0	0	5	13
03:15 PM	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	12
03:30 PM	1	0	2	0	3	1	0	0	0	1	0	5	2	0	7	1	4	0	0	5	16
03:45 PM	3	0	0	0	3	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	11
Total	9	0	2	0	11	1	0	0	0	1	0	14	2	2	18	1	21	0	0	22	52
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	9	0	0	9	11
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0	9	0	0	9	12
04:30 PM	2	0	1	0	3	0	0	0	0	0	0	4	1	0	5	1	6	1	0	8	16
04:45 PM	1	0	1	0	2	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	8
Total	4	0	2	0	6	0	0	0	0	0	0	11	2	0	13	1	26	1	0	28	47
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	7
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	1	1	1	3	2	4	0	0	6	10
05:45 PM	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	6
Total	3	0	1	0	4	0	0	0	0	0	0	8	1	1	10	3	11	0	0	14	28
Grand Total	44	0	20	6	70	2	0	0	1	3	0	120	24	12	156	17	188	2	0	207	436
Apprch %	62.9	0	28.6	8.6		66.7	0	0	33.3		0	76.9	15.4	7.7		8.2	90.8	1	0		
Total %	10.1	0	4.6	1.4	16.1	0.5	0	0	0.2	0.7	0	27.5	5.5	2.8	35.8	3.9	43.1	0.5	0	47.5	

File Name : State Road 426 at Clay Street
 Site Code : 00000000
 Start Date : 9/11/2018
 Page No : 2

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	2	0	2	0	0	0	0	0	0	3	2	0	5	1	9	0	0	10	17
07:45 AM	2	0	0	0	2	0	0	0	0	0	0	6	1	0	7	1	4	0	0	5	14
08:00 AM	1	0	0	0	1	0	0	0	0	0	0	4	1	0	5	0	3	0	0	3	9
08:15 AM	2	0	0	0	2	0	0	0	0	0	0	5	1	0	6	0	7	0	0	7	15
Total Volume	5	0	2	0	7	0	0	0	0	0	0	18	5	0	23	2	23	0	0	25	55
% App. Total	71.4	0	28.6	0		0	0	0	0		0	78.3	21.7	0		8	92	0	0		
PHF	.625	.000	.250	.000	.875	.000	.000	.000	.000	.000	.000	.750	.625	.000	.821	.500	.639	.000	.000	.625	.809

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM					08:00 AM					07:00 AM					07:30 AM				
+0 mins.	0	0	2	0	2	0	0	0	0	0	0	5	1	0	6	1	9	0	0	10
+15 mins.	2	0	0	0	2	0	0	0	0	0	0	8	0	0	8	1	4	0	0	5
+30 mins.	1	0	0	0	1	0	0	0	0	0	0	3	2	0	5	0	3	0	0	3
+45 mins.	2	0	0	0	2	0	0	0	1	1	0	6	1	0	7	0	7	0	0	7
Total Volume	5	0	2	0	7	0	0	0	1	1	0	22	4	0	26	2	23	0	0	25
% App. Total	71.4	0	28.6	0		0	0	0	100		0	84.6	15.4	0		8	92	0	0	
PHF	.625	.000	.250	.000	.875	.000	.000	.000	.250	.250	.000	.688	.500	.000	.813	.500	.639	.000	.000	.625

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00 PM

12:00 PM	0	0	1	2	3	0	0	0	0	0	0	4	1	2	7	1	6	0	0	7	17
12:15 PM	1	0	2	0	3	0	0	0	0	0	0	3	2	2	7	1	7	0	0	8	18
12:30 PM	0	0	3	4	7	0	0	0	0	0	0	6	0	4	10	0	10	0	0	10	27
12:45 PM	1	0	1	0	2	0	0	0	0	0	0	3	2	0	5	1	9	0	0	10	17
Total Volume	2	0	7	6	15	0	0	0	0	0	0	16	5	8	29	3	32	0	0	35	79
% App. Total	13.3	0	46.7	40		0	0	0	0		0	55.2	17.2	27.6		8.6	91.4	0	0		
PHF	.500	.000	.583	.375	.536	.000	.000	.000	.000	.000	.000	.667	.625	.500	.725	.750	.800	.000	.000	.875	.731

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45 AM					10:15 AM					12:00 PM					12:00 PM				
+0 mins.	4	0	0	0	4	0	0	0	0	0	0	4	1	2	7	1	6	0	0	7
+15 mins.	0	0	1	2	3	0	0	0	0	0	0	3	2	2	7	1	7	0	0	8
+30 mins.	1	0	2	0	3	0	0	0	0	0	0	6	0	4	10	0	10	0	0	10
+45 mins.	0	0	3	4	7	1	0	0	0	1	0	3	2	0	5	1	9	0	0	10
Total Volume	5	0	6	6	17	1	0	0	0	1	0	16	5	8	29	3	32	0	0	35
% App. Total	29.4	0	35.3	35.3		100	0	0	0		0	55.2	17.2	27.6		8.6	91.4	0	0	
PHF	.313	.000	.500	.375	.607	.250	.000	.000	.000	.250	.000	.667	.625	.500	.725	.750	.800	.000	.000	.875

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	3	0	0	0	3	0	0	0	0	0	0	5	0	1	6	1	6	0	0	7	16
02:15 PM	2	0	0	0	2	0	0	0	0	0	0	5	1	0	6	0	10	0	0	10	18
02:30 PM	1	0	1	0	2	0	0	0	0	0	0	3	1	0	4	0	5	0	0	5	11
02:45 PM	2	0	0	0	2	0	0	0	0	0	0	5	0	0	5	1	8	0	0	9	16
Total Volume	8	0	1	0	9	0	0	0	0	0	0	18	2	1	21	2	29	0	0	31	61
% App. Total	88.9	0	11.1	0		0	0	0	0		0	85.7	9.5	4.8		6.5	93.5	0	0		
PHF	.667	.000	.250	.000	.750	.000	.000	.000	.000	.000	.000	.900	.500	.250	.875	.500	.725	.000	.000	.775	.847

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM					02:45 PM					02:00 PM					02:00 PM				
+0 mins.	2	0	0	0	2	0	0	0	0	0	0	5	0	1	6	1	6	0	0	7
+15 mins.	3	0	0	0	3	0	0	0	0	0	0	5	1	0	6	0	10	0	0	10
+30 mins.	1	0	2	0	3	0	0	0	0	0	0	3	1	0	4	0	5	0	0	5
+45 mins.	3	0	0	0	3	1	0	0	0	1	0	5	0	0	5	1	8	0	0	9
Total Volume	9	0	2	0	11	1	0	0	0	1	0	18	2	1	21	2	29	0	0	31
% App. Total	81.8	0	18.2	0		100	0	0	0		0	85.7	9.5	4.8		6.5	93.5	0	0	
PHF	.750	.000	.250	.000	.917	.250	.000	.000	.000	.250	.000	.900	.500	.250	.875	.500	.725	.000	.000	.775

File Name : State Road 426 at Clay Street
 Site Code : 00000000
 Start Date : 9/11/2018
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Groups Printed- UTurns

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
*** BREAK ***																					
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
02:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
*** BREAK ***																					
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	3
Apprch %	0	0	0	0		0	0	0	0		100	0	0	0		100	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	33.3	0	0	0	33.3	66.7	0	0	0	66.7	

	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					07:00 AM					07:00 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 10:15 AM

10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250

File Name : State Road 426 at Clay Street
 Site Code : 00000000
 Start Date : 9/11/2018
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	CLAY STREET Northbound					CLAY STREET Southbound					STATE ROAD 426 Eastbound					STATE ROAD 426 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	10:00 AM					10:00 AM					10:00 AM					10:15 AM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.000	.250

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:15 PM

02:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	2
% App. Total	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	100	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250	.500

Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1

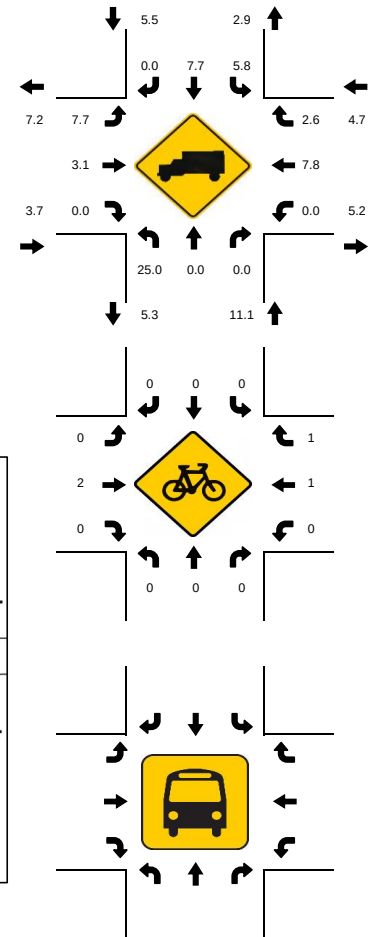
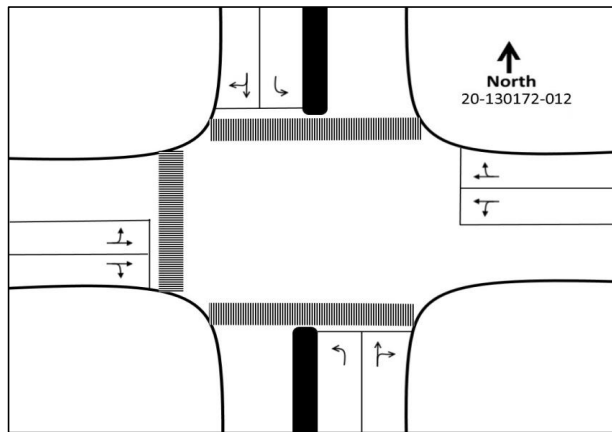
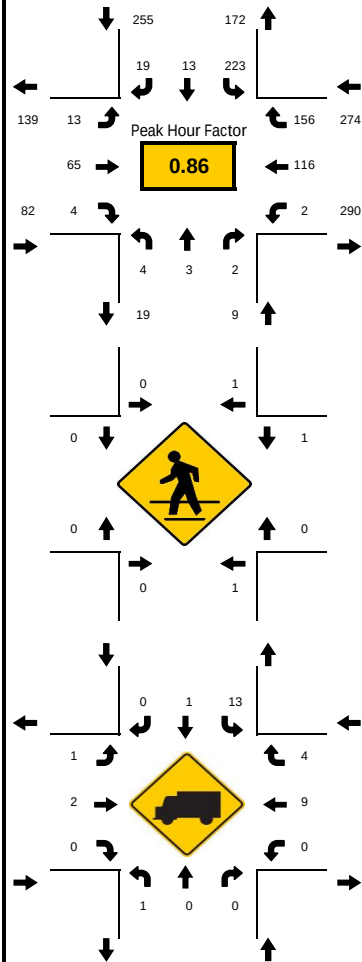
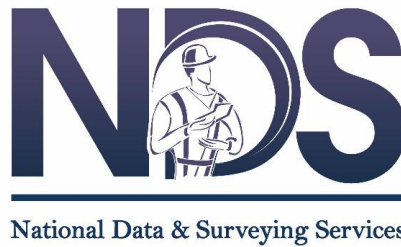
Peak Hour for Each Approach Begins at:

	02:00 PM					02:00 PM					02:00 PM					02:15 PM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	100	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250

LOCATION: Lee Rd/Guitar Center Dwy & W Webster Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-012
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

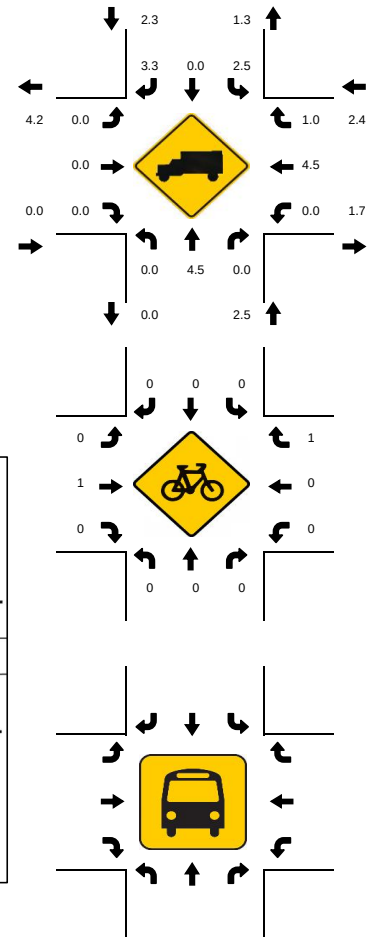
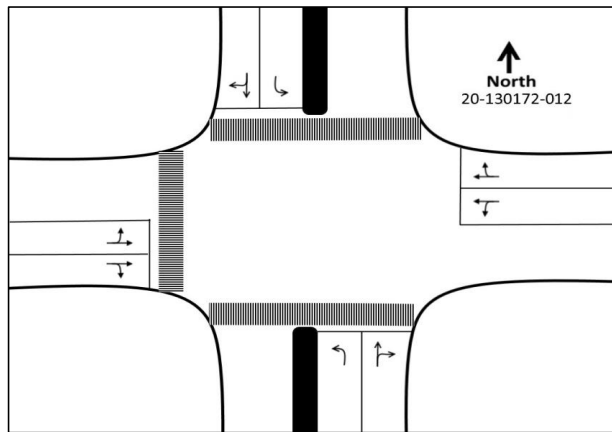
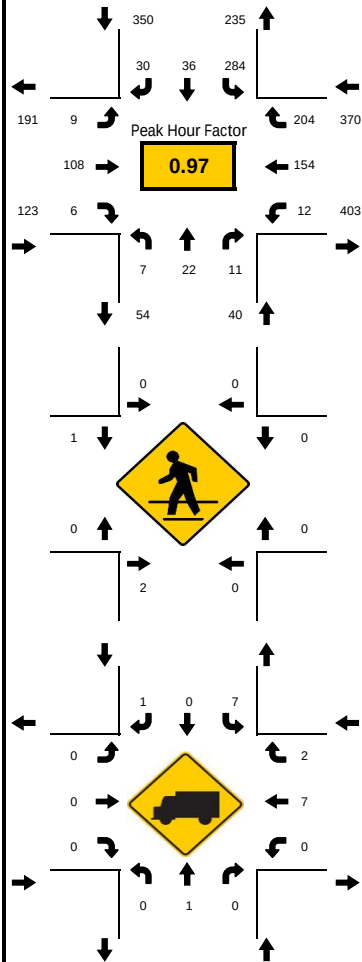
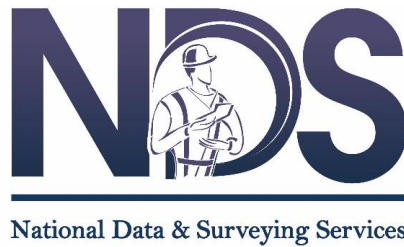


15-Min Count Period Beginning At	Lee Rd/Guitar Center Dwy Northbound					Lee Rd/Guitar Center Dwy Southbound					W Webster Ave Eastbound					W Webster Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	0	0	0		24	2	2	0		0	13	0	0		1	14	18	0		74	494
07:15 AM	0	3	0	0		33	1	5	0		2	9	0	0		1	24	27	0		105	573
07:30 AM	0	0	0	0		43	1	4	0		3	24	0	0		2	22	35	0		134	610
07:45 AM	2	0	0	0		61	2	2	0		4	17	1	0		1	50	41	0		181	620
08:00 AM	0	2	0	0		59	2	6	0		5	22	1	0		0	25	31	0		153	589
08:15 AM	1	1	1	0		47	7	4	0		3	14	2	0		1	19	42	0		142	436
08:30 AM	1	0	1	0		56	2	7	0		1	12	0	0		0	22	42	0		144	294
08:45 AM	0	2	1	0		45	6	4	0		0	22	0	0		1	29	40	0		150	150
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	8	8	4	0		244	28	28	0		20	88	8	0		4	200	168	0		808	
Heavy Trucks	4	0	0			20	4	0			4	4	0			0	12	12			60	
Pedestrians		4					4					0					4				12	
Bicycles	0	0	0			0	0	0			0	4	0			0	4	4			12	
Railroad																						
Stopped Buses																						

LOCATION: Lee Rd/Guitar Center Dwy & W Webster Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-012
DATE: 09/16/2020

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

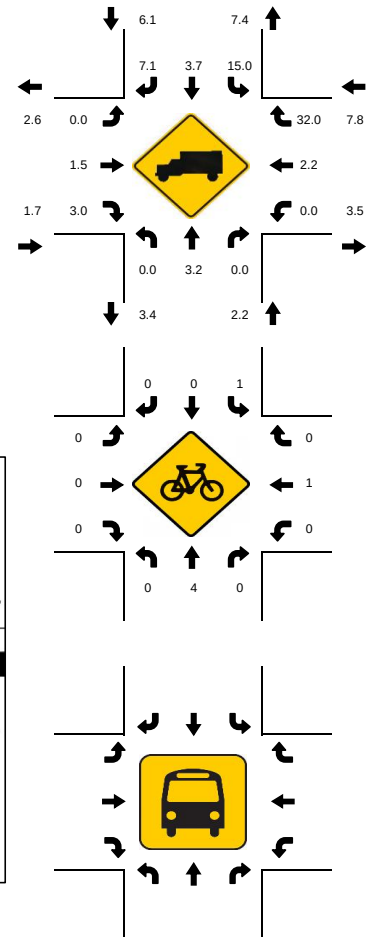
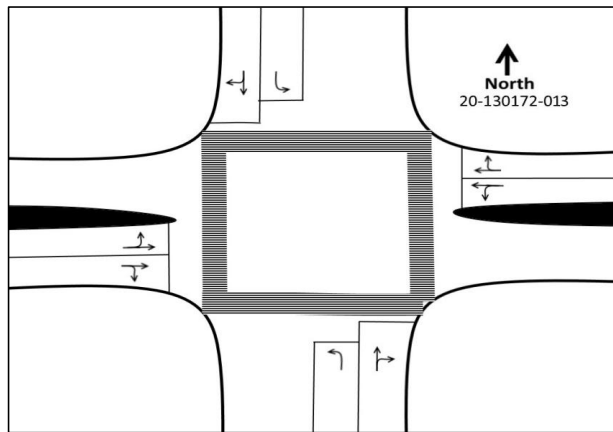
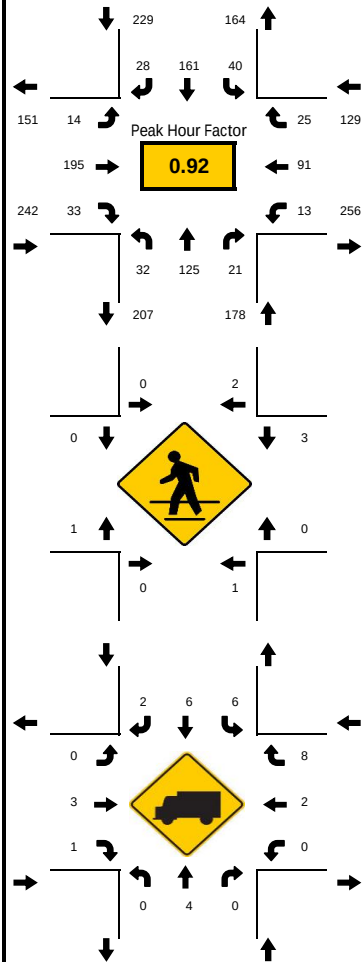
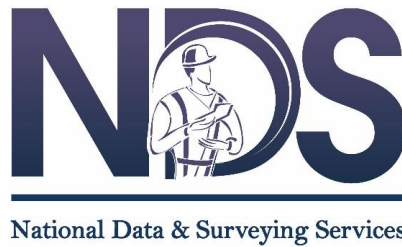


15-Min Count Period Beginning At	Lee Rd/Guitar Center Dwy Northbound					Lee Rd/Guitar Center Dwy Southbound					W Webster Ave Eastbound					W Webster Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	3	7	3	0		47	7	3	0		2	31	4	0		5	33	55	0		200	822
04:15 PM	5	6	4	0		54	5	1	0		2	34	4	0		4	42	47	0		208	838
04:30 PM	2	6	3	0		62	6	5	0		0	24	1	0		3	44	40	0		196	857
04:45 PM	2	7	3	0		70	14	7	0		0	25	2	0		2	38	48	0		218	883
05:00 PM	2	4	1	0		74	6	5	0		3	31	0	0		1	30	59	0		216	877
05:15 PM	1	6	3	0		70	7	9	0		3	27	3	0		3	49	46	0		227	661
05:30 PM	2	5	4	0		70	9	9	0		3	25	1	0		6	37	51	0		222	434
05:45 PM	2	5	2	0		63	10	5	0		0	37	0	0		6	37	45	0		212	212
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	8	28	16	0		296	56	36	0		12	124	12	0		24	196	236	0		1044	
Heavy Trucks	0	4	0			16	0	4			0	0	0			0	12	4			40	
Pedestrians		8						0				4					0				12	
Bicycles	0	0	0			0	0	0			0	4	0			0	0	4			8	
Railroad																						
Stopped Buses																						

LOCATION: S Denning Dr & W Morse Blvd
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-013
DATE: 09/16/2020

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM

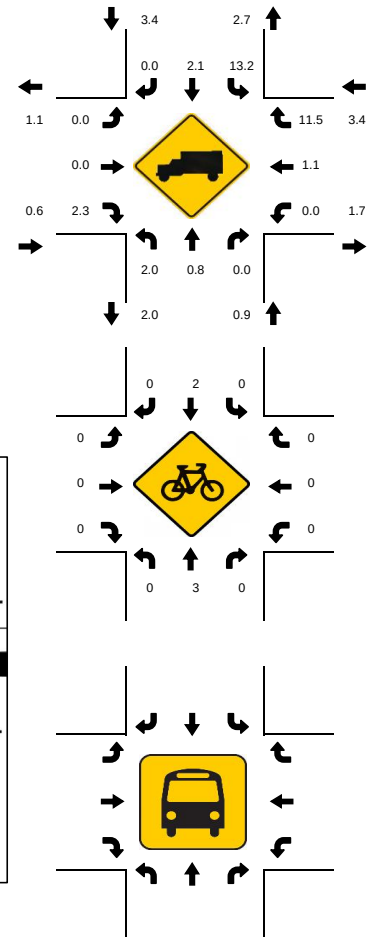
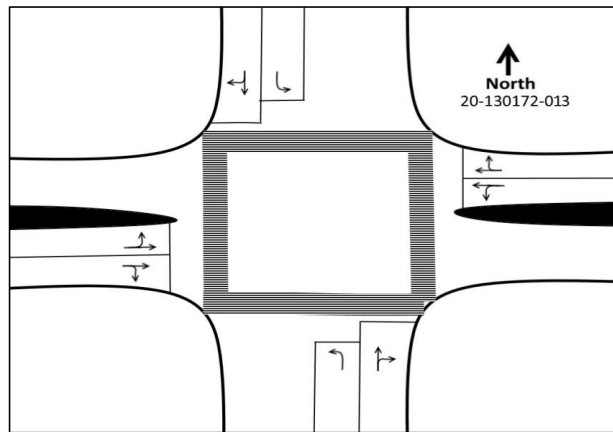
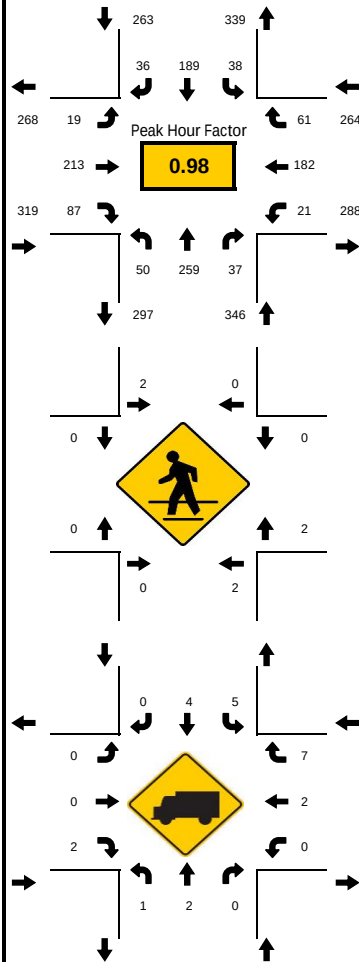
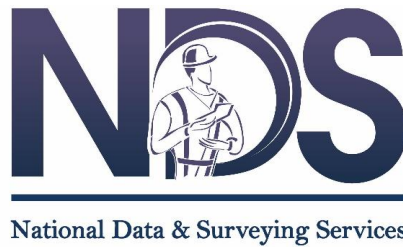


15-Min Count Period Beginning At	S Denning Dr Northbound					S Denning Dr Southbound					W Morse Blvd Eastbound					W Morse Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	3	11	3	0		9	14	4	0		0	16	5	0		0	10	3	0		78	519
07:15 AM	4	22	3	0		2	24	6	0		0	19	1	0		0	13	4	0		98	625
07:30 AM	3	24	6	0		4	33	6	0		3	42	2	0		1	11	3	0		138	716
07:45 AM	5	30	2	0		11	46	6	0		2	43	11	1		9	32	7	0		205	772
08:00 AM	8	27	6	0		8	50	6	0		3	39	12	1		4	12	8	0		184	778
08:15 AM	8	29	5	0		14	31	8	0		2	54	6	0		1	25	6	0		189	594
08:30 AM	8	34	2	0		9	40	12	0		2	54	6	0		3	19	4	1		194	405
08:45 AM	8	35	8	0		9	40	2	0		6	48	9	0		4	35	7	0		211	211
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	32	140	32	0		56	200	48	0		24	216	48	4		16	140	32	4		992	
Heavy Trucks	0	12	0			8	16	8			0	8	4			0	8	12			76	
Pedestrians		4					4					4					4				16	
Bicycles	0	8	0			4	0	0			0	0	0			0	4	0			16	
Railroad																						
Stopped Buses																						

LOCATION: S Denning Dr & W Morse Blvd
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-013
DATE: 09/16/2020

Peak-Hour: 05:00 PM - 06:00 PM
Peak 15-Minute: 05:45 PM - 06:00 PM

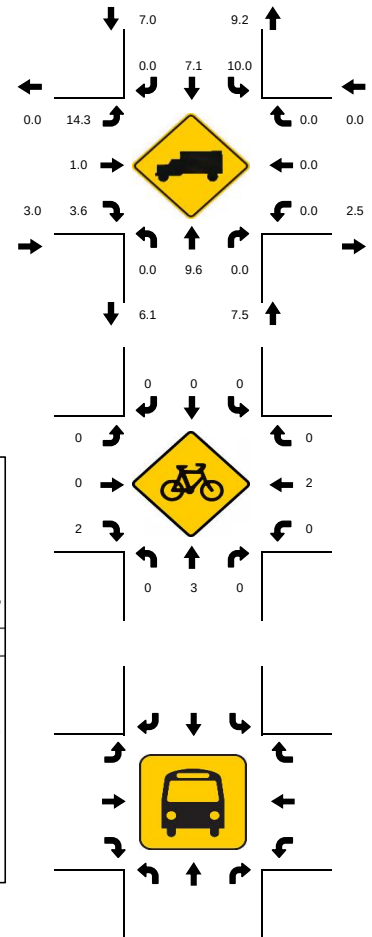
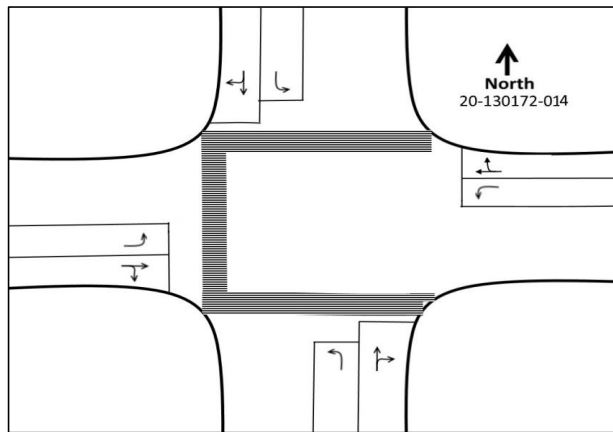
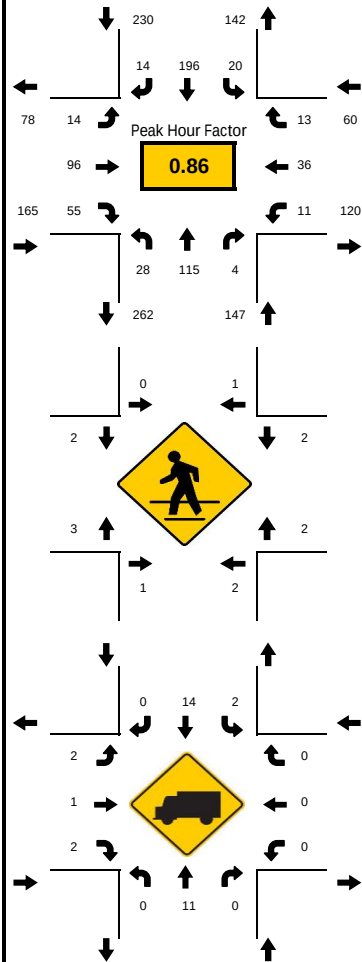
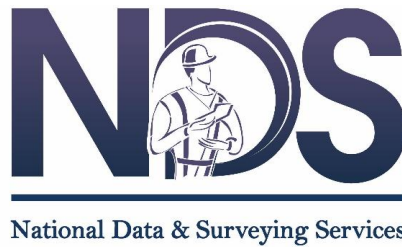


15-Min Count Period Beginning At	S Denning Dr Northbound					S Denning Dr Southbound					W Morse Blvd Eastbound					W Morse Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	7	52	5	0		14	38	4	0		7	48	17	0		3	33	15	0		243	1024
04:15 PM	11	60	6	0		15	54	8	0		5	48	12	0		3	27	14	1		264	1068
04:30 PM	8	51	5	0		10	49	10	0		5	38	10	0		3	39	6	0		234	1105
04:45 PM	5	53	9	0		10	54	6	0		5	54	12	0		9	49	17	0		283	1172
05:00 PM	3	55	10	0		7	55	11	0		4	52	16	0		6	53	15	0		287	1192
05:15 PM	17	68	7	0		9	37	6	0		5	47	28	0		5	56	16	0		301	905
05:30 PM	21	74	8	0		10	45	11	0		4	55	19	0		3	36	14	1		301	604
05:45 PM	9	62	12	0		12	52	8	0		6	59	24	0		6	37	16	0		303	303
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	84	296	48	0		48	220	44	0		24	236	112	0		24	224	64	4		1428	
Heavy Trucks	4	8	0			8	8	0			0	0	4			0	4	12			48	
Pedestrians		4					4					0					8				16	
Bicycles	0	8	0			0	4	0			0	0	0			0	0	0			12	
Railroad																						
Stopped Buses																						

LOCATION: N Denning Dr & W Canton Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-014
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

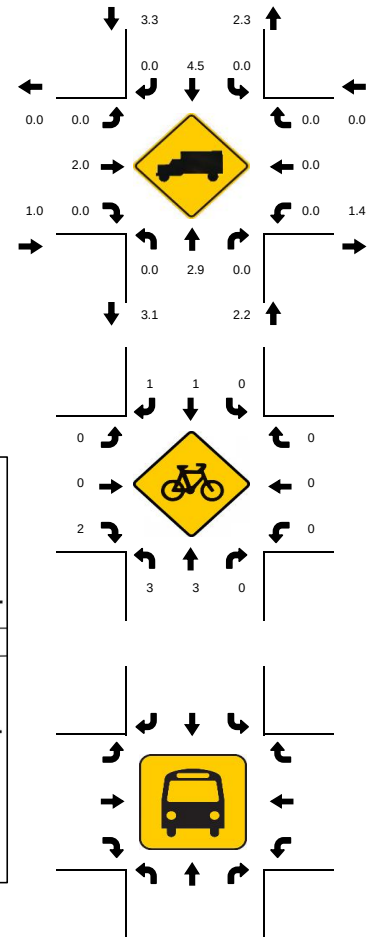
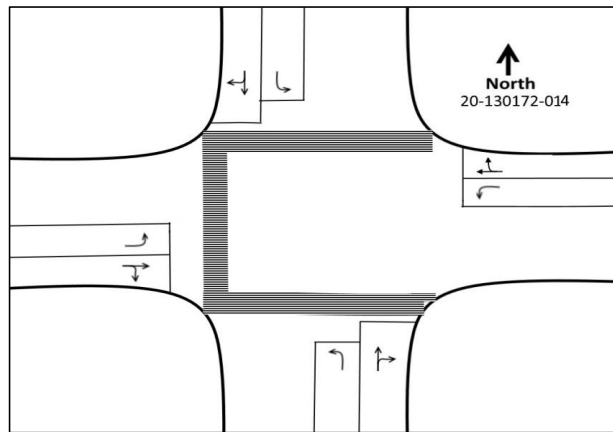
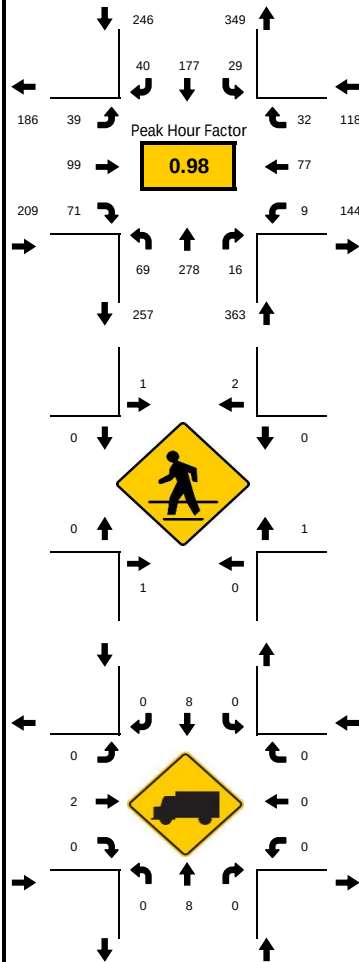
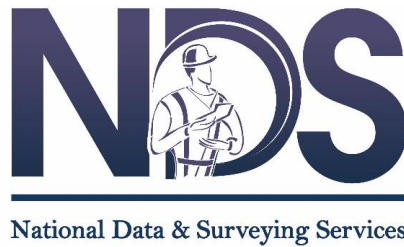


15-Min Count Period Beginning At	N Denning Dr Northbound					N Denning Dr Southbound					W Canton Ave Eastbound					W Canton Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	13	1	0		0	22	1	0		1	8	7	0		1	3	0	0		57	444
07:15 AM	4	20	2	0		0	26	3	0		1	11	8	0		4	7	1	0		87	539
07:30 AM	4	23	1	0		2	44	3	0		3	26	11	0		2	6	1	0		126	587
07:45 AM	11	30	2	0		3	52	8	0		2	33	17	0		1	10	5	0		174	602
08:00 AM	5	24	1	0		7	55	0	0		4	25	13	0		4	9	5	0		152	582
08:15 AM	5	30	1	0		4	46	3	0		6	20	12	0		2	6	0	0		135	430
08:30 AM	7	31	0	0		6	43	3	0		2	18	13	0		4	11	3	0		141	295
08:45 AM	15	27	2	0		6	43	5	0		3	23	12	0		3	11	4	0		154	154
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	44	124	8	0		28	220	32	0		24	132	68	0		16	44	20	0		760	
Heavy Trucks	0	24	0			8	20	0			8	4	4			0	0	0			68	
Pedestrians		8					4					8					8				28	
Bicycles	0	8	0			0	0	0			0	0	4			0	4	0			16	
Railroad																						
Stopped Buses																						

LOCATION: N Denning Dr & W Canton Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-014
DATE: 09/16/2020

Peak-Hour: 05:00 PM - 06:00 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

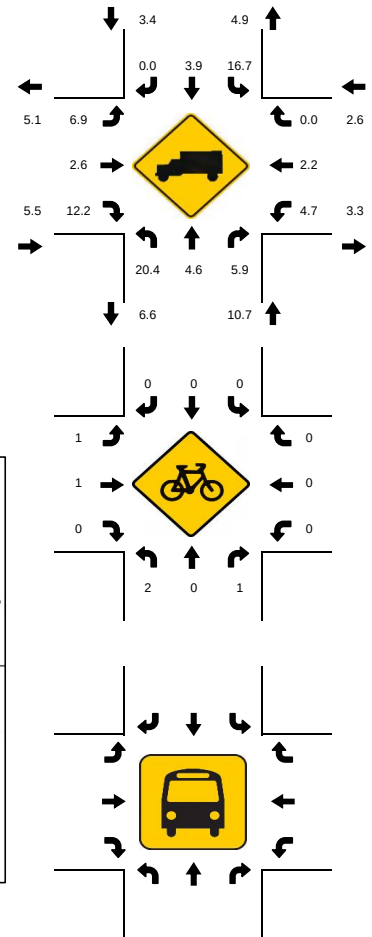
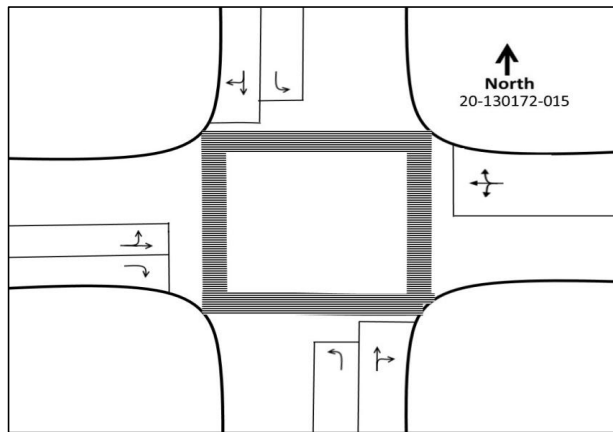
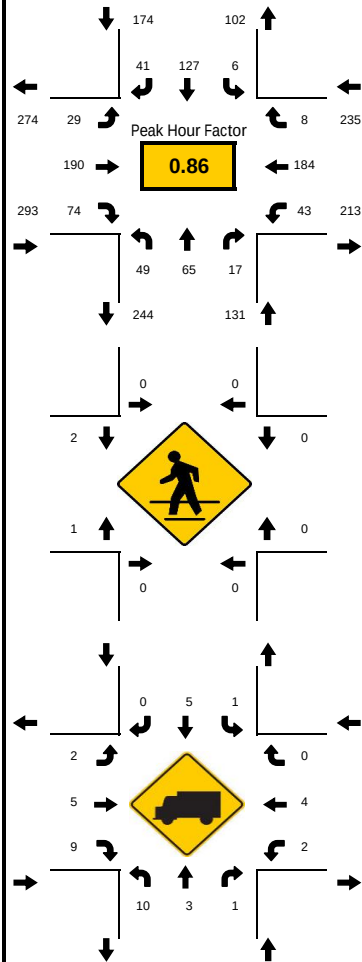
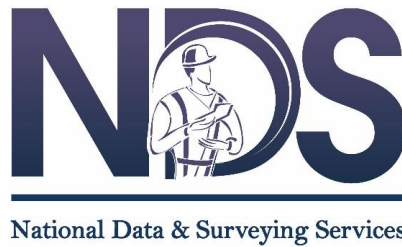


15-Min Count Period Beginning At	N Denning Dr Northbound					N Denning Dr Southbound					W Canton Ave Eastbound					W Canton Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	15	58	5	0		3	42	7	0		9	21	14	0		3	20	7	0		204	842
04:15 PM	17	60	3	0		6	51	2	0		10	19	13	0		3	18	10	0		212	872
04:30 PM	11	57	2	0		3	56	8	0		5	23	20	0		4	21	5	0		215	898
04:45 PM	16	71	3	0		2	46	6	0		9	16	14	0		2	15	11	0		211	921
05:00 PM	20	62	4	0		3	49	10	0		11	22	22	0		1	18	12	0		234	936
05:15 PM	12	79	6	0		14	35	10	0		16	24	13	0		3	19	7	0		238	702
05:30 PM	20	73	0	0		5	42	10	0		8	27	22	0		3	20	8	0		238	464
05:45 PM	17	64	6	0		7	51	10	0		4	26	14	0		2	20	5	0		226	226
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	80	316	24	0		56	204	40	0		64	108	88	0		12	80	48	0		1120	
Heavy Trucks	0	12	0			0	12	0			0	8	0			0	0	0			32	
Pedestrians		4					8					0					4				16	
Bicycles	4	8	0			0	4	4			0	0	4			0	0	0			24	
Railroad																						
Stopped Buses																						

LOCATION: N Denning Dr & W Webster Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-015
DATE: 09/16/2020

Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 07:45 AM - 08:00 AM

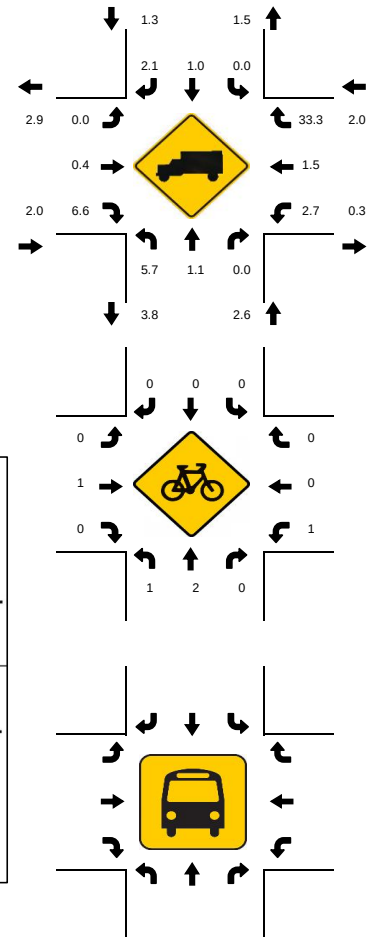
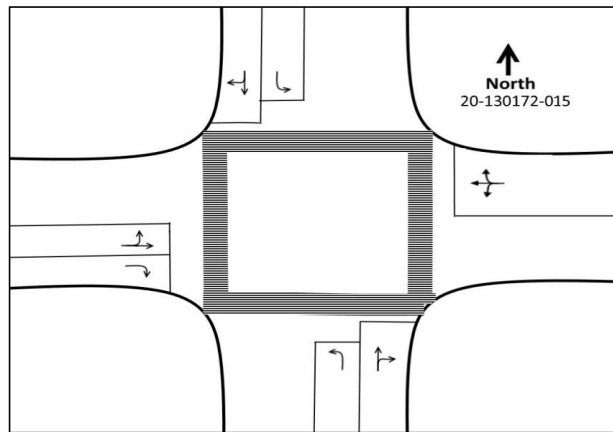
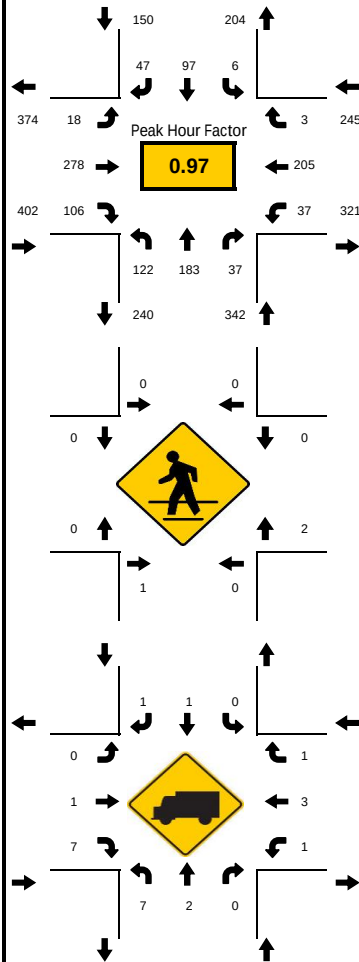
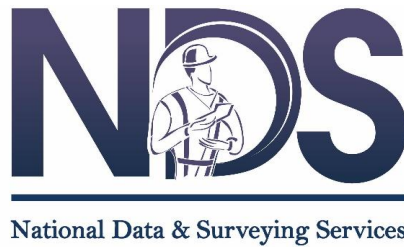


15-Min Count Period Beginning At	N Denning Dr Northbound					N Denning Dr Southbound					W Webster Ave Eastbound					W Webster Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	4	11	1	0		0	10	2	0		4	17	12	0		2	30	1	0		94	643
07:15 AM	6	11	1	0		2	12	5	0		8	28	6	0		6	37	2	0		124	757
07:30 AM	6	14	1	0		1	30	8	0		12	44	10	0		9	48	1	0		184	822
07:45 AM	14	15	2	0		2	40	15	0		9	55	17	0		12	57	3	0		241	833
08:00 AM	13	14	6	0		3	31	7	0		11	45	18	0		13	43	4	0		208	778
08:15 AM	12	18	4	0		0	26	12	0		7	42	21	0		11	35	1	0		189	570
08:30 AM	10	18	5	0		1	30	7	0		2	48	18	0		7	49	0	0		195	381
08:45 AM	13	10	7	0		0	22	7	0		8	44	17	0		7	48	3	0		186	186
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	56	72	24	0		12	160	60	0		44	220	84	0		52	228	16	0		1028	
Heavy Trucks	16	12	4			4	8	0			8	8	12			4	8	0			84	
Pedestrians	0					0					8					0					8	
Bicycles	8	0	4			0	0	0			4	4	0			0	0	0			20	
Railroad																						
Stopped Buses																						

LOCATION: N Denning Dr & W Webster Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-130172-015
DATE: 09/16/2020

Peak-Hour: 05:00 PM - 06:00 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



15-Min Count Period Beginning At	N Denning Dr Northbound					N Denning Dr Southbound					W Webster Ave Eastbound					W Webster Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	23	25	9	0		4	15	8	0		7	53	28	0		6	57	3	0		238	1019
04:15 PM	37	26	13	0		2	15	5	0		9	42	33	0		7	56	2	0		247	1074
04:30 PM	22	36	8	0		1	26	17	0		5	61	25	0		9	45	0	0		255	1111
04:45 PM	28	41	8	0		3	23	9	0		7	72	25	0		9	52	2	0		279	1133
05:00 PM	29	48	8	0		1	28	9	0		3	71	26	0		13	55	2	0		293	1139
05:15 PM	36	47	9	0		2	22	15	0		6	68	27	0		5	47	0	0		284	846
05:30 PM	26	47	15	0		2	22	16	0		2	63	26	0		7	50	1	0		277	562
05:45 PM	31	41	5	0		1	25	7	0		7	76	27	0		12	53	0	0		285	285
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	144	192	60	0		8	112	64	0		28	304	108	0		52	220	8	0		1300	
Heavy Trucks	12	8	0			0	4	4			0	4	12			4	4	4			56	
Pedestrians	4							0					0				4				8	
Bicycles	4	8	0			0	0	0			0	4	0			4		0	0		20	
Railroad																						
Stopped Buses																						

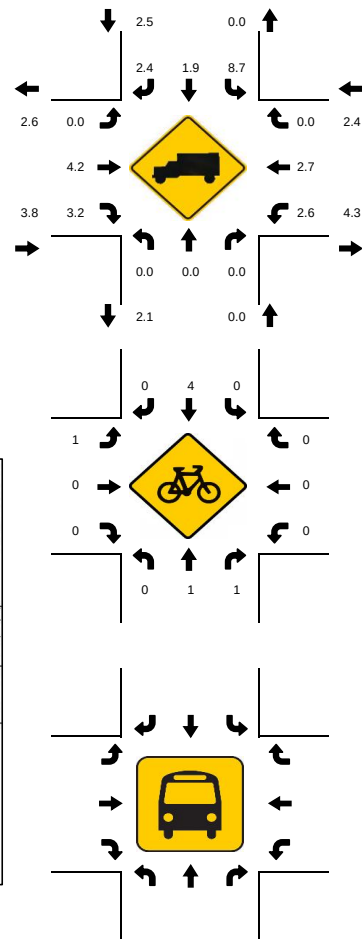
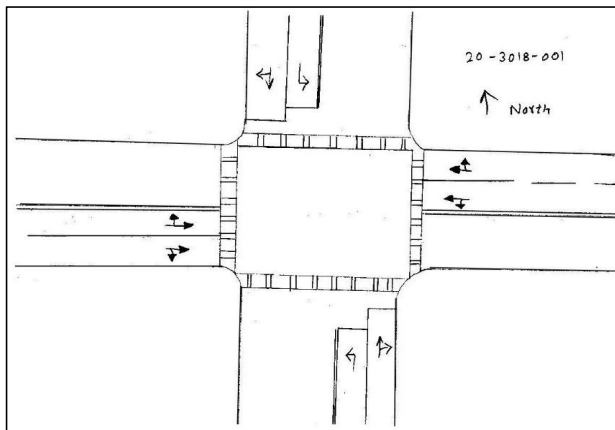
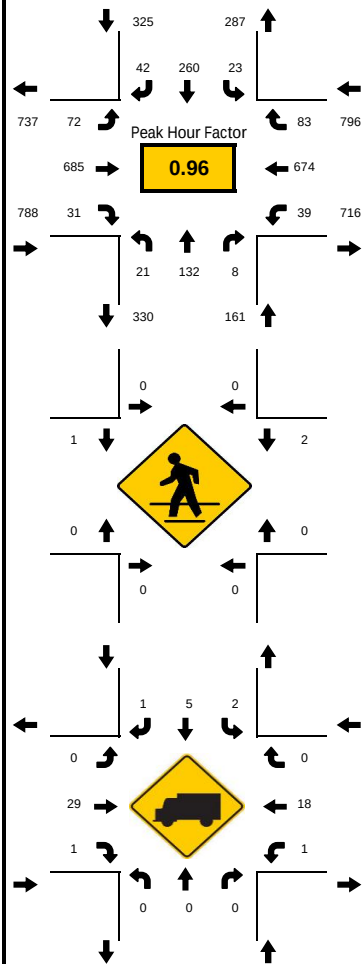
LOCATION: S Denning Dr & Fairbanks Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-03018-001
DATE: 01/14/2020

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:00 AM - 08:15 AM



National Data & Surveying Services

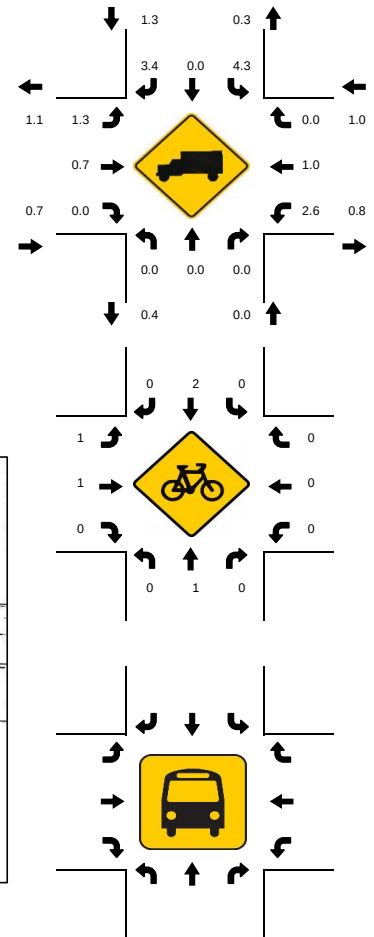
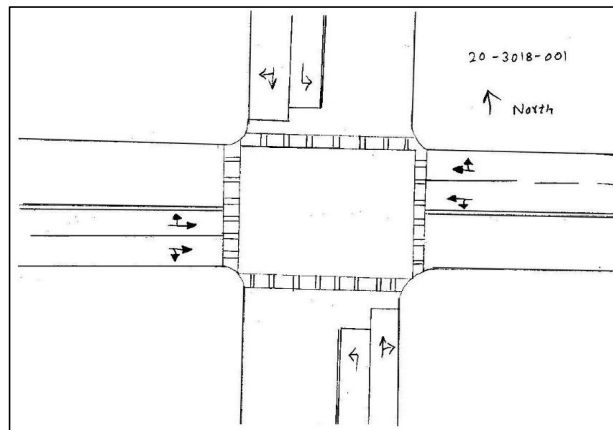
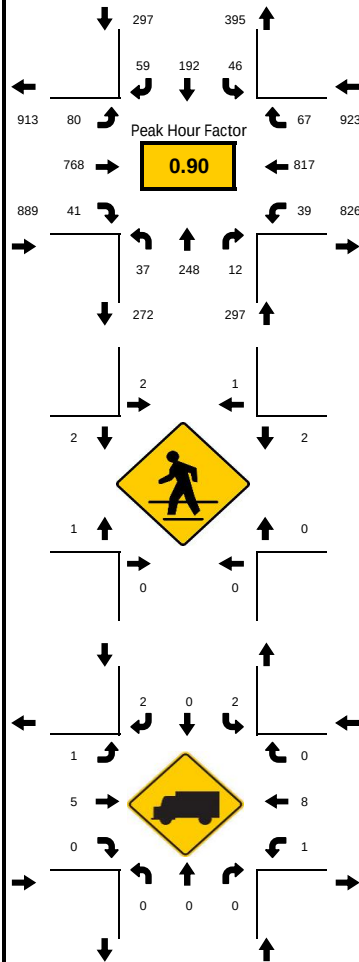
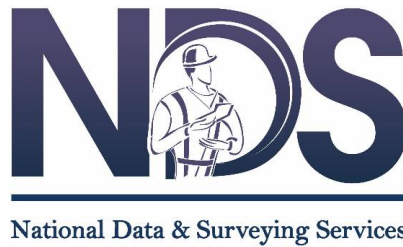


15-Min Count Period Beginning At	S Denning Dr Northbound					S Denning Dr Southbound					Fairbanks Ave Eastbound					Fairbanks Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	9	7	1	0		4	24	8	0		9	116	2	0		3	167	6	0		356	1755
07:15 AM	1	15	0	0		5	44	10	0		6	152	1	0		8	231	7	0		480	1940
07:30 AM	3	31	0	0		10	65	8	0		3	125	2	0		5	187	11	0		450	1970
07:45 AM	4	19	1	0		7	59	2	0		13	137	8	0		14	187	18	0		469	2025
08:00 AM	4	19	3	0		4	85	14	0		5	177	6	0		18	186	20	0		541	2070
08:15 AM	5	35	1	0		5	63	10	0		22	163	8	0		10	163	25	0		510	1529
08:30 AM	4	41	2	0		6	53	9	0		23	176	6	0		6	157	22	0		505	1019
08:45 AM	8	37	2	0		8	59	9	0		22	169	11	0		5	168	16	0		514	514
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
All Vehicles	32	164	12	0		32	340	56	0		92	708	44	0		72	744	100	0		2396	
Heavy Trucks	0	0	0			4	12	4			0	40	4			4	20	0			88	
Pedestrians	0					0					4					8					12	
Bicycles	0	4	4			0	12	0			4	0	0			0	0	0			24	
Railroad																						
Stopped Buses																						

LOCATION: S Denning Dr & Fairbanks Ave
CITY/STATE: Winter Park, FL

PROJECT ID: 20-03018-001
DATE: 01/14/2020

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



15-Min Count Period Beginning At	S Denning Dr Northbound					S Denning Dr Southbound					Fairbanks Ave Eastbound					Fairbanks Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	11	45	2	0		17	32	13	0		19	165	7	0		5	211	12	0		539	2176
04:15 PM	8	35	4	0		8	41	11	0		16	171	12	0		7	178	20	0		511	2303
04:30 PM	11	63	0	0		13	57	14	0		16	165	10	0		4	189	15	0		557	2404
04:45 PM	10	58	4	0		15	35	14	0		21	174	10	0		11	201	16	0		569	2406
05:00 PM	12	64	4	0		12	50	19	0		14	210	9	0		11	241	20	0		666	2365
05:15 PM	8	68	2	0		9	60	11	0		12	203	9	0		7	207	16	0		612	1699
05:30 PM	7	58	2	0		10	47	15	0		33	181	13	0		10	168	15	0		559	1087
05:45 PM	9	49	2	0		14	45	10	0		18	187	6	0		7	161	20	0		528	528
Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	48	272	16	0		60	240	76	0		132	840	52	0		44	964	80	0		2824	
Heavy Trucks	0	0	0			4	0	4			4	12	0			4	20	0			48	
Pedestrians		0						8				8					4				20	
Bicycles	0	4	0			0	8	0			4	4	0			0	0	0			20	
Railroad																						
Stopped Buses																						

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Orlando Ave/N Orange Ave & Harmon Ave
City: Winter Park
Control: Signalized

Project ID: 19-03330-003
Date: 5/15/2019

NS/EW Streets		S Orlando Ave/N Orange Ave												S Orlando Ave/N Orange Ave												Harmon Ave												Harmon Ave												Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
AM	NORTHBOUND												SOUTHBOUND												EASTBOUND												WESTBOUND												NORTHBOUND2												SOUTHBOUND2												TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0			0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0</	

Location: S Denning Dr/Orange Ave & Minnesota Ave
City: Winter Park
Control: Signalized

Total

166

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Pennsylvania Ave/N Orange Ave & W Fairbanks Ave
City: Winter Park
Control: Signalized

Project ID: 19-03330-001
Date: 5/15/2019

		Total																											
NS/EW Streets:		S Pennsylvania Ave/N Orange Ave					S Pennsylvania Ave/N Orange Ave					W Fairbanks Ave					W Fairbanks Ave												
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2								
	0 NL	0 NT	0 NR	0 NU	0 NU2	0 SL	0 ST	0 SR	0 SU	0 ST2	0 EL	0 ET	0 ER	0 EU	0 ER2	0 WL	0 WT	0 WR	0 WU	0 WL2	0 N2U	0 N2L2	0 N2T2	0 N2R2	0 N2U2	TOTAL			
7:00 AM	6	22	13	0	0	3	19	4	0	1	0	98	4	0	0	0	198	6	0	142	0	0	0	72	0	588			
7:15 AM	5	4	3	0	1	0	8	2	0	9	0	122	4	0	4	0	192	2	0	167	0	0	0	88	1	612			
7:30 AM	0	0	0	0	0	0	0	3	0	16	0	147	0	0	3	0	262	3	0	182	0	0	0	103	0	719			
7:45 AM	0	0	0	0	0	7	5	6	0	11	0	132	4	0	2	0	233	11	0	198	0	0	0	144	0	753			
8:00 AM	4	33	5	0	4	3	19	3	0	16	0	98	4	0	1	1	202	6	0	180	0	0	0	114	2	695			
8:15 AM	15	30	5	0	1	3	17	4	0	21	0	139	14	0	2	0	202	5	0	166	0	0	0	124	0	748			
8:30 AM	7	20	5	0	1	2	15	6	0	12	0	130	6	0	1	0	197	6	0	168	0	0	0	122	0	698			
8:45 AM	12	39	5	0	0	5	17	5	0	7	0	158	10	0	3	1	184	11	0	151	0	0	0	143	1	752			
TOTAL VOLUMES:	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL			
APPROACH %'s:	49	148	36	0	7	23	100	33	0	93	0	1024	46	0	16	2	1670	50	0	1354	0	0	0	910	4	5565			
	20.42%	61.67%	15.00%	0.00%	2.92%	9.24%	40.16%	13.25%	0.00%	37.35%	0.00%	94.29%	4.24%	0.00%	1.47%	0.07%	54.29%	1.63%	0.00%	44.02%	0.00%	0.00%	0.00%	99.56%	0.44%				
PEAK HR:	07:30 AM - 08:30 AM																												
PEAK HR VOL:	19	63	10	0	5	13	41	16	0	64	0	516	22	0	8	1	899	25	0	726	0	0	0	485	2	2915			
PEAK HR FACTOR:	0.317	0.477	0.500	0.000	0.313	0.464	0.539	0.667	0.000	0.762	0.000	0.878	0.393	0.000	0.667	0.250	0.858	0.568	0.000	0.917	0.000	0.000	0.000	0.842	0.250	0.968			
	0.475					0.744					0.881					0.923					0.845								
PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2								
	0 NL	0 NT	0 NR	0 NU	0 NU2	0 SL	0 ST	0 SR	0 SU	0 ST2	0 EL	0 ET	0 ER	0 EU	0 ER2	0 WL	0 WT	0 WR	0 WU	0 WL2	0 N2U	0 N2L2	0 N2T2	0 N2R2	0 N2U2	TOTAL			
4:00 PM	6	30	5	0	1	10	31	11	0	14	0	150	5	0	4	0	196	10	0	94	0	0	0	161	1	729			
4:15 PM	12	26	9	0	2	4	27	10	0	7	0	163	9	0	3	1	141	7	0	94	0	0	0	176	0	691			
4:30 PM	15	26	5	0	3	8	19	7	0	16	0	135	6	0	1	1	192	9	0	83	0	0	0	167	0	693			
4:45 PM	14	33	6	0	1	6	27	9	0	12	0	159	9	0	2	3	199	5	0	108	0	0	0	175	1	769			
5:00 PM	10	38	6	0	1	3	38	7	0	20	0	141	4	0	1	2	201	11	0	90	0	0	0	200	0	773			
5:15 PM	8	35	8	0	1	3	35	10	0	13	0	174	10	0	2	1	208	8	0	109	0	0	1	188	0	814			
5:30 PM	4	39	12	0	2	11	32	2	0	12	2	94	3	0	3	0	158	4	0	117	0	0	0	200	2	697			
5:45 PM	9	43	4	0	4	2	37	3	1	7	0	234	8	0	4	0	195	10	0	114	0	0	0	177	1	853			
TOTAL VOLUMES:	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL			
APPROACH %'s:	78	270	55	0	15	47	246	59	1	101	0.15%	94.27%	4.07%	0.00%	1.51%	0.34%	62.84%	2.70%	0.00%	34.12%	0.00%	0.00%	0.07%	99.59%	0.34%	6019			
PEAK HR:	05:00 PM - 06:00 PM																												
PEAK HR VOL:	31	155	30	0	8	19	142	22	1	52	2	643	25	0	10	3	762	33	0	430	0	0	1	765	3	3137			
PEAK HR FACTOR:	0.775	0.901	0.625	0.000	0.500	0.432	0.934	0.550	0.250	0.650	0.250	0.687	0.625	0.000	0.625	0.375	0.916	0.750	0.000	0.919	0.000	0.000	0.250	0.956	0.375	0.919			
	0.933					0.868					0.691					0.942					0.952								

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Orange Ave & N Cypress Ave
City: Winter Park
Control: Signalized

Project ID: 19-03330-004
Date: 5/15/2019

Total

NS/EW Streets:	N Orange Ave				N Orange Ave				N Cypress Ave				N Cypress Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	67	6	0	1	151	0	0	0	0	0	0	1	0	1	0	227
7:15 AM	0	91	4	0	1	178	0	0	0	0	0	0	6	0	2	0	282
7:30 AM	0	116	3	0	5	200	0	0	0	0	0	0	2	0	1	0	327
7:45 AM	0	140	2	0	8	201	0	0	0	0	0	0	1	0	4	0	356
8:00 AM	0	135	3	0	6	227	0	0	0	0	0	0	5	0	1	0	377
8:15 AM	0	123	5	0	3	198	0	0	0	0	0	0	6	0	4	0	339
8:30 AM	0	139	5	0	5	170	0	0	0	0	0	0	4	0	0	0	323
8:45 AM	0	142	8	0	8	175	0	0	0	0	0	0	14	0	2	0	349
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	953	36	0	37	1500	0	0	0	0	0	0	39	0	15	0	2580
	0.00%	96.36%	3.64%	0.00%	2.41%	97.59%	0.00%	0.00%	0	0	0	0	72.22%	0.00%	27.78%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	514	13	0	22	826	0	0	0	0	0	0	14	0	10	0	1399
PEAK HR FACTOR :	0.000	0.918	0.650	0.000	0.688	0.910	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.625	0.000	0.928
	0.928				0.910								0.600				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	160	5	0	5	132	0	0	0	0	0	0	13	0	6	0	321
4:15 PM	0	173	3	0	5	133	0	0	0	0	0	0	7	0	6	0	327
4:30 PM	0	143	6	0	3	124	0	0	0	0	0	0	20	0	3	0	299
4:45 PM	0	175	5	0	6	146	0	0	0	0	0	0	9	0	6	0	347
5:00 PM	0	152	7	0	8	144	0	0	0	0	0	0	16	0	6	0	333
5:15 PM	0	163	5	0	2	152	0	0	0	0	0	0	11	0	5	0	338
5:30 PM	0	164	4	0	5	170	0	0	0	0	0	0	14	0	8	0	365
5:45 PM	0	185	1	0	5	139	0	0	0	0	0	0	13	0	6	0	349
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	1315	36	0	39	1140	0	0	0	0	0	0	103	0	46	0	2679
	0.00%	97.34%	2.66%	0.00%	3.31%	96.69%	0.00%	0.00%	0	0	0	0	69.13%	0.00%	30.87%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	664	17	0	20	605	0	0	0	0	0	0	54	0	25	0	1385
PEAK HR FACTOR :	0.000	0.897	0.607	0.000	0.625	0.890	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.781	0.000	0.949
	0.915				0.893								0.898				



Appendix D

Signal Timings and Clearance Interval Calculations

Winter Park
Signal Clearance Intervals

17-92 & Minnesota
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBTL 2	EBL 3	WBTL 4	SBL 5	NBTL 6	-- 7	EBTL 8
----------------	----------	-----------	----------	-----------	----------	-----------	---------	-----------

Local Settings:

Yellow	4.1	4.1	3.9	4.0	4.1	4.1	--	3.9
All Red	2.0	2.0	2.7	2.7	2.0	2.0	--	2.7
Flashing Don't Walk (FDW)	--	10.0	--	18.0	--	10.0	--	18.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBTL 2	EBL 3	WBTL 4	SBL 5	NBTL 6	-- 7	EBTL 8
Inputs:								
Approach Speed (v) (mph)	35	35	30	30	35	35	--	30
Approach Grade (G) (%)	-1%	-1%	-3%	-4%	-1%	-1%	--	-3%
Width (W) (ft)	72	75	95	96	75	72	--	95
Clearance Intervals:								
Calc'd Yellow (sec)	4.01	4.06	3.84	3.93	4.06	4.01	--	3.84
Yellow to Use (sec)	4.1	4.1	3.9	4.0	4.1	4.1	--	3.9
Calc'd Red (sec)	1.79	1.85	2.61	2.63	1.85	1.79	--	2.61
Red to Use (sec)	2.0	2.0	2.7	2.7	2.0	2.0	--	2.7
Pedestrian Calculations:								
Walking Dist. (ft)	--	37	--	76	--	39	--	75
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	10.6	--	21.7	--	11.1	--	21.4
Minus Yellow to Use (sec)	--	4.1	--	4.0	--	4.1	--	3.9
Calc. FDW (sec)	--	6.5	--	17.7	--	7.0	--	17.5
FDW to use (sec)	--	10	--	18	--	10	--	18

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Winter Park
Signal Clearance Intervals

17-92 & Fairbanks
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBTL 2	EBL 3	WBTL 4	SBL 5	NBTL 6	WBL 7	EBTL 8
----------------	----------	-----------	----------	-----------	----------	-----------	----------	-----------

Local Settings:

Yellow	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1
All Red	2.2	2.2	2.2	2.4	2.2	2.2	2.1	2.2
Flashing Don't Walk (FDW)	--	20.0	--	22.0	--	19.0	--	22.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBTL 2	EBL 3	WBTL 4	SBL 5	NBTL 6	WBL 7	EBTL 8
Inputs:								
Approach Speed (v) (mph)	35	35	35	35	35	35	35	35
Approach Grade (G) (%)	-1%	0%	-1%	-1%	0%	-1%	-1%	-1%
Width (W) (ft)	90	92	92	100	92	90	88	92
Clearance Intervals:								
Calc'd Yellow (sec)	4.03	3.97	4.04	4.01	3.97	4.03	4.01	4.04
Yellow to Use (sec)	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1
Calc'd Red (sec)	2.14	2.18	2.18	2.33	2.18	2.14	2.10	2.18
Red to Use (sec)	2.2	2.2	2.2	2.4	2.2	2.2	2.1	2.2
Pedestrian Calculations:								
Walking Dist. (ft)	--	82	--	89	--	80	--	90
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	23.4	--	25.4	--	22.9	--	25.7
Minus Yellow to Use (sec)	--	4.0	--	4.1	--	4.1	--	4.1
Calc. FDW (sec)	--	19.4	--	21.3	--	18.8	--	21.6
FDW to use (sec)	--	20	--	22	--	19	--	22

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Winter Park
Signal Clearance Intervals

17-92 & Morse
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	SBL 1	NBTL 2	-- 3	EBWB 4	NBL 5	SBTL 6	-- 7	PED 8
----------------	----------	-----------	---------	-----------	----------	-----------	---------	----------

Local Settings:

Yellow	4.0	4.0	--	3.7	4.0	4.0	--	--
All Red	2.1	2.0	--	2.7	2.0	2.1	--	--
Flashing Don't Walk (FDW)	--	17.0	--	17.0	--	10.0	--	17.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	SBL 1	NBTL 2	-- 3	EBWB 4	NBL 5	SBTL 6	-- 7	PED 8
Inputs:								
Approach Speed (v) (mph)	35	35	--	30	35	35	--	30
Approach Grade (G) (%)	0%	0%	--	-1%	0%	0%	--	-1%
Width (W) (ft)	83	75	--	99	68	83	--	83
Clearance Intervals:								
Calc'd Yellow (sec)	3.97	3.97	--	3.68	3.97	3.97	--	3.68
Yellow to Use (sec)	4.0	4.0	--	3.7	4.0	4.0	--	3.7
Calc'd Red (sec)	2.00	1.85	--	2.70	1.71	2.00	--	2.34
Red to Use (sec)	2.1	2.0	--	2.7	2.0	2.1	--	2.4
Pedestrian Calculations:								
Walking Dist. (ft)	--	72	--	72	--	45	--	72
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	20.6	--	20.6	--	12.9	--	20.6
Minus Yellow to Use (sec)	--	4.0	--	3.7	--	4.0	--	3.7
Calc. FDW (sec)	--	16.6	--	16.9	--	8.9	--	16.9
FDW to use (sec)	--	17	--	17	--	10	--	17

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Winter Park
Signal Clearance Intervals

17-92 & Gay
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	SBL 1	NBTL 2	WBL 3	EBT 4	NBL 5	SBTL 6	EBL 7	WBT 8
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Local Settings:

Yellow	4.1	4.0	3.4	3.5	4.0	4.1	3.5	3.4
All Red	2.1	2.0	4.9	3.2	2.0	2.1	2.9	5.1
Flashing Don't Walk (FDW)	--	10.0	--	22.0	--	10.0	--	21.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	SBL 1	NBTL 2	WBL 3	EBT 4	NBL 5	SBTL 6	EBL 7	WBT 8
Inputs:								
Approach Speed (v) (mph)	35	35	15	25	35	35	25	15
Approach Grade (G) (%)	-1%	0%	-4%	-3%	0%	-1%	-3%	-4%
Width (W) (ft)	88	71	87	95	71	88	85	92
Clearance Intervals:								
Calc'd Yellow (sec)	4.06	3.97	2.67	3.43	3.97	4.06	3.43	2.67
Yellow to Use (sec)	4.1	4.0	3.4	3.5	4.0	4.1	3.5	3.4
Calc'd Red (sec)	2.10	1.77	4.85	3.13	1.77	2.10	2.86	5.08
Red to Use (sec)	2.1	2.0	4.9	3.2	2.0	2.1	2.9	5.1
Pedestrian Calculations:								
Walking Dist. (ft)	--	46	--	86	--	44	--	84
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	13.1	--	24.6	--	12.6	--	24.0
Minus Yellow to Use (sec)	--	4.0	--	3.5	--	4.1	--	3.4
Calc. FDW (sec)	--	9.1	--	21.1	--	8.5	--	20.6
FDW to use (sec)	--	10	--	22	--	10	--	21

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Winter Park
Signal Clearance Intervals

17-92 & Webster
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	NBTL 2	WBL 3	EBTL 4	NBL 5	SBT 6	EBL 7	WBTL 8
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Local Settings:

Yellow	--	3.7	3.8	3.4	3.7	3.7	3.4	3.8
All Red	--	2.1	2.6	3.0	2.1	2.0	3.0	2.7
Flashing Don't Walk (FDW)	--	13.0	--	19.0	--	11.0	--	19.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	NBTL 2	WBL 3	EBTL 4	NBL 5	SBT 6	EBL 7	WBTL 8
Inputs:								
Approach Speed (v) (mph)	--	30	30	25	30	30	25	30
Approach Grade (G) (%)	--	1%	-2%	-3%	1%	1%	-3%	-2%
Width (W) (ft)	--	72	94	90	72	60	90	99
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.54	3.76	3.40	3.54	3.54	3.40	3.76
Yellow to Use (sec)	--	3.7	3.8	3.4	3.7	3.7	3.4	3.8
Calc'd Red (sec)	--	2.09	2.59	2.99	2.09	1.81	2.99	2.70
Red to Use (sec)	--	2.1	2.6	3.0	2.1	2.0	3.0	2.7
Pedestrian Calculations:								
Walking Dist. (ft)	--	55	--	78	--	50	--	78
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	15.7	--	22.3	--	14.3	--	22.3
Minus Yellow to Use (sec)	--	3.7	--	3.4	--	3.7	--	3.8
Calc. FDW (sec)	--	12.0	--	18.9	--	10.6	--	18.5
FDW to use (sec)	--	13	--	19	--	11	--	19

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Winter Park
Signal Clearance Intervals

17-92 & Lee
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBT 2	EBL 3	WBT 4	SBL 5	NBT 6	WBL 7	EBT 8
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Local Settings:

Yellow	4.1	4.0	4.2	4.1	4.0	4.1	4.1	4.2
All Red	2.9	2.5	2.7	2.8	2.8	2.5	2.6	2.9
Flashing Don't Walk (FDW)	--	20.0	--	28.0	--	19.0	--	25.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBT 2	EBL 3	WBT 4	SBL 5	NBT 6	WBL 7	EBT 8
Inputs:								
Approach Speed (v) (mph)	35	35	35	35	35	35	35	35
Approach Grade (G) (%)	-1%	0%	-2%	-1%	0%	-1%	-1%	-2%
Width (W) (ft)	125	108	116	123	122	105	112	127
Clearance Intervals:								
Calc'd Yellow (sec)	4.06	3.97	4.10	4.06	3.97	4.06	4.06	4.10
Yellow to Use (sec)	4.1	4.0	4.2	4.1	4.0	4.1	4.1	4.2
Calc'd Red (sec)	2.82	2.49	2.64	2.78	2.76	2.43	2.57	2.86
Red to Use (sec)	2.9	2.5	2.7	2.8	2.8	2.5	2.6	2.9
Pedestrian Calculations:								
Walking Dist. (ft)	--	83	--	110	--	79	--	102
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	23.7	--	31.4	--	22.6	--	29.1
Minus Yellow to Use (sec)	--	4.0	--	4.1	--	4.1	--	4.2
Calc. FDW (sec)	--	19.7	--	27.3	--	18.5	--	24.9
FDW to use (sec)	--	20	--	28	--	19	--	25

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Winter Park
Signal Clearance Intervals

17-92 & Park
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	NBT 2	-- 3	SBTL 4	-- 5	-- 6	-- 7	-- 8
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Local Settings:

Yellow	--	4.4	--	4.5	--	--	--	--
All Red	--	2.0	--	2.0	--	--	--	--
Flashing Don't Walk (FDW)	--	10.0	--	--	--	--	--	--

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	NBT 2	-- 3	SBTL 4	-- 5	-- 6	-- 7	-- 8
Inputs:								
Approach Speed (v) (mph)	--	40	--	40	--	--	--	--
Approach Grade (G) (%)	--	3%	--	-1%	--	--	--	--
Width (W) (ft)	--	80	--	87	--	--	--	--
Clearance Intervals:								
Calc'd Yellow (sec)	--	4.08	--	4.44	--	--	--	--
Yellow to Use (sec)	--	4.4	--	4.5	--	--	--	--
Calc'd Red (sec)	--	1.70	--	1.82	--	--	--	--
Red to Use (sec)	--	2.0	--	2.0	--	--	--	--
Pedestrian Calculations:								
Walking Dist. (ft)	--	16	--	--	--	--	--	--
Walking Speed (ft/sec)	--	3.5	--	--	--	--	--	--
Calc. Ped Clearance (sec)	--	4.6	--	--	--	--	--	--
Minus Yellow to Use (sec)	--	4.4	--	--	--	--	--	--
Calc. FDW (sec)	--	0.2	--	--	--	--	--	--
FDW to use (sec)	--	10	--	--	--	--	--	--

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Winter Park
Signal Clearance Intervals

Clay Ave. & Par St.
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBT 2	-- --	EBL/R 4	-- --	NBTL 6	-- --	-- --
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Local Settings:

Yellow	3.7	3.8	--	3.7	--	3.7	--	--
All Red	2.0	2.0	--	2.0	--	2.0	--	--
Flashing Don't Walk (FDW)	--	10.0	--	--	--	--	--	--

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBT 2	-- 3	EBL/R 4	-- 5	NBTL 6	-- 7	-- 8
Inputs:								
Approach Speed (v) (mph)	30	30	--	30	--	30	--	--
Approach Grade (G) (%)	1%	-2%	--	0%	--	1%	--	--
Width (W) (ft)	58	55	--	49	--	58	--	--
Clearance Intervals:								
Calc'd Yellow (sec)	3.54	3.76	--	3.61	--	3.54	--	--
Yellow to Use (sec)	3.7	3.8	--	3.7	--	3.7	--	--
Calc'd Red (sec)	1.77	1.70	--	1.56	--	1.77	--	--
Red to Use (sec)	2.0	2.0	--	2.0	--	2.0	--	--
Pedestrian Calculations:								
Walking Dist. (ft)	--	48	--	--	--	--	--	--
Walking Speed (ft/sec)	--	3.5	--	--	--	--	--	--
Calc. Ped Clearance (sec)	--	13.7	--	--	--	--	--	--
Minus Yellow to Use (sec)	--	3.8	--	--	--	--	--	--
Calc. FDW (sec)	--	9.9	--	--	--	--	--	--
FDW to use (sec)	--	10	--	--	--	--	--	--

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Winter Park
Signal Clearance Intervals

Clay Ave. & Minnesota
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	NB/SB 2	-- 3	EB/WB 4	-- 5	PED 6	-- 7	PED 8
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Local Settings:

Yellow	--	3.7	--	3.7	--	--	--	--
All Red	--	2.0	--	2.0	--	--	--	--
Flashing Don't Walk (FDW)	--	10.0	--	10.0	--	10.0	--	13.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	NB/SB 2	-- 3	EB/WB 4	-- 5	PED 6	-- 7	PED 8
Inputs:								
Approach Speed (v) (mph)	--	30	--	30	--	30	--	30
Approach Grade (G) (%)	--	-1%	--	-1%	--	-1%	--	-1%
Width (W) (ft)	--	62	--	62	--	62	--	57
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.64	--	3.66	--	3.64	--	3.66
Yellow to Use (sec)	--	3.7	--	3.7	--	3.7	--	3.7
Calc'd Red (sec)	--	1.86	--	1.86	--	1.86	--	1.75
Red to Use (sec)	--	2.0	--	2.0	--	2.0	--	2.0
Pedestrian Calculations:								
Walking Dist. (ft)	--	30	--	45	--	30	--	56
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	8.6	--	12.9	--	8.6	--	16.0
Minus Yellow to Use (sec)	--	3.7	--	3.7	--	3.7	--	3.7
Calc. FDW (sec)	--	4.9	--	9.2	--	4.9	--	12.3
FDW to use (sec)	--	10	--	10	--	10	--	13

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Winter Park
Signal Clearance Intervals

Clay Ave. & Fairbanks
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	--	WBTL	--	NBTL	WBL	EBTL	NBL	SBTL
	--	2	--	4	5	6	7	8

Local Settings:

Yellow	--	4.0	--	3.7	4.0	4.1	3.7	3.4
All Red	--	2.4	--	2.4	2.4	2.3	2.0	2.9
Flashing Don't Walk (FDW)	--	12.0	--	17.0	--	14.0	--	19.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	--	WBTL	--	NBTL	WBL	EBTL	NBL	SBTL
	1	2	3	4	5	6	7	8
Inputs:								
Approach Speed (v) (mph)	--	35	--	30	35	35	30	25
Approach Grade (G) (%)	--	0%	--	-1%	1%	-1%	-1%	2%
Width (W) (ft)	--	100	--	83	100	94	67	85
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.97	--	3.64	3.93	4.03	3.64	3.13
Yellow to Use (sec)	--	4.0	--	3.7	4.0	4.1	3.7	3.4
Calc'd Red (sec)	--	2.33	--	2.34	2.33	2.22	1.97	2.86
Red to Use (sec)	--	2.4	--	2.4	2.4	2.3	2.0	2.9
Pedestrian Calculations:								
Walking Dist. (ft)	--	56	--	72	--	60	--	75
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	16.0	--	20.6	--	17.1	--	21.4
Minus Yellow to Use (sec)	--	4.0	--	3.7	--	4.1	--	3.4
Calc. FDW (sec)	--	12.0	--	16.9	--	13.0	--	18.0
FDW to use (sec)	--	12	--	17	--	14	--	19

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Winter Park
Signal Clearance Intervals

Lee & Webster
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	EBTL 2	NBL 3	SBT 4	-- 5	WBTL 6	SBL 7	NBT 8
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Local Settings:

Yellow	--	3.7	3.7	3.8	--	3.7	3.8	3.7
All Red	--	2.7	2.4	2.4	--	2.6	2.5	2.0
Flashing Don't Walk (FDW)	--	17.0	--	10.0	--	17.0	--	13.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	EBTL 2	NBL 3	SBT 4	-- 5	WBTL 6	SBL 7	NBT 8
Inputs:								
Approach Speed (v) (mph)	--	30	30	30	--	30	30	30
Approach Grade (G) (%)	--	0%	0%	-2%	--	0%	-2%	0%
Width (W) (ft)	--	95	83	82	--	93	89	66
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.61	3.61	3.76	--	3.61	3.76	3.61
Yellow to Use (sec)	--	3.7	3.7	3.8	--	3.7	3.8	3.7
Calc'd Red (sec)	--	2.61	2.34	2.31	--	2.56	2.47	1.95
Red to Use (sec)	--	2.7	2.4	2.4	--	2.6	2.5	2.0
Pedestrian Calculations:								
Walking Dist. (ft)	--	69	--	46	--	70	--	56
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	19.7	--	13.1	--	20.0	--	16.0
Minus Yellow to Use (sec)	--	3.7	--	3.8	--	3.7	--	3.7
Calc. FDW (sec)	--	16.0	--	9.3	--	16.3	--	12.3
FDW to use (sec)	--	17	--	10	--	17	--	13

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Winter Park
Signal Clearance Intervals

Denning & Morse
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBTL 2	-- 3	WBTL 4	SBL 5	NBTL 6	-- 7	EBTL 8
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Local Settings:

Yellow	3.4	3.4	--	3.7	3.4	3.4	--	3.7
All Red	3.2	3.1	--	2.4	3.1	3.2	--	2.2
Flashing Don't Walk (FDW)	--	18.0	--	11.0	--	16.0	--	12.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBTL 2	-- 3	WBTL 4	SBL 5	NBTL 6	-- 7	EBTL 8
Inputs:								
Approach Speed (v) (mph)	25	25	--	30	25	25	--	30
Approach Grade (G) (%)	-1%	-1%	--	-1%	-1%	-1%	--	-1%
Width (W) (ft)	94	91	--	84	91	94	--	74
Clearance Intervals:								
Calc'd Yellow (sec)	3.30	3.30	--	3.68	3.30	3.30	--	3.68
Yellow to Use (sec)	3.4	3.4	--	3.7	3.4	3.4	--	3.7
Calc'd Red (sec)	3.10	3.02	--	2.36	3.02	3.10	--	2.13
Red to Use (sec)	3.2	3.1	--	2.4	3.1	3.2	--	2.2
Pedestrian Calculations:								
Walking Dist. (ft)	--	72	--	51	--	66	--	53
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	20.6	--	14.6	--	18.9	--	15.1
Minus Yellow to Use (sec)	--	3.4	--	3.7	--	3.4	--	3.7
Calc. FDW (sec)	--	17.2	--	10.9	--	15.5	--	11.4
FDW to use (sec)	--	18	--	11	--	16	--	12

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Winter Park
Signal Clearance Intervals

Denning & Canton
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NBL 1	SBTL 2	-- 3	EBTL 4	SBL 5	NBTL 6	EBL 7	WBTL 8
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Local Settings:

Yellow	3.4	3.4	--	3.4	3.4	3.4	3.4	3.4
All Red	2.4	2.3	--	2.7	2.3	2.4	2.7	2.6
Flashing Don't Walk (FDW)	--	11.0	--	10.0	--	10.0	--	13.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NBL 1	SBTL 2	-- 3	EBTL 4	SBL 5	NBTL 6	EBL 7	WBTL 8
Inputs:								
Approach Speed (v) (mph)	25	25	--	25	25	25	25	25
Approach Grade (G) (%)	-1%	1%	--	-1%	1%	-1%	-1%	-1%
Width (W) (ft)	65	64	--	77	64	65	77	75
Clearance Intervals:								
Calc'd Yellow (sec)	3.30	3.18	--	3.30	3.18	3.30	3.30	3.30
Yellow to Use (sec)	3.4	3.4	--	3.4	3.4	3.4	3.4	3.4
Calc'd Red (sec)	2.31	2.29	--	2.64	2.29	2.31	2.64	2.59
Red to Use (sec)	2.4	2.3	--	2.7	2.3	2.4	2.7	2.6
Pedestrian Calculations:								
Walking Dist. (ft)	--	47	--	42	--	38	--	57
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	13.4	--	12.0	--	10.9	--	16.3
Minus Yellow to Use (sec)	--	3.4	--	3.4	--	3.4	--	3.4
Calc. FDW (sec)	--	10.0	--	8.6	--	7.5	--	12.9
FDW to use (sec)	--	11	--	10	--	10	--	13

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Winter Park
Signal Clearance Intervals

Denning & Webster
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	--	SBTL	EBL	WBL	--	NBTL	WBTL	EBTL
	--	2	3	4	--	6	7	8

Local Settings:

Yellow	--	3.4	3.7	3.7	--	3.4	3.7	3.7
All Red	--	2.8	2.0	2.1	--	3.2	2.1	2.0
Flashing Don't Walk (FDW)	--	11.0	--	--	--	10.0	10.0	10.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	--	SBTL	EBL	WBL	--	NBTL	WBTL	EBTL
	1	2	3	4	5	6	7	8
Inputs:								
Approach Speed (v) (mph)	--	25	30	30	--	25	30	30
Approach Grade (G) (%)	--	0%	0%	-1%	--	0%	-1%	0%
Width (W) (ft)	--	80	68	72	--	95	72	68
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.24	3.61	3.68	--	3.24	3.68	3.61
Yellow to Use (sec)	--	3.4	3.7	3.7	--	3.4	3.7	3.7
Calc'd Red (sec)	--	2.72	2.00	2.09	--	3.13	2.09	2.00
Red to Use (sec)	--	2.8	2.0	2.1	--	3.2	2.1	2.0
Pedestrian Calculations:								
Walking Dist. (ft)	--	48	--	--	--	30	47	42
Walking Speed (ft/sec)	--	3.5	--	--	--	3.5	3.5	3.5
Calc. Ped Clearance (sec)	--	13.7	--	--	--	8.6	13.4	12.0
Minus Yellow to Use (sec)	--	3.4	--	--	--	3.4	3.7	3.7
Calc. FDW (sec)	--	10.3	--	--	--	5.2	9.7	8.3
FDW to use (sec)	--	11	--	--	--	10	10	10

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Winter Park
Signal Clearance Intervals

Denning & Webster
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	EBTL 2	NBL 3	SBTL 4	EBL 5	WBTL 6	SBL 7	NBTL 8
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Local Settings:

Yellow	--	4.1	3.4	3.4	4.0	4.1	3.4	3.4
All Red	--	2.0	2.8	2.5	2.0	2.0	2.5	2.8
Flashing Don't Walk (FDW)	--	10.0	--	12.0	--	10.0	--	10.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	EBTL 2	NBL 3	SBTL 4	EBL 5	WBTL 6	SBL 7	NBTL 8
Inputs:								
Approach Speed (v) (mph)	--	35	25	25	35	35	25	25
Approach Grade (G) (%)	--	-1%	-1%	0%	0%	-1%	0%	-1%
Width (W) (ft)	--	60	82	70	60	65	70	82
Clearance Intervals:								
Calc'd Yellow (sec)	--	4.06	3.30	3.24	3.97	4.06	3.24	3.30
Yellow to Use (sec)	--	4.1	3.4	3.4	4.0	4.1	3.4	3.4
Calc'd Red (sec)	--	1.55	2.78	2.45	1.55	1.65	2.45	2.78
Red to Use (sec)	--	2.0	2.8	2.5	2.0	2.0	2.5	2.8
Pedestrian Calculations:								
Walking Dist. (ft)	--	40	--	52	--	49	--	40
Walking Speed (ft/sec)	--	3.5	--	3.5	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	11.4	--	14.9	--	14.0	--	11.4
Minus Yellow to Use (sec)	--	4.1	--	3.4	--	4.1	--	3.4
Calc. FDW (sec)	--	7.3	--	11.5	--	9.9	--	8.0
FDW to use (sec)	--	10	--	12	--	10	--	10

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Winter Park
Signal Clearance Intervals

17-92 & Orange/Harmon
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	SBL 1	NBT 2	SWL 3	NET 4	NBL 5	SBT 6	NEL 7	SWT 8
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Local Settings:

Yellow	4.0	4.1	3.7	3.7	4.1	4.0	3.7	3.7
All Red	3.0	3.6	4.1	3.5	2.1	3.4	4.5	3.5
Flashing Don't Walk (FDW)	--	10.0	--	22.0	23.0	24.0	--	27.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	SBL 1	NBT 2	SWL 3	NET 4	NBL 5	SBT 6	NEL 7	SWT 8
Inputs:								
Approach Speed (v) (mph)	35	35	30	30	35	35	30	30
Approach Grade (G) (%)	0%	-1%	-1%	-1%	-1%	0%	-1%	0%
Width (W) (ft)	130	165	160	130	84	150	175	132
Clearance Intervals:								
Calc'd Yellow (sec)	3.97	4.03	3.64	3.66	4.06	3.97	3.68	3.61
Yellow to Use (sec)	4.0	4.1	3.7	3.7	4.1	4.0	3.7	3.7
Calc'd Red (sec)	2.92	3.60	4.08	3.40	2.02	3.30	4.42	3.45
Red to Use (sec)	3.0	3.6	4.1	3.5	2.1	3.4	4.5	3.5
Pedestrian Calculations:								
Walking Dist. (ft)	--	40	--	88	92	96	--	107
Walking Speed (ft/sec)	--	3.5	--	3.5	3.5	3.5	--	3.5
Calc. Ped Clearance (sec)	--	11.4	--	25.1	26.3	27.4	--	30.6
Minus Yellow to Use (sec)	--	4.1	--	3.7	4.1	4.0	--	3.7
Calc. FDW (sec)	--	7.3	--	21.4	22.2	23.4	--	26.9
FDW to use (sec)	--	10	--	22	23	24	--	27

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Winter Park
Signal Clearance Intervals

Orange & Denning/Minnesota
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	NETL 1	EBTL 2	SWTL 3	WBTL 4	NBTL 5	SBTL 6	-- 7	-- 8
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Local Settings:

Yellow	3.7	3.4	3.7	3.4	3.4	3.4	--	--
All Red	4.4	4.3	3.9	5.1	4.1	4.1	--	--
Flashing Don't Walk (FDW)	15.0	11.0	12.0	14.0	16.0	10.0	--	--

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	NETL 2	EBTL 4	SWTL 6	WBTL 8	NBTL 10	SBTL 14	-- 7	-- 8
Inputs:								
Approach Speed (v) (mph)	30	25	30	25	25	25	--	--
Approach Grade (G) (%)	0%	0%	1%	0%	1%	0%	--	--
Width (W) (ft)	170	137	150	166	130	130	--	--
Clearance Intervals:								
Calc'd Yellow (sec)	3.61	3.24	3.54	3.24	3.18	3.24	--	--
Yellow to Use (sec)	3.7	3.4	3.7	3.4	3.4	3.4	--	--
Calc'd Red (sec)	4.31	4.27	3.85	5.06	4.08	4.08	--	--
Red to Use (sec)	4.4	4.3	3.9	5.1	4.1	4.1	--	--
Pedestrian Calculations:								
Walking Dist. (ft)	65	50	52	59	65	38	--	--
Walking Speed (ft/sec)	3.5	3.5	3.5	3.5	3.5	3.5	--	--
Calc. Ped Clearance (sec)	18.6	14.3	14.9	16.9	18.6	10.9	--	--
Minus Yellow to Use (sec)	3.7	3.4	3.7	3.4	3.4	3.4	--	--
Calc. FDW (sec)	14.9	10.9	11.2	13.5	15.2	7.5	--	--
FDW to use (sec)	15	11	12	14	16	10	--	--

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Winter Park
Signal Clearance Intervals

Orange & Fairbanks/Pennsylvania
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	WBL 1	EBTL 2	-- 3	NBTL 4	-- 5	WBT 6	-- 7	SBTL 8
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Local Settings:

Yellow	4.0	4.1	--	3.7	--	4.0	--	3.7
All Red	4.5	3.6	--	4.8	--	2.0	--	4.9
Flashing Don't Walk (FDW)	10.0	18.0	--	--	--	10.0	--	10.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	WBL 1	EBTL 2	-- 3	NBTL 4	-- 5	WBT 6	-- 7	SBTL 8
Inputs:								
Approach Speed (v) (mph)	35	35	--	30	--	35	--	30
Approach Grade (G) (%)	0%	-1%	--	0%	--	0%	--	1%
Width (W) (ft)	208	165	--	190	--	47	--	192
Clearance Intervals:								
Calc'd Yellow (sec)	3.97	4.06	--	3.61	--	3.97	--	3.54
Yellow to Use (sec)	4.0	4.1	--	3.7	--	4.0	--	3.7
Calc'd Red (sec)	4.43	3.60	--	4.76	--	1.30	--	4.81
Red to Use (sec)	4.5	3.6	--	4.8	--	2.0	--	4.9
Pedestrian Calculations:								
Walking Dist. (ft)	43	77	--	--	--	37	--	47
Walking Speed (ft/sec)	3.5	3.5	--	--	--	3.5	--	3.5
Calc. Ped Clearance (sec)	12.3	22.0	--	--	--	10.6	--	13.4
Minus Yellow to Use (sec)	4.0	4.1	--	--	--	4.0	--	3.7
Calc. FDW (sec)	8.3	17.9	--	--	--	6.6	--	9.7
FDW to use (sec)	10	18	--	--	--	10	--	10

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Winter Park
Signal Clearance Intervals

Orange & Cypress
Intersection Number:

RECOMMENDED TIMINGS

Movement Phase	-- 1	SWTL 2	-- 3	NWL 4	-- 5	NET 6	-- 7	PED 8
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Local Settings:

Yellow	--	3.7	--	3.4	--	3.7	--	--
All Red	--	2.0	--	2.4	--	2.2	--	--
Flashing Don't Walk (FDW)	--	--	--	--	--	10.0	--	10.0

CALCULATIONS

Yellow Interval: Formula 3.6-1, FDOT Traffic Engineering Manual (minimum of 3.4 seconds)

$$Y = t + \frac{1.47v}{2(a + Gg)}$$

Y: length of yellow interval, sec
 t: perception-reaction time, sec
 v: speed of approaching vehicles, mph
 a: deceleration rate in response to yellow indication, ft/sec²
 G: approach grade (downhill is negative), %
 g: acceleration due to gravity, ft/sec²
 1.47 :mph to fps conversion factor

t = 1.4 sec
 a = 10 ft/sec²
 g = 32.2 ft/sec²

Red Interval: Formula 3.6-2, FDOT Traffic Engineering Manual (minimum of 2.0 seconds, maximum of 6.0 seconds)

$$R = \frac{W + L}{1.47v}$$

R: Length of red interval, sec
 W: width of the intersection, ft
 L: length of vehicle, ft
 v: speed of approaching vehicles, mph
 1.47 :mph to fps conversion factor

L = 20 ft

Movement Phase	-- 1	SWTL 2	-- 3	NWL 4	-- 5	NET 6	-- 7	PED 8
Inputs:								
Approach Speed (v) (mph)	--	30	--	25	--	30	--	--
Approach Grade (G) (%)	--	1%	--	0%	--	0%	--	--
Width (W) (ft)	--	65	--	65	--	75	--	--
Clearance Intervals:								
Calc'd Yellow (sec)	--	3.54	--	3.24	--	3.61	--	3.24
Yellow to Use (sec)	--	3.7	--	3.4	--	3.7	--	3.4
Calc'd Red (sec)	--	1.93	--	2.31	--	2.15	--	--
Red to Use (sec)	--	2.0	--	2.4	--	2.2	--	--
Pedestrian Calculations:								
Walking Dist. (ft)	--	--	--	--	--	33	--	43
Walking Speed (ft/sec)	--	--	--	--	--	3.5	--	3.5
Calc. Ped Clearance (sec)	--	--	--	--	--	9.4	--	12.3
Minus Yellow to Use (sec)	--	--	--	--	--	3.7	--	3.4
Calc. FDW (sec)	--	--	--	--	--	5.7	--	8.9
FDW to use (sec)	--	--	--	--	--	10	--	10

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METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at Minnesota Avenue [8]

Prepared By: KRC

Date: 03/05/20

East-West Roadway

Minnesota Avenue

North-South Roadway

SR 15 (US 17/92)

PHASE TIMES

MOVEMENT	1	2	3	4	5	6		8
DIRECTION	NBL	SB	EBL	WB	SBL	NB		EB
LEFT TURN	Prot/Perm	Perm	Prot/Perm	Perm	Prot/Perm	Perm		Perm
MIN GRN	5	15	5	7	5	15		7
GAP EXT	3.0	4.0	3.0	3.0	3.0	4.0		3.0
YEL CLR	4.0	4.0	3.7	3.7	4.0	4.0		3.7
RED CLR	2.0	2.0	2.0	2.1	2.0	2.0		2.1
MAX 1	10	30	20	30	15	30		30
MAX 2	15	30	30	25	15	10		25
WALK		7		7		7		7
PED CLR		12		22		12		22

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	158	1	0
	Midday	10:00	15:15	3	180	93	3	0
	Afternoon	15:15	19:30	4	200	4	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	158	1	0
	Midday	10:00	13:00	3	180	93	3	0
	Afternoon	13:00	19:30	4	200	4	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2	3	4	5	6		8
Time (sec)	20	100	24	36	20	100		60
Coord Phase		X				X		
Mode		Max				Max		
Pattern 3								
Phase	1	2	3	4	5	6		8
Time (sec)	20	90	30	40	20	90		70
Coord Phase		X				X		
Mode		Max				Max		
Pattern 4								
Phase	1	2	3	4	5	6		8
Time (sec)	20	104	32	44	24	100		76
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float

6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)

METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at SR 426 [3]

Prepared By: KRC

Date: 03/05/20

East-West Roadway SR 426

North-South Roadway SR 15 (US 17/92)

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
LEFT TURN	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
MIN GRN	5	15	5	7	5	15	5	7
GAP EXT	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
YEL CLR	4.0	4.0	4.0	4.1	4.0	4.0	4.1	4.0
RED CLR	2.0	2.0	2.0	2.5	2.0	2.0	2.1	2.0
MAX 1	30	60	34	45	30	60	34	45
MAX 2	25	40	25	30	25	40	25	30
WALK		7		7		7		7
PED CLR		24		26		24		29

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	124	1	1
	Midday	10:00	15:15	3	180	55	3	1
	Afternoon	15:15	19:30	4	200	196	4	1
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	124	1	1
	Midday	10:00	13:00	3	180	55	3	1
	Afternoon	13:00	19:30	4	200	196	4	1
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2	3	4	5	6	7	8
Time (sec)	25	65	38	52	20	70	20	70
Coord Phase		X				X		
Mode		Max				Max		
Pattern 3								
Phase	1	2	3	4	5	6	7	8
Time (sec)	28	66	33	53	28	66	31	55
Coord Phase		X				X		
Mode		Max				Max		
Pattern 4								
Phase	1	2	3	4	5	6	7	8
Time (sec)	32	73	32	60	22	83	25	70
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float

6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)
9. Sequence 1: Reverse Phases 1 & 2 and 7 & 8

METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at Morse Boulevard /Driveway [10] Prepared By: KRC Date: 03/05/20

East-West Roadway Morse Boulevard/Driveway North-South Roadway SR 15 (US 17/92)

PHASE TIMES

MOVEMENT	1	2		4	5	6		
DIRECTION	SBL	NB		EB/WB	NBL	SB		
LEFT TURN	Prot/Perm	Perm		Perm	Prot/Perm	Perm		
MIN GRN	4	15		6	4	15		
GAP EXT	3.0	4.0		3.0	3.0	4.0		
YEL CLR	4.0	4.0		3.7	4.0	4.0		
RED CLR	2.0	2.0		2.0	2.0	2.0		
MAX 1	10	45		35	10	45		
MAX 2	30	30		30	30	30		
WALK		7		7		7		
PED CLR		22		21		14		

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	87	1	0
	Midday	10:00	15:15	3	180	9	3	0
	Afternoon	15:15	19:30	4	200	135	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			

Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	87	1	0
	Midday	10:00	13:00	3	180	9	3	0
	Afternoon	13:00	19:30	4	200	135	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			

Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2		4	5	6		
Time (sec)	20	126		34	20	126		
Coord Phase		X				X		
Mode		Max				Max		

Pattern 3								
Phase	1	2		4	5	6		
Time (sec)	20	120		40	20	120		
Coord Phase		X				X		
Mode		Max				Max		

Pattern 4								
Phase	1	2		4	5	6		
Time (sec)	26	119		55	26	119		
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float
6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)

METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at Gay Road [11] Prepared By: KRC Date: 03/05/20

East-West Roadway Gay Road North-South Roadway SR 15 (US 17/92)

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	SBL	NB	WBL	EB	NBL	SB	EBL	WB
LEFT TURN	Prot/Perm	Perm	Prot	Prot	Prot/Perm	Perm	Prot	Prot
MIN GRN	4	15	4	8	4	15	4	8
GAP EXT	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
YEL CLR	4.0	4.0	3.4	3.4	4.0	4.0	3.4	3.4
RED CLR	2.2	2.2	2.0	2.3	2.0	2.2	2.0	4.3
MAX 1	25	65	35	25	25	65	25	35
MAX 2	20	100	25	20	20	100	25	20
WALK		7		7		7		7
PED CLR		22		27		12		26

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	59	1	0
	Midday	10:00	15:15	3	180	8	3	0
	Afternoon	15:15	19:30	4	200	128	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			

Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	59	1	0
	Midday	10:00	13:00	3	180	8	3	0
	Afternoon	13:00	19:30	4	200	128	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			

Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2	3	4	5	6	7	8
Time (sec)	20	99	20	41	20	99	20	41
Coord Phase		X				X		
Mode		Max				Max		
Pattern 3								
Phase	1	2	3	4	5	6	7	8
Time (sec)	22	95	22	41	22	95	22	41
Coord Phase		X				X		
Mode		Max				Max		
Pattern 4								
Phase	1	2	3	4	5	6	7	8
Time (sec)	20	115	24	41	20	115	24	41
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float
6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)

METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at Webster Avenue [12]

Prepared By: KRC

Date: 03/05/20

East-West Roadway

Webster Avenue

North-South Roadway

SR 15 (US 17/92)

PHASE TIMES

MOVEMENT		2	3	4	5	6	7	8
DIRECTION		NB	WBL	EB	NBL	SB	EBL	WB
LEFT TURN		Perm	Prot/Perm	Perm	Prot/Perm	Perm	Prot/Perm	Perm
MIN GRN		15	5	5	5	15	5	5
GAP EXT		4.0	3.0	4.0	3.0	4.0	3.0	4.0
YEL CLR		4.0	3.7	3.7	4.0	4.0	3.4	3.7
RED CLR		2.0	2.0	4.0	2.0	2.0	3.8	4.0
MAX 1		55	20	30	25	55	20	30
MAX 2		80	15	22	15	80	15	22
WALK		7		7		7		7
PED CLR		16		22		14		23

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	72	1	0
	Midday	10:00	15:15	3	180	8	3	0
	Afternoon	15:15	19:30	4	200	143	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	72	1	0
	Midday	10:00	13:00	3	180	8	3	0
	Afternoon	13:00	19:30	4	200	143	4	0
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			
Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase		2	3	4	5	6	7	8
Time (sec)		121	20	39	20	101	20	39
Coord Phase		X				X		
Mode		Max				Max		
Pattern 3								
Phase		2	3	4	5	6	7	8
Time (sec)		118	18	44	20	98	18	44
Coord Phase		X				X		
Mode		Max				Max		
Pattern 4								
Phase		2	3	4	5	6	7	8
Time (sec)		137	25	38	30	107	25	38
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float
6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)

METROPLAN ORLANDO TRAFFIC SIGNAL RETIMING

2018-04 TRAFFIC SIGNAL RETIMING

Winter Park 2020

Contract Number RFP 2018-04

SR 15 (US 17/92) at SR 423 (Lee Road) [13] Prepared By: KRC Date: 03/05/20

East-West Roadway SR 423 (Lee Road) North-South Roadway SR 15 (US 17/92)

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
LEFT TURN	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
MIN GRN	5	10	5	7	5	10	5	7
GAP EXT	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
YEL CLR	4.0	4.0	5.0	3.4	4.0	4.0	3.4	4.8
RED CLR	3.3	2.0	2.9	3.2	2.8	2.2	2.6	2.7
MAX 1	45	60	45	45	45	60	45	45
MAX 2	30	30	30	33	30	30	30	37
WALK		7		7		7		7
PED CLR		28		32		23		33

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	51	1	1
	Midday	10:00	15:15	3	180	138	3	2
	Afternoon	15:15	19:30	4	200	91	4	1
	Evening	19:30	21:00	5	EXISTING			
	EXISTING	21:00	24:00	-	FREE			

Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Pattern	Sequence
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	1	180	51	1	1
	Midday	10:00	13:00	3	180	138	3	2
	Afternoon	13:00	19:30	4	200	91	4	1
	Afternoon	19:30	20:30	5	EXISTING			
	EXISTING	20:30	24:00	-	FREE			

Weekend (Saturday-Sunday)	EXISTING	0:00	9:00	-	FREE			
		9:00	20:00	11	EXISTING			
		20:00	0:00	-	FREE			

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2	3	4	5	6	7	8
Time (sec)	29	83	43	25	20	92	20	48
Coord Phase		X				X		
Mode		Max				Max		
Pattern 3								
Phase	1	2	3	4	5	6	7	8
Time (sec)	42	61	31	46	20	83	26	51
Coord Phase		X				X		
Mode		Max				Max		
Pattern 4								
Phase	1	2	3	4	5	6	7	8
Time (sec)	40	59	55	46	18	81	30	71
Coord Phase		X				X		
Mode		Max				Max		

NOTES

1. Controller Model: Intelight
2. Controller Software: TBD
3. Reference: Yellow
4. Max Mode: Inhibit
5. Force Mode: Float
6. Coordination Mode: Auto Permissive
7. Correction Mode: Shortway
8. Transition Ped Mode: Pattern (None)
9. Sequence 1: Reverse Phases 1 & 2
10. Sequence 2: Reverse Phases 1 & 2 and 3 & 4

ID: 173

Name: Clay Av & Par St

Configuration: Standard

Pattern	Cycle Time	Offset Time	Split Number	Seq Number
Pattern 1	80	55	1	1
Pattern 2	80	55	2	1
Pattern 3	80	35	3	1
Pattern 4	80	55	4	1
Pattern 5	100	56	5	1
Pattern 6	80	30	6	1
Pattern 7	80	30	7	1
Pattern 8	0	0	8	1
Pattern 9	0	0	9	1
Pattern 10	0	0	10	1
Pattern 11	0	0	11	1
Pattern 12	0	0	12	1
Pattern 13	0	0	13	1
Pattern 14	0	0	14	1
Pattern 15	60	24	15	1
Pattern 16	0	0	16	1
Pattern 17	0	0	17	1
Pattern 18	0	0	18	1
Pattern 19	0	0	19	1
Pattern 20	0	0	20	1
Pattern 21	0	0	21	1
Pattern 22	0	0	22	1
Pattern 23	0	0	23	1
Pattern 24	0	0	24	1
Pattern 25	0	0	0	1
Pattern 26	0	0	0	1
Pattern 27	0	0	0	1
Pattern 28	0	0	0	1
Pattern 29	150	54	29	1
Pattern 30	150	75	30	1
Pattern 31	150	119	31	1
Pattern 32	0	0	0	1
Pattern 33	0	0	0	1
Pattern 34	0	0	0	1
Pattern 35	0	0	0	1
Pattern 36	0	0	0	1
Pattern 37	0	0	0	1
Pattern 38	0	0	0	1
Pattern 39	0	0	0	1
Pattern 40	0	0	0	1
Pattern 41	0	0	0	1
Pattern 42	0	0	0	1
Pattern 43	0	0	0	1
Pattern 44	0	0	0	1
Pattern 45	0	0	0	1
Pattern 46	0	0	0	1
Pattern 47	0	0	0	1
Pattern 48	0	0	0	1

ID: 173

Name: Clay Av & Par St

Configuration: Standard

Param	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10	Phase 11	Phase 12	Phase 13	Phase 14	Phase 15	Phase 16
Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	4	8	0	6	0	8	0	0	3	0	3	0	3	0	3	0
Passage	2	4	0	3	0	4	0	0	0	0	0	0	0	0	0	0
Max1	15	30	0	25	0	30	0	0	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	3	4	0	4	0	4	0	0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	2	2	0	2	0	2	0	0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Startup	RED	RED	RED	RED	RED	RED	RED	RED	REDCLR	REDCLR	REDCLR	REDCLR	REDCLR	REDCLR	REDCLR	REDCLR
Enable	On	On	Off	On	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Auto Entry	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Auto Exit	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Non Act1	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Non Act2	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Lock Call	On	On	Off	Off	Off	On	Off	Off	On	On	On	On	On	On	On	On
Min Recall	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Max Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Ped Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Soft Recall	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	Off	On	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Sim Gap Enable	Off	On	Off	Off	Off	On	Off	Off	Off	On	Off	On	Off	On	Off	On
Guar Passage	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Rest In Walk	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Cond Service	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Add Init Calc	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Ring	1	1	1	1	2	2	2	2	0	0	0	0	0	0	0	0
Concur 1	5	5	7	7	1	1	3	3	0	0	0	0	0	0	0	0
Concur 2	6	6	8	8	2	2	4	4	0	0	0	0	0	0	0	0
Concur 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SEPAC ECOM All Data

5/19/2020

9:16:32AM

Intersection Name: **CLAY AVE & MINNESOTA AVE**

Intersection Alias: **56**

Access Data

1 :1200 Baud

3 :1200 Baud

Access Code: **4224**

Channel:

Address: **1**

Revision: **3.34h**

IP Address: **10.32.28.160**

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	0-None	4-Grn	0-None	1-Inact	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None

PHASE DATA

Vehical Basic Timings							Misc Timings						Pedestrian Timings						Actuated	
Min						All	Green	Yellow	Offset	Offset	Bike	Bike		Ped	Alt	Ped	Flash	Ext	Rest in	
Phase	Green	Passage	Max1	Max2	Yellow	Red	Delay	Delay	Time	Mode	Green	Psg	Walk	Clr	Walk	Clr	Walk	Ped Clr	Walk	
1	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
2	8	3.0	40	40	3.7	2.0	0.0	0.0	0	0-Advance	0.0	0.0	7	15	0	0	No	0	No	
3	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
4	5	2.0	25	25	3.7	2.0	0.0	0.0	0	0-Advance	0.0	0.0	7	22	0	0	No	0	No	
5	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
6	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
7	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
8	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
9	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
10	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
11	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
12	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
13	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
14	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
15	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	
16	0	0.0	0	0	4.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No	

Vehicle Density Timings							General Control				Miscellaneous				No	Special Sequence		
Ph.	Added	Max	Time	Car	Time	Min	Non-Act	Veh	Ped	Recall	Non	Dual	Last	Condit	Simu	Omit	Minus	Omit
	Initial	Initial	B4	B4	To	Gap	Response	Recall	Recall	Delay	Lock	Entry	Car	Service	Gap		Yel	Call
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	0.0	0	0	0	0	0.0	NonActI	Min	None	0	No	No	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
6	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
8	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Vehical Detector Phase Assignment Assign Switch Phase Mode Phase Extend Delay							Pedestrian Detector Assign Switch Phase Mode Phase Extend Delay						Special Detector Phase Assignment Assign Switch Phase Mode Phase Extend Delay					
Default Data							Default Data						: Default Data					

Unit Data

General Control

Startup Time:	8 sec		Input	Output
Startup State:	Flash	Ring	Respons	Selection
Red Revert:	4.0 sec	1	Ring 1	Ring 1
Auto Ped Clr:	No	2	Ring 2	Ring 2
Stop T Reset:	No	3	None	None
Alt Sequence:	0	4	None	None
Special Seq:	0-Standard			
I/O Modes:				
ABC Input(Entry) Modes: 0		D Input(Entry) Modes: 0		
ABC Output(O/STS) Modes: 0		D Output(O/STS) Modes: 0		

Remote Flash

Test A = Flash Yes			Default Data - No Flash
Phase	Entry	Exit	
2		Yes	
4	Yes		

Overlaps

Overlaps															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)															

Start Green

Overlaps															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)															

Ring

Ring			Phase(s)																
Phase	Ring	Next Phase	Concurrent Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	1	3		1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
4	1	1		5	5	7	7	2	2	4	4								
				6	6	8	8	5	6	7	8								

Alternate Sequences

	Ph. Pair 1	Ph. Pair 2	Ph. Pair 3	Ph. Pair 4
Alt. Seq. 1	1/2			
Alt. Seq. 2	3/4			
Alt. Seq. 3	1/2	3/4		
Alt. Seq. 4	5/6			
Alt. Seq. 5	1/2	5/6		
Alt. Seq. 6	3/4	5/6		
Alt. Seq. 7	1/2	3/4	5/6	
Alt. Seq. 8	7/8			
Alt. Seq. 9	1/2	7/8		
Alt. Seq. 10	3/4	7/8		
Alt. Seq. 11	1/2	3/4	7/8	
Alt. Seq. 12	5/6	7/8		
Alt. Seq. 13	1/2	5/6	7/8	
Alt. Seq. 14	3/4	5/6	7/8	
Alt. Seq. 15	1/2	3/4	5/6	7/8

Port 1 Data

BIU	Port	Basic	Message
Addr	Status	Det	40

Default Data

Signal Driver Output

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data

General Coordination Data

Operation Mode: 1=Auto

Coordination Mode: 0=Permissive

Maximun Mode: 0=Inhibit

Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn

Force Mode: 0=Plan

Max Dwell Time: 0

Yield Period: 0

Manual Dial: 3

Manual Split: 1

Manual Offset: 1

Dial/Split

Cycle

4/2

150

4/3

150

4/4

150

Split Times and Phase Modes

Dial 4 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	110	1=Coordinate	4	40	0=Actuated						

Dial 4 / Split 3

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	110	1=Coordinate	4	40	0=Actuated						

Dial 4 / Split 4

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	110	1=Coordinate	4	40	0=Actuated						

Traffic Plan Data

Plan: 4/2/1	Offset Time: 51 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 4/3/1	Offset Time: 67 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: 4/4/1	Offset Time: 81 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero Reference Hours: 24 Min: 0
End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days						
	1	2	3	4	5	6	7
1	7	0	0	0	0	0	0
2	3	4	5	6	0	0	0

Traffic Data

PHASE FUNCTION																		
Event	Day	Time	D/S/O	flash	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1	0:1	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	2	0:1	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

AUX. Events

Program		Aux Outputs			Det. Diag.	Det. Rpt.	Det. Mult100	Special Function Outputs										
Event	Day	Hour	Min.	1	2	3	D1	D2	D3	Dimming	1	2	3	4	5	6	7	8
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16
Special Function 1	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 2	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 3	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 4	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 5	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 6	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 7	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Special Function 8	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐

Phase Function

	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Max2	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 2 Max2	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 3 Max2	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 4 Max2	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 5 Max2	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 6 Max2	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 7 Max2	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase 8 Max2	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐

<u>Phase Omit</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐	☐
Phase 2 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐	☐	☐	☐	☐
Phase 3 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐	☐	☐	☐
Phase 4 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐	☐	☐
Phase 5 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐	☐
Phase 6 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐	☐
Phase 7 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	☐
Phase 8 Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X

<u>Ped Omit</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Veh Det Coord ReSvc</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Function Phase Recall</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Phase Min Recall</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Veh Det Ped Recall</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Veh Det Bike Recall</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Vehicle Function</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
<u>Veh Det Switch Omit</u>	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Veh Det Switch Now</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Veh Det Switch Also</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Overlap Function</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

<u>Dimming Data</u>	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Default Data - No Dimming Programmed																

Lane Definition

Lanes	Name	Green Inbound	Yellow Inbound	Red Inbound	Green Outbound	Yellow Outbound
-------	------	------------------	-------------------	----------------	-------------------	--------------------

Default Data - Lane Definition

program day

program hour

program minute

LanePhFun

Preemption Data

General Preemption Data

Flash > Preempt

Preempt 2 = Preempt 3

Preempt 4 = Preempt 5

Preempt 1 = Preempt 2

Preempt 3 = Preempt 4

Preempt 5 = Preempt 6

Preempt	NLock	Link to Pmpt	Preempt Timers					De					Select				Track				Dwell Green	Return			Sel Ret Mode
			Max Call	Lock- Out	Boun ce	Gate Ext	Min G W	Ped			Grn			Ped			Clear	Yel	Red						
								Del	Ext	Dur	Clear	Yel	Red	Grn	Ped	Yel				Red					
1	Y	0	0	0	0	90	0	0.0	0	0	0	15	5.0	2.0	0	0	0.0	0.0	10	0	5.0	2.0	F Aut		
2	Y	0	0	0	0	90	0	0.0	0	0	0	15	5.0	2.0	0	0	0.0	0.0	10	0	5.0	2.0	F Aut		
3	Y	0	0	0	0	90	0	0.0	0	0	0	15	5.0	2.0	0	0	0.0	0.0	10	0	5.0	2.0	F Aut		
4	Y	0	0	0	0	90	0	0.0	0	0	0	15	5.0	2.0	0	0	0.0	0.0	10	0	5.0	2.0	F Aut		
5	Y	0	0	0	0	90	0	0.0	0	0	0	8	5.0	2.0	0	8	5.0	2.0	10	8	5.0	2.0	F Aut		
6	Y	0	0	0	0	90	0	0.0	0	0	0	8	5.0	2.0	0	8	5.0	2.0	10	8	5.0	2.0	F Aut		

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
2	Yes	No	2	Yes	No	2	Yes	No	2	Yes	No						

Priority Timers

Prio rity	Non- Locking	Del ay	Ext end	Free Dial	Free Split	Min Green	No Lock out	Lock out A	Lock out B	Max Green	Pre- Green	Recall	Excl-co Phase Svc.	Transit Overlap	
														Signal Type	Blankout

Priority Detector Channels

Priority
Detector

Priority Fixed Phases

Priority

Legend: 0 1
 CO-PHASE FALSE TRUE
 QJ-PHASE

Priority

Priority Bank :

Level

Partial Priority

Alt Seq
 Alt Seq Enabled
 Min Walk

Full Priority

Freq. Override
 Ped skip
 Force full Priority
 Frequency
 Freq. Level

Recovery

Method
 Return
 PedWait
 PedOverride

Codes: 0 X
 FALSE TRUE

Priority : Priority Bank : Queue Phase Detector Time Default data	Priority : Priority Bank : Queue Phase Detector Time Default data	Priority : Priority Bank : Queue Phase Detector Time Default data
Priority : Priority Bank : Queue Phase Detector Time Default data	Priority : Priority Bank : Queue Phase Detector Time Default data	Priority : Priority Bank : Queue Phase Detector Time Default data

Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B Default Data	Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B Default Data
--	--

Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B									Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B								
Default Data									Default Data								
Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B									Priority : Bank Detector PE 1A 2A 3A 4A 5A 6A B								
Default Data									Default Data								

Preempt 1

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle	Trail Grn

Default Data

Default Data

Default Data

Preempt 2

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn
4	Red	Green	No									

Default Data

Default Data

Preempt 3

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data

Default Data

Default Data

Preempt 4

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn
4	Red	Green	No									

Default Data

Default Data

Preempt 5

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data

Default Data

Default Data

Preempt 6

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data

Default Data

Default Data

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

Local Free: No

Cycle Failure: No

Coord Failure: No

Conflict Flash: Yes

Remote Flash: No

2nd Phone:

Local Fash: No

Cycle Fault: No

Coord Fault: No

Premption: No

Voltage Monitor: No

Special Status 1: No

Special Status 2: Yes

Special Status 3: No

Special Status 4: No

Special Status 5: No

Special Status 6: No

Traffic Responsive

System	Detector		Veh/	Average	Occupancy	Min	Queue 1	System	Weight	Queue 2	System	Weight
Detector	Channel	Name	Hr	Time(mins)	Correction/10	Volume %	Detectors	Detectors	Factor	Detectors	Detectors	Factor

Default Data

Sample Interval: 0

Queue: 1 Input Selection: 0=Average
Detector Failed Level : 0
Queue: 2 Input Selection: 0=Average
Detector Failed Level : 0

Default Data

Queue: Level Enter Leave Dial / Split / Offset
/ /
Default Data

Vehical Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count
1	20	0	90
2	20	0	90
3	20	0	90
4	20	0	90
5	20	0	90
6	20	0	90
7	20	0	90
8	20	0	90
9	20	0	90
10	20	0	90
11	20	0	90
12	20	0	90
13	20	0	90
14	20	0	90
15	20	0	90
16	20	0	90
17	20	0	90
18	20	0	90
19	20	0	90
20	20	0	90
21	20	0	90
22	20	0	90
23	20	0	90
24	20	0	90
25	20	0	90
26	20	0	90
27	20	0	90
28	20	0	90
29	20	0	90
30	20	0	90
31	20	0	90
32	20	0	90
33	20	0	90
34	20	0	90
35	20	0	90
36	20	0	90
37	20	0	90
38	20	0	90
39	20	0	90
40	20	0	90
41	20	0	90
42	20	0	90
43	20	0	90
44	20	0	90
45	20	0	90
46	20	0	90
47	20	0	90
48	20	0	90
49	20	0	90
50	20	0	90
51	20	0	90
52	20	0	90
53	20	0	90
54	20	0	90

Vehical Detector

Diagnostic Value 1

Default Data - No Diag 1 Values**Special Detector**

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count
1	5	0	75
2	5	0	75
3	5	0	75
4	5	0	75
5	5	0	75
6	5	0	75
7	5	0	75
8	5	0	75

55	20	0	90
56	20	0	90
57	20	0	90
58	20	0	90
59	20	0	90
60	20	0	90
61	20	0	90
62	20	0	90
63	20	0	90
64	20	0	90

Pedestrian Detector

Diagnostic Value 0			
Detector	Max Presence	No Activity	Erratic Count
1	20	0	75
2	20	0	75
3	20	0	75
4	20	0	75
5	20	0	75
6	20	0	75
7	20	0	75
8	20	0	75

Pedestrian Detector

Diagnostic Value 1			
Detector	Max Presence	No Activity	Erratic Count
Default Data - No Diag 1 Values			

Special Detector

Diagnostic Value 1			
Detector	Max Presence	No Activity	Erratic Count
Default Data - No Diag 1 Values			

Speed Trap Data

Speed Trap:

Measurement:		
Detector 1	Detector_2	Distance :

Dial/Split/Offset
//

Default Data

Speed Trap	Speed Trap
Low Treshold	High Treshold

Default Data

Volume Detector Data

Report Interval	0
Volume Controller	
Detector Detector	
Number Channel	

Default Data

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
TSM&O Continuing Services Contract - City of Winter Park 2020
FM: 440412-1-32-01

SR 426 at Clay Street [211]				Prepared By:	KRC	Date:	03/05/20
East-West Roadway		SR 426	North-South Roadway		Clay Street		

PHASE TIMES								
MOVEMENT		2		4	5	6	7	8
DIRECTION		WB		NB	WBL	EB	NBL	SB
LEFT TURN		Perm		Perm	Prot/Perm	Perm	Prot/Perm	Perm
MIN GRN		12		6	6	12	6	6
GAP EXT		1.5		2.5	3.5	1.5	2.5	2.5
YEL CLR		4.0		3.7	4.0	4.0	3.7	3.7
RED CLR		2.4		2.0	2.4	2.4	2.0	2.0
MAX 1		60		25	7	60	35	20
MAX 2								
WALK		7		7		7		7
PED CLR		16		21		18		22

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt. Seq.
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	2/2/2	180	7	1	0
	Midday	10:00	15:15	3/2/2	180	99	2	0
	Afternoon	15:15	19:30	4/2/2	200	50	3	0
	EXISTING	19:30	24:00	-				
Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt. Seq.
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	2/2/2	180	7	1	0
	Midday	10:00	13:00	3/2/2	180	99	2	0
	Afternoon	13:00	19:30	4/2/2	200	50	3	0
	EXISTING	19:30	24:00	-				
Weekend (Saturday-Sunday)	EXISTING	0:00	7:00	-	FREE			
		7:00	19:00	2/1/1	EXISTING			
		19:00	0:00	-	FREE			

COORDINATION SPLIT TABLES								
Split 1								
Phase		2		4	5	6	7	8
Time (sec)		140		40	20	120	22	18
Coord Phase		X				X		
Mode		Max				Max		
Split 2								
Phase		2		4	5	6	7	8
Time (sec)		132		48	20	112	28	20
Coord Phase		X				X		
Mode		Max				Max		
Split 3								
Phase		2		4	5	6	7	8
Time (sec)		125		75	25	100	55	20
Coord Phase		X				X		
Mode		Max				Max		

NOTES	
1. Controller Model: Eagle EPAC 300	5. Maximum Mode: Inhibit Max
2. Controller Software: 3.34G	
3. Offset Reference: End of Green	
4. Force-off Mode: Plan	

FFF
3-1

Lee rd Ext + Webster

①

Vehicle Timings

PHASE	1	2	3	4	5	6	7	8
MIN GRN	0	10	10	15	10	10	10	7
PASS	40	40	40	40	40	40	40	40
MAX 1	25	60	25	35	25	60	25	45
MAX 2	30	30	30	30	30	30	30	30
Yel	40	40	40	40	40	48	40	34
Red	20	20	20	20	20	20	20	20

FFF-3-3-1 PED Timings

PH	1	2	3	4	5	6	7	8
WALK		7						7
PED CLR		22						16

FFF-3-45 Vehicle Recalls

PH	1	2	3	4	5	6	7	8
U-Recall		2				2		
P-Recall								

FFF-3-4 INIT + IVA RESP

PH	1	2	3	4	5	6	7	8
INITIAL	0	3	0	1	0	3	0	1
IVA RESP								

FFF-3-6

AL LOCK + MISC.

PH	1	2	3	4	5	6	7	8
AL MEM	1	0	1	1	1	0	1	0
2 ENTRY	0	1	0	0	0	1	0	0

FFF-3-8-1

SPEC. DETECTOR

PH	1	2	3	4	5	6	7	8
ASS PH	1	2	3	4	5	6	7	8
OPER PH	0							
SWITCH PH								0

FFF-3-8-9

SPEC. DET. (Ped DET)

PH	1	2	3	4	5	6	7	8
ASS PH	1	2	3	4	5	6	7	8
OPER PH	1	1	1	1	1	1	1	1
SWITCH PH								

FFF-4-2

REMOTE FLASH

FLASH	1	2	1	1	1	2	1	1	0
ALT FLASH	0	1	0	0	0	1	0	0	0
CHN / PHS	1	2	3	4	5	6	7	8	9
Entry								1	
EXIT		1				1			

FFF-4-1

①

Unit DATA (Startup + Misc)

Startup time	5								
Red Rev	40								
Auto PED CLR	0								
STOP T Reset	1								
ALT SEQ	0								
SPEC SEQ	0								
Statz	0								

FFF-5-1 Coord DATA (Setup Coord)

OPER	0								
MODE	0								
MAX	2								
Corr	0								
offset	0								
Force	0								
MAX 2	0								
Yield P.	0								

Ring st

①

PH 1 Ring 1 NXT PH 2

concur PH	1				1	1			
PH/CHAN	1	2	3	4	5	6	7	8	9
Veh	1								
Ped									

FFF-4-5

PH 2 Ring 1 NXT PH 3

concur PH	1				1	1			
PH/CHAN	1	2	3	4	5	6	7	8	9
Veh		1							
Ped									

PH 3 Ring 1 NXT PH 4

concur PH			1				1	1	
PH/CHAN	1	2	3	4	5	6	7	8	9
Veh			1						
Ped									

PH 4 Ring 1 NXT PH 1

concur PH				1			1	1	
PH/CHAN	1	2	3	4	5	6	7	8	9
Veh				1					
Ped									

PH 5 RING 2 NXT PH 6

Concur PH	1	1			1				
PH/CHN	1	2	3	4	5	6	7	8	9
Veh					1				
Ped									

PH 6 RING 2 NXT PH 7

Concur PH	1	1				1			
PH/CHN	1	2	3	4	5	6	7	8	9
Veh						1			
Ped									

PH 7 RING 2 NXT PH 8

Concur PH			1	1			1		
PH/CHN	1	2	3	4	5	6	7	8	9
Veh							1		
Ped									

PH 8 RING 2 NXT PH 5

Concur PH			1	1				1	
PH/CHN	1	2	3	4	5	6	7	8	9
Veh								1	
Ped									

Denning + Morse

①

Vehicle Times.

Phase	1	2	3	4	5	6	7	8
Min Grn	8	10		10	8	10		10
Pass	30	30		30	30	30		30
MAX 1	12	35		25	12	35		25
MAX 2	20	35		25	20	35		25
YEL	40	40	40	40	40	40	40	40
Red	10	25	10	25	10	10	10	10

Peel Times

PH	1	2	3	4	5	6	7	8
WALK		7		7		7		7
PED CLR		30		30		30		30

INIT + NA RESP

PH	1	2	3	4	5	6	7	8
INITIAL	1	4	1	1	1	4	1	1
NA RESP	0	1	0	2	0	1	0	2

V + P RECALL

PH	1	2	3	4	5	6	7	8
V. RECALL		2				2		
P. RECALL								

N. LOCK & MISC.

PH	1	2	3	4	5	6	7	8
NL MEM	1	0	1	1	1	1	1	1

SPEC. DET VEH 1-8

PH	1	2	3	4	5	6	7	8
ASS PH	1	5	6	2	8	4	8	4
OPER MODE								
SWITCH PH	6	2						

SPEC. DET PED 1-8

PH	1	2	3	4	5	6	7	8
ASS PH	1	2	3	4	5	6	7	8
OPER MODE	1	1	1	1	1	1	1	1
SWITCH PH	0							0

STARTUP times & MISC.

STARTUP Time	3							
Red Rev	40							
Auto Ped CLR	0							
STOP T RESET	1							
ALT SEQ	0							
STATE	0							
SPEC. SEQ	0							

REMOTE FLASH

FLSH									
ALT. FLSH									
CHN/PHS	1	2	3	4	5	6	7	8	9
ENTRY				1					
EXIT									
		1				1			

RING STRUCTURE

PH	RING	NXT	1	2	3	4	5	6	7	8
1	1	2	1				1	1		
2	1	4		1			1	1		
3	0	0			1					
4	1	8				1				
5	2	6		1	1		1			
6	2	5		1	1			1		
7	0	0							1	
8	1	1								1

Denning + Canton

①

Phase DATA / Vehicle times

PH	1	2	3	4	5	6	7	8
MIN Grn	8	15	0	8	8	15	8	8
Pass	30	30	0	30	30	30	30	30
MAX 1	20	35	0	25	20	35	20	25
MAX 2	20	30	0	15	20	30	24	15
Yel	40	37	40	35	40	35	40	35
Red	20	20	0	25	20	20	20	20

PH DATA / Ped Times

PH	1	2	3	4	5	6	7	8
WALK		7		7		7		7
Ped CLR		15		15		15		15

PH DATA / INIT NA RESP

PH	1	2	3	4	5	6	7	8
INITIAL	1	3	0	1	1	3	1	1
NA RESP	1	1	0	2	0	1	0	2

PH DATA / V+P RECALL

PH	1	2	3	4	5	6	7	8
V. RECALL	0	2	0	0	0	2	0	0
P. RECALL	0	0	0	0	0	0	0	0
DELAY	0	0	0	0	0	0	0	0

PH DATA/ N. LOCK + MISC

PH	1	2	3	4	5	6	7	8
AL MEM	1	0	1	0	0	0	1	0
2 ENTRY	0	0	0	1	0	0	0	1
LC PASS	0	0	0	0	0	0	0	0
CON SER	0	0	0	0	0	0	0	0
NO SBAAP	0	0	0	0	0	0	0	0

PH DMA / SPEL. SEQ

PH	1	2	3	4	5	6	7	8
OMIT	0	0	0	0	0	0	0	0
YEL	0	0	0	0	0	0	0	0
OCAL	0	0	0	0	0	0	0	0

PH DATA / SPEL. DET. 1-8 VEH

V. DET CONT	1	2	3	4	5	6	7	8
ASS PH	1	2	0	4	5	6	7	8
OPER MODE	0	0	0	0	0	0	0	0
SWIT. PH	0	0	0	0	0	0	0	0

PH DATA / SPEL DET PED 1-8

PED DET CONT	1	2	3	4	5	6	7	8
ASS PH	1	2	3	4	5	6	7	8
OPER MODE	1	1	1	1	1	1	1	1
SWIT. PH	0	0	0	0	0	0	0	0

UNIT DATA/STARTUP times

Startup time	5								
Red Rev	40								
Auto Ped CLR	0								
STOPT Reset	0								
ALT SEQ	0								
SPEL. SEQ	0								
STATE	0								

UNIT DATA/REMOTE FLASH

FLSH	0								
ALT FISH									0
CHN/PHS	1	2	3	4	5	6	7	8	9
ENTRY PH	0			1				1	
EXIT PH		1				1			
									0

UNIT DATA/RING STRUCTURE

PH	1								
RING	1								
NXT PH	2								
CONCUR PH	1	0	0	0	1	1	0	0	0
PH/CHN	1	2	3	4	5	6	7	8	9
VEH CHN	1	0							
PED CHN									0

PH	2								
RING	1								
NXT PH	3								
CONCUR PH		1			1	1			
PH/CHN	1	2	3	4	5	6	7	8	9
VEH CHN	0	1							
PED CHN									1

PH	3								
RING	1								
NXT PH	3								
CONCUR PH	0	0	1	0	0	0	1	1	0
PH/CHAN	1	2	3	4	5	6	7	8	9
VEH CAN	0		1						
PED CAN									0

PH	4								
RING 1	1								
NXT PH	1								
CONCUR PH	0			1			1	1	0
PH/CHAN	1	2	3	4	5	6	7	8	9
VEH	0			1					
PED									0

PH	5								
RING	2								
NXT PH	6								
CONCUR PH	1	1			1				
PH/CHAN	1	2	3	4	5	6	7	8	9
VEH					1				
PED									

PH	6								
RING	2								
NXT PH	7								
CONCUR PH	1	1				1			
PH/CHAN	1	2	3	4	5	6	7	8	9
VEH						1			
PED									

PH	7								
RING	2								
NXT PH	8								
CONCUR PH			1	1			1		
PH / CHAN	1	2	3	4	5	6	7	8	9
VEH							1		
PED									

PH	8								
RING	2								
NXT PH	5								
CONCUR PH			1	1				1	
PH / CHAN	1	2	3	4	5	6	7	8	9
VEH								1	
PED									

COORD DATA / SET UP COORD

OPER	0								
MODE	0								
MAX	2								
CORR	0								
OFST	0								
FRCE	0								
MAX DWELL	0								
Yield	0								

Phase DATA / Vehicle Times

PH	1	2	3	4	5	6	7	8
Min Grn	0	10	7	7	0	7	7	7
Pass	0	30	30	30	0	30	30	30
MAX 1	0	30	15	25	0	30	25	40
MAX 2	0	30	30	30	0	35	30	30
YEL	30	40	30	40	30	40	30	40
RED	0	25	25	25	0	25	25	25

PH DATA / Pedestrian Times

PH	1	2	3	4	5	6	7	8
WALK	0	7	0	7	0	7	0	7
PED CLR	0	22	0	22	0	22	0	22

PH DATA / Init + NARESP

PH	1	2	3	4	5	6	7	8
INITIAL	0	4	1	1	0	1	1	1
NARESP	0	1	0	2	0	1	0	2

PH DATA / Vehicle Recalls + PED RCL

PH	1	2	3	4	5	6	7	8
VEH RECALL	0	2	0	0	0	0	0	0
PED RCL	0	0	0	0	0	0	0	0
DELAY	0	0	0	0	0	0	0	0

PH DATA / N LOCK + MISC.

PH	1	2	3	4	5	6	7	8
NL MEM	1	0	1	1	1	0	1	0
2 ENTRY	0	0	0	0	0	0	0	0
LC PASS	0	0	0	0	0	0	0	0
CON SER	0	0	0	0	0	0	0	0
NO SGAP	0	0	0	1	0	0	0	1
				F				

PH DATA / SPEC. SEQUENCE

PH	1	2	3	4	5	6	7	8
OMIT	1	0	1	0	1	0	1	0
YEL	0	0	0	0	0	0	0	0
OCAL	0	0	0	0	0	0	0	0

PH DATA / SPEC. DETECTOR / 1-VEH 1-8

VEH DET CONT	1	2	3	4	5	6	7	8
ASS PH	1	2	7	4	6	6	3	8
OPER MODE	0	0	0	0	0	0	0	0
SWITCH PH	0	0	4	0	0	0	8	0

PH DATA / SPEC. DETECTOR / 9-PED 1-8

PED DET CONT	1	2	3	4	5	6	7	8
ASS PH	1	2	3	4	5	6	7	8
OPER MODE	1	1	1	1	1	1	1	1
SWITCH PH	0	0	0	0	0	0	0	0

UNIT DATA / STARTUP + MISC.

Startup Time	5								
RED REV	40								
AUTO RED URL	0								
STOP T RESET	1								
ALT SEQ	0								
SPECIAL SEQ	0								
STATE	0								

UNIT DATA / REMOTE FLASH / FLASH SETTING

LDSW	1	2	3	4	5	6	7	8	9
FLASH	0	2	0	1	0	1	0	1	0
ALT	0	0	0	1	0	0	0	1	0

UNIT DATA / REMOTE FLASH / ENTRY - EXIT PH

PH	1	2	3	4	5	6	7	8	9
ENTRY	0	0	0	1	0	0	0	1	0
EXIT	0	1	0	0	0	0	0	0	0

UNIT DATA / RING STRUCTURE

PH	1								
RING	0								
NEXT PH	0								
PH	1	2	3	4	5	6	7	8	
COMP	X	0	0	0	0	0	0	0	

UNIT DATA / RING STRUCTURE

PH	2								
RING	1								
NEXT PH	6								
PH	1	2	3	4	5	6	7	8	
COMP	0	X	0	0	0	0	0	0	

PH	3								
RING	1								
NEXT PH	4								
PH	1	2	3	4	5	6	7	8	
COMP	0	0	X	0	0	0	0	0	

PH	4								
RING	1								
NEXT PH	2								
PH	1	2	3	4	5	6	7	8	
COMP	0	0	0	X	0	0	0	0	

PH	5								
RING	0								
NEXT PH	0								
PH	1	2	3	4	5	6	7	8	
COMP	0	0	0	0	X	0	0	0	

UNIT DATA / RING STRUCTURE

PH	6							
RING	1							
NEXT PH	3							
PH	1	2	3	4	5	6	7	8
COMP	0	0	0	0	0	X	0	0

PH	7							
NEXT PH	2							
NEXT PH	8							
PH	1	2	3	4	5	6	7	8
COMP	0	0	0	0	0	0	X	0

PH	8							
RING	2							
NEXT PH	7							
PH	1	2	3	4	5	6	7	8
COMP	0	0	1	1	0	0	0	X

COORD DATA / SETUP COORD

OPER	0							
MODE	0							
MAX	2							
CORR	0							
OFFSET	0							
FORCE	0							
MAX DWELL	0							
YIELD PER	0							

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
TSM&O Continuing Services Contract - City of Winter Park 2020
FM: 440412-1-32-01

SR 426 at Denning Drive [214]				Prepared By:	KRC	Date:	03/05/20
East-West Roadway		SR 426	North-South Roadway		Denning Drive		

PHASE TIMES								
MOVEMENT		2	3	4	5	6	7	8
DIRECTION		EB	NBL	SB	EBL	WB	SBL	NB
LEFT TURN		Perm	Prot/Perm	Perm	Prot/Perm	Perm	Prot/Perm	Perm
MIN GRN		15	4	10	4	15	4	10
GAP EXT		4.0	3.0	3.0	3.0	4.0	3.0	3.0
YEL CLR		4.0	3.4	3.4	4.0	4.0	3.4	3.4
RED CLR		2.0	2.0	2.0	2.0	2.0	2.0	2.0
MAX 1		55	4	25	12	55	4	25
MAX 2		40	15	15	10	40	15	15
WALK		7		7		7		7
PED CLR		12		15		14		13

Weekday (Monday-Thursday)	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt. Seq.
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	2/2/2	180	82	1	0
	Midday	10:00	15:15	3/2/2	180	7	2	0
	Afternoon	15:15	19:30	4/2/2	200	142	3	0
	EXISTING	19:30	24:00	-	FREE			
Friday	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt. Seq.
	FREE	0:00	6:30	-	FREE			
	Morning	6:30	10:00	2/2/2	180	82	1	0
	Midday	10:00	13:00	3/2/2	180	7	2	0
	Afternoon	13:00	19:30	4/2/2	200	142	3	0
	EXISTING	19:30	24:00	-	FREE			
Weekend (Saturday-Sunday)	EXISTING	0:00	8:00	-	FREE			
		8:00	21:00	1/2/1	EXISTING			
		21:00	0:00	-	FREE			

COORDINATION SPLIT TABLES								
Split 1								
Phase		2	3	4	5	6	7	8
Time (sec)		130	15	35	15	115	15	35
Coord Phase		X				X		
Mode		Max				Max		
Split 2								
Phase		2	3	4	5	6	7	8
Time (sec)		128	20	32	15	113	20	32
Coord Phase		X				X		
Mode		Max				Max		
Split 3								
Phase		2	3	4	5	6	7	8
Time (sec)		135	20	45	20	115	20	45
Coord Phase		X				X		
Mode		Max				Max		

NOTES	
1. Controller Model: Siemens m50	5. Maximum Mode: Inhibit Max
2. Controller Software: 3.55	
3. Offset Reference: End of Green	
4. Force-off Mode: Plan	

Orange, Fairbanks + Penn
Controller - 3.55

Vehicle Times

Phases	1	2	3	4	5	6	7	8
min GRN	8	8	0	8	0	8	0	8
Pass	50	50	0	50	0	50	0	50
Max 1	25	25	0	30	0	25	0	30
Max 2	25	25	0	30	0	25	0	30
Yel	41	37	80	34	40	37	40	34
Red	21	44	50	45	50	35	50	45

Orange + Cypress Controller - 3.55

Vehicle Times

Phases	1	2	3	4	5	6	7	8
min GRN	0	45	0	6	0	0	0	0
Pass	0	30	0	30	0	0	0	0
max 1	0	5	0	15	0	0	0	0
max 2	0	5	0	15	0	0	0	0
Yel	40	40	40	35	40	40	40	40
Red	0	24	0	24	0	0	0	0

Orange, Denning + Minn
Controller - 3.55

Vehicle Times

Phases	1	2	3	4	5	6	7	8
Min GRN	0	12	5	5	0	12	0	5
Pass	0	30	30	30	0	30	0	30
Max 1	0	45	30	35	0	45	0	35
Max 2	0	40	20	25	0	35	0	25
Yell	40	40	40	40	30	40	30	40
Red	0	20	20	20	0	20	0	20

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
 Districtwide Traffic Signal Retiming - Orange County 2013-2014

FM: 427046-2-32-02

SR 15 (US 17/92) at SR 527 (Orange Ave) Prepared By: DJP Date: 5/6/2014

North-South Roadway SR 15 (US 17/92) East-West Roadway SR 527 (Orange Ave)

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	SBL	NB	WBL	EB	NBL	SB	EBL	WB
LEFT TURN	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
MIN GRN	5	15	5	7	5	15	5	7
GAP EXT	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
YEL CLR	5.0	4.1	5.0	4.2	4.1	5.0	4.2	5.0
RED CLR	3.0	3.5	3.9	3.4	2.0	3.5	3.5	3.4
MAX 1	30	60	30	30	8	60	30	30
MAX 2	30	30	30	30	8	30	30	30
WALK		7		7		7		7
PED CLR		26		25		28		31

Weekday

TIME BASE COORDINATION

COORDINATION PATTERN TABLES

Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt Seq
-	0:00	6:30	0/0/0	FREE			0
AM	6:30	10:00	2/1/1	160	99	1	1
Midday	10:00	15:15	2/3/1	180	122	2	2
PM	15:15	19:30	3/3/1	200	8	3	2
-	19:30	21:00	4/4/1	Existing			
-	21:00	0:00	0/0/4	FREE			0

COORDINATION SPLIT TABLES

Split 1

Phase	1	2	3	4	5	6	7	8
Time (sec)	18	63	35	44	18	63	30	49
Coord Phase		X				X		
Mode		MAX				MAX		

Split 2

Phase	1	2	3	4	5	6	7	8
Time (sec)	18	77	41	44	18	77	39	46
Coord Phase		X				X		
Mode		MAX				MAX		

Split 3

Phase	1	2	3	4	5	6	7	8
Time (sec)	15	95	38	52	15	95	43	47
Coord Phase		X				X		
Mode		MAX				MAX		

NOTES

1. Coordination Mode: Permissive
2. Maximum Mode: Inhibit Max
3. Offset Reference: End of Green
4. Force Mode: Plan
5. Alternate Sequence 2: reverse phases 1 & 2
6. Alternate Sequence 1: reverse phases 5 & 6

Orange + 17-92
 N/B 17-92 ϕ 2+5
 S/B 17-92 ϕ 6+1
 E/B Orange ϕ 4+7
 W/B Orange ϕ 3+8

Orange + Cypress
 W/B Orange is ϕ 2
 E/B Orange is ϕ 6 - OLC
 N/B Cypress is ϕ 4

Orange, Denning + Minn
 N/B + S/B Denning is ϕ 3
 W/B Minn is ϕ 8 $2+6-4-8-3$
 E/B Minn is ϕ 4
 N/B Orange is ϕ 2
 S/B Orange is ϕ 6

Orange, Fairbanks + Penn
 W/B Fairbank is ϕ 6
 E/B Orange is ϕ 2
 E/B Fairbanks is 6a ϕ 1
 W/B Fairbanks onto W/B Orange is 2a ϕ 2
 S/B Penn is ϕ 8
 N/B Penn is ϕ 4 $2+6 / 2+2a + 6a / 4+8$



Appendix E

Synchro Outputs – Existing Conditions

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	171	69	23	162	63	77	938	15	72	1220	87
Future Volume (vph)	146	171	69	23	162	63	77	938	15	72	1220	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00									1.00	
Frt		0.957			0.958			0.998			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1776	0	1770	1785	0	1770	3532	0	1770	3498	0
Flt Permitted	0.183			0.592			0.079			0.189		
Satd. Flow (perm)	341	1776	0	1103	1785	0	147	3532	0	352	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			9			1			6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		2643			1345			1335			1329	
Travel Time (s)		60.1			30.6			26.0			25.9	
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	166	194	78	26	184	71	87	1064	17	82	1384	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	272	0	26	255	0	87	1081	0	82	1483	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	11.6	31.6		35.7	35.7		24.0	25.1		24.0	25.1	
Total Split (s)	22.0	62.0		40.0	40.0		24.0	94.0		24.0	94.0	
Total Split (%)	12.2%	34.4%		22.2%	22.2%		13.3%	52.2%		13.3%	52.2%	
Maximum Green (s)	15.4	55.4		33.3	33.3		17.9	87.9		17.9	87.9	
Yellow Time (s)	3.9	3.9		4.0	4.0		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.7	6.7		6.1	6.1		6.1	6.1	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		18.0		18.0	18.0			10.0			10.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	50.6	50.6		29.0	29.0		112.2	101.9		109.0	100.3	
Actuated g/C Ratio	0.28	0.28		0.16	0.16		0.62	0.57		0.61	0.56	

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.78	0.54		0.15	0.87		0.48	0.54		0.29	0.76	
Control Delay	74.7	55.7		64.8	97.8		41.7	29.1		6.0	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.7	55.7		64.8	97.8		41.7	29.1		6.0	16.2	
LOS	E	E		E	F		D	C		A	B	
Approach Delay		62.9			94.7			30.1			15.7	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)	155	259		27	286		67	324		13	958	
Queue Length 95th (ft)	#234	351		60	392		m106	421		m13	m965	
Internal Link Dist (ft)		2563			1265			1255			1249	
Turn Bay Length (ft)	150			250			200			200		
Base Capacity (vph)	218	554		204	337		256	2000		367	1952	
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	0.49		0.13	0.76		0.34	0.54		0.22	0.76	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

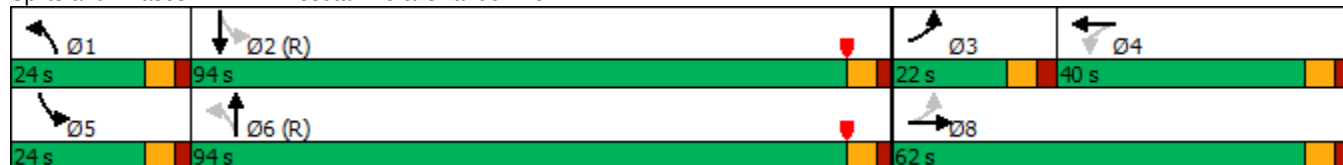
Analysis Period (min) 15

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.

Splits and Phases: 1: Minnesota Ave & Orlando Ave



Lanes, Volumes, Timings
2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	602	108	64	681	63	134	882	49	67	1071	171
Future Volume (vph)	232	602	108	64	681	63	134	882	49	67	1071	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	670		0	200		0	200		0	200		50
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00		1.00	1.00		1.00	1.00		1.00		0.98
Frt		0.977			0.987			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3448	0	1770	3489	0	1770	3508	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3448	0	1765	3489	0	1768	3508	0	1768	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			5			3				136
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1318			1337			1329				1662
Travel Time (s)		25.7			26.0			25.9				32.4
Confl. Peds. (#/hr)			4	4			3		2	2		3
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	263	683	122	73	772	71	152	1000	56	76	1215	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	805	0	73	843	0	152	1056	0	76	1215	194
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.3	42.3		11.2	39.6		24.0	37.3		11.2	37.2	37.2
Total Split (s)	38.0	70.0		20.0	52.0		25.0	70.0		20.0	65.0	65.0
Total Split (%)	21.1%	38.9%		11.1%	28.9%		13.9%	38.9%		11.1%	36.1%	36.1%
Maximum Green (s)	31.7	63.7		13.8	45.5		18.7	63.7		13.8	58.8	58.8
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.1	2.4		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.2	6.5		6.3	6.3		6.2	6.2	6.2
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Max	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		22.0			22.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	29.6	49.2		26.2	45.6		18.7	67.6		12.0	60.8	60.8
Actuated g/C Ratio	0.16	0.27		0.15	0.25		0.10	0.38		0.07	0.34	0.34

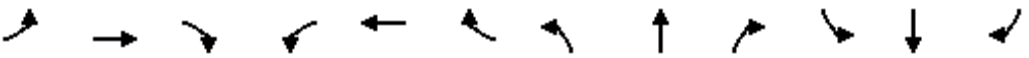
Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.90	0.85		0.28	0.95		0.83	0.80		0.65	1.02	0.32
Control Delay	88.0	54.3		62.9	73.9		108.2	57.4		111.6	72.9	11.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	88.0	54.3		62.9	73.9		108.2	57.4		111.6	72.9	11.5
LOS	F	D		E	E		F	E		F	E	B
Approach Delay		62.6			73.0			63.8			66.9	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	305	471		78	523		190	692		85	~840	36
Queue Length 95th (ft)	#453	522		m138	m#647		m#304	493		148	#984	99
Internal Link Dist (ft)		1238			1257			1249			1582	
Turn Bay Length (ft)	670			200			200			200		50
Base Capacity (vph)	311	1228		257	895		183	1318		135	1196	615
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	0.85	0.66		0.28	0.94		0.83	0.80		0.56	1.02	0.32

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 124 (69%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 66.3

Intersection LOS: E

Intersection Capacity Utilization 98.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

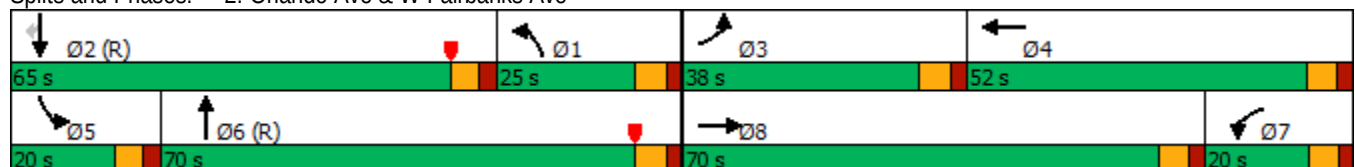
Queue shown is maximum after two cycles.

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.

Splits and Phases: 2: Orlando Ave & W Fairbanks Ave



Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Future Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	0		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00	0.99			0.99			1.00	
Frt		0.938			0.905			0.969			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1735	0	1770	1662	0	1770	3410	0	1770	3535	0
Flt Permitted	0.560			0.738			0.167			0.160		
Satd. Flow (perm)	1036	1735	0	1369	1662	0	311	3410	0	298	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			41			38			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		262			1308			1662			1539	
Travel Time (s)		6.0			29.7			32.4			30.0	
Confl. Peds. (#/hr)	4		2	2		4	3		7	7		3
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	27	17	12	101	38	66	35	1072	275	189	1381	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	29	0	101	104	0	35	1347	0	189	1392	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	30.4	30.4		30.4	30.4		10.0	35.0		10.1	23.1	
Total Split (s)	34.0	34.0		34.0	34.0		20.0	126.0		20.0	126.0	
Total Split (%)	18.9%	18.9%		18.9%	18.9%		11.1%	70.0%		11.1%	70.0%	
Maximum Green (s)	27.6	27.6		27.6	27.6		14.0	120.0		13.9	119.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	18.6	18.6		18.6	18.6		139.4	133.3		147.2	139.1	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.77	0.74		0.82	0.77	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.25	0.15		0.72	0.50		0.12	0.53		0.59	0.51	
Control Delay	77.7	48.8		104.1	52.9		2.1	15.4		16.7	2.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.7	48.8		104.1	52.9		2.1	15.4		16.7	2.4	
LOS	E	D		F	D		A	B		B	A	
Approach Delay		62.7			78.1			15.1			4.1	
Approach LOS		E			E			B			A	
Queue Length 50th (ft)	30	19		118	71		2	652		29	48	
Queue Length 95th (ft)	64	53		184	135		m5	m800		82	56	
Internal Link Dist (ft)		182			1228			1582			1459	
Turn Bay Length (ft)	125						200			200		
Base Capacity (vph)	158	276		209	289		367	2534		360	2731	
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	0.17	0.11		0.48	0.36		0.10	0.53		0.53	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 87 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 14.5

Intersection LOS: B

Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
20 s	126 s	34 s
 Ø5	 Ø6 (R)	
20 s	126 s	

Lanes, Volumes, Timings
4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	14	44	34	1	25	45	856	81	103	1521	8
Future Volume (vph)	14	14	44	34	1	25	45	856	81	103	1521	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	200		270	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.98				0.96			
Frt		0.887			0.855				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1635	0	1770	1568	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.095			0.260		
Satd. Flow (perm)	1763	1635	0	1767	1568	0	177	3539	1519	484	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			28				121			
Link Speed (mph)		25			15			35			35	
Link Distance (ft)		538			319			1539			751	
Travel Time (s)		14.7			14.5			30.0			14.6	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	16	16	49	38	1	28	50	951	90	114	1690	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	65	0	38	29	0	50	951	90	114	1699	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	8.0		4.0	8.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	10.4	35.7		12.3	36.5		10.0	23.0	23.0	10.2	23.2	
Total Split (s)	20.0	41.0		20.0	41.0		20.0	99.0	99.0	20.0	99.0	
Total Split (%)	11.1%	22.8%		11.1%	22.8%		11.1%	55.0%	55.0%	11.1%	55.0%	
Maximum Green (s)	13.6	34.3		11.7	32.5		14.0	93.0	93.0	13.8	92.8	
Yellow Time (s)	3.5	3.5		3.4	3.4		4.0	4.0	4.0	4.1	4.1	
All-Red Time (s)	2.9	3.2		4.9	5.1		2.0	2.0	2.0	2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.7		8.3	8.5		6.0	6.0	6.0	6.2	6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		22.0			21.0			10.0	10.0		10.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	7.2	9.5		9.1	13.5		135.7	128.8	128.8	139.4	132.4	
Actuated g/C Ratio	0.04	0.05		0.05	0.08		0.75	0.72	0.72	0.77	0.74	
v/c Ratio	0.23	0.49		0.43	0.20		0.26	0.38	0.08	0.26	0.65	

Lanes, Volumes, Timings

4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	90.5	40.9		96.7	28.1		7.2	5.0	0.6	8.3	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	
Total Delay	90.5	40.9		96.7	28.1		7.2	5.0	0.6	8.3	13.3	
LOS	F	D		F	C		A	A	A	A	B	
Approach Delay		50.7			67.0			4.7			13.0	
Approach LOS		D			E			A			B	
Queue Length 50th (ft)	19	19		44	1		4	54	0	35	309	
Queue Length 95th (ft)	48	74		88	38		25	157	9	m56	354	
Internal Link Dist (ft)		458			239			1459			671	
Turn Bay Length (ft)	150						200		270	300		
Base Capacity (vph)	133	351		115	306		263	2532	1121	482	2601	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	129	
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	0.12	0.19		0.33	0.09		0.19	0.38	0.08	0.24	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 59 (33%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 4: Orlando Ave & Gay Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	99 s	20 s	41 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	99 s	20 s	41 s

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	61	31	40	44	85	51	773	80	0	1577	17
Future Volume (vph)	20	61	31	40	44	85	51	773	80	0	1577	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	240		0	0		0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00		0.98					1.00	
Frt		0.949				0.850		0.986			0.998	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	1757	0	1770	1863	1583	1770	3490	0	0	3531	0
Flt Permitted	0.725			0.447			0.070					
Satd. Flow (perm)	1340	1757	0	830	1863	1546	130	3490	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				95		12			1	
Link Speed (mph)		15			30			35			35	
Link Distance (ft)		232			717			751			749	
Travel Time (s)		10.5			16.3			14.6			14.6	
Confl. Peds. (#/hr)	4		2	2		4	2					2
Confl. Bikes (#/hr)			1			3						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	2%	2%
Adj. Flow (vph)	22	68	35	45	49	95	57	868	90	0	1770	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	103	0	45	49	95	57	958	0	0	1789	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA			NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		3	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0			15.0	
Minimum Split (s)	12.2	36.7		11.4	37.8	37.8	11.0	29.0			27.0	
Total Split (s)	20.0	39.0		20.0	37.8	37.8	20.0	121.0			101.0	
Total Split (%)	11.1%	21.7%		11.1%	21.0%	21.0%	11.1%	67.2%			56.1%	
Maximum Green (s)	13.6	32.6		13.6	31.3	31.3	14.2	115.2			95.3	
Yellow Time (s)	3.4	3.4		3.8	3.8	3.8	3.7	3.7			3.7	
All-Red Time (s)	3.0	3.0		2.6	2.7	2.7	2.1	2.1			2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.5	6.5	5.8	5.8			5.7	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead				Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes				Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	
Recall Mode	None	None		None	None	None	None	C-Max			C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		13.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effect Green (s)	20.9	14.6		25.6	18.9	18.9	139.9	139.9			129.2	

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.08		0.14	0.10	0.10	0.78	0.78			0.72	
v/c Ratio	0.13	0.67		0.27	0.25	0.38	0.34	0.35			0.71	
Control Delay	61.4	89.7		64.8	74.9	17.5	16.8	1.7			8.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1			0.1	
Total Delay	61.4	89.7		64.8	74.9	17.5	16.8	1.7			8.4	
LOS	E	F		E	E	B	B	A			A	
Approach Delay		84.7			43.7			2.6			8.4	
Approach LOS		F			D			A			A	
Queue Length 50th (ft)	22	105		40	56	2	3	22			117	
Queue Length 95th (ft)	49	172		70	104	70	37	39			176	
Internal Link Dist (ft)		152			637			671			669	
Turn Bay Length (ft)				150			240					
Base Capacity (vph)	229	328		200	336	356	230	2715			2534	
Starvation Cap Reductn	0	0		0	0	0	0	387			111	
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	0.10	0.31		0.23	0.15	0.27	0.25	0.41			0.74	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 72 (40%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.7

Intersection LOS: B

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Orlando Ave & Webster Ave



Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Future Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	230		0	180		0	240		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00					0.98
Frt			0.850		0.996			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	3523	0	3433	3532	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3416	1863	1559	1766	3523	0	3429	3532	0	1770	3539	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			256		1			1				377
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		505			534			749			2645	
Travel Time (s)		9.8			10.4			14.6			51.5	
Confl. Peds. (#/hr)	3		2	2		3	2					2
Confl. Bikes (#/hr)						3						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	475	332	299	15	294	9	448	631	9	30	1331	691
Shared Lane Traffic (%)												
Lane Group Flow (vph)	475	332	299	15	303	0	448	640	0	30	1331	691
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.9	39.1	39.1	11.7	41.9		12.0	32.6		11.8	33.5	33.5
Total Split (s)	43.0	48.0	48.0	20.0	25.0		29.0	92.0		20.0	83.0	83.0
Total Split (%)	23.9%	26.7%	26.7%	11.1%	13.9%		16.1%	51.1%		11.1%	46.1%	46.1%
Maximum Green (s)	36.1	40.9	40.9	13.3	18.1		22.0	85.4		13.2	76.5	76.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5		2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6		6.8	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0			0	0
Act Effect Green (s)	30.7	47.6	47.6	8.1	19.6		25.9	95.7		9.4	76.5	76.5
Actuated g/C Ratio	0.17	0.26	0.26	0.04	0.11		0.14	0.53		0.05	0.42	0.42

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	0.67	0.50	0.19	0.79		0.91	0.34		0.33	0.88	0.79
Control Delay	83.3	67.8	13.0	97.3	81.4		102.9	27.5		90.6	56.0	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	83.3	67.8	13.0	97.3	81.4		102.9	27.5		90.6	56.0	26.5
LOS	F	E	B	F	F		F	C		F	E	C
Approach Delay		59.6			82.2			58.5			46.6	
Approach LOS		E			F			E			D	
Queue Length 50th (ft)	282	362	40	18	185		~270	204		35	760	354
Queue Length 95th (ft)	338	488	138	m40	#272		#430	343		73	864	549
Internal Link Dist (ft)		425			454			669			2565	
Turn Bay Length (ft)	390			230			180			240		
Base Capacity (vph)	688	492	600	130	389		493	1878		129	1504	878
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.69	0.67	0.50	0.12	0.78		0.91	0.34		0.23	0.88	0.79

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 51 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 55.1

Intersection LOS: E

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

~ 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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

						
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑		↰	↑↑↑		
Traffic Volume (vph)	994	0	266	2170	0	0
Future Volume (vph)	994	0	266	2170	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	10	10	12	12
Storage Length (ft)		0	230		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	1.00
Fr						
Flt Protected			0.950			
Satd. Flow (prot)	3657	0	1652	4746	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3657	0	1652	4746	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	40			40	25	
Link Distance (ft)	2645			380	497	
Travel Time (s)	45.1			6.5	13.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	1116	0	299	2436	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1116	0	299	2436	0	0
Turn Type	NA		Prot	NA		
Protected Phases	2		4	2 4		
Permitted Phases				4		
Detector Phase	2		4	2 4		
Switch Phase						
Minimum Initial (s)	40.0		7.0			
Minimum Split (s)	46.7		13.5			
Total Split (s)	65.0		30.0			
Total Split (%)	68.4%		31.6%			
Maximum Green (s)	58.6		23.5			
Yellow Time (s)	4.4		4.5			
All-Red Time (s)	2.0		2.0			
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.4		6.5			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			
Recall Mode	Min		C-Max			
Walk Time (s)	7.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effect Green (s)	58.6		23.5	95.0		
Actuated g/C Ratio	0.62		0.25	1.00		
v/c Ratio	0.49		0.73	0.51		
Control Delay	11.0		45.0	0.4		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

	↑	↖	↙	↓	↘	↗
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Queue Delay	0.0		0.0	0.0		
Total Delay	11.0		45.0	0.4		
LOS	B		D	A		
Approach Delay	11.0			5.3		
Approach LOS	B			A		
Queue Length 50th (ft)	178		166	0		
Queue Length 95th (ft)	226		#282	0		
Internal Link Dist (ft)	2565			300	417	
Turn Bay Length (ft)			230			
Base Capacity (vph)	2255		408	4746		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.49		0.73	0.51		

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 84 (88%), Referenced to phase 4:SBTL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 6.9

Intersection LOS: A

Intersection Capacity Utilization 60.3%

ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 7: Orlando Ave & Park Ave



Lanes, Volumes, Timings
8: Executive Dr & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↘			↑↑		↗
Traffic Volume (vph)	1295	66	0	1177	0	12
Future Volume (vph)	1295	66	0	1177	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.865
Flt Protected						
Satd. Flow (prot)	3480	0	0	3505	0	1596
Flt Permitted						
Satd. Flow (perm)	3480	0	0	3505	0	1596
Link Speed (mph)	35			35	30	
Link Distance (ft)	168			553	858	
Travel Time (s)	3.3			10.8	19.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1484	76	0	1349	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1560	0	0	1349	0	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 51.7%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC
8: Executive Dr & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	1295	66	0	1177	0	12
Future Vol, veh/h	1295	66	0	1177	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1484	76	0	1349	0	14
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	780
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.33
Pot Cap-1 Maneuver	-	-	0	-	0	336
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	336
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		16.2	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	336	-	-	-		
HCM Lane V/C Ratio	0.041	-	-	-		
HCM Control Delay (s)	16.2	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	436	412	134	128	265	244
Future Volume (vph)	436	412	134	128	265	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.935	
Flt Protected	0.950			0.975		
Satd. Flow (prot)	1752	1568	0	1799	1725	0
Flt Permitted	0.950			0.000		
Satd. Flow (perm)	1752	1568	0	0	1725	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		487			73	
Link Speed (mph)	30			30	30	
Link Distance (ft)	489			1028	2627	
Travel Time (s)	11.1			23.4	59.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	516	487	158	151	313	289
Shared Lane Traffic (%)						
Lane Group Flow (vph)	516	487	0	309	602	0
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases			6	1		
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	8.0	8.0	
Minimum Split (s)	11.7	11.7	9.7	13.7	22.8	
Total Split (s)	25.0	25.0	15.0	45.0	30.0	
Total Split (%)	35.7%	35.7%	21.4%	64.3%	42.9%	
Maximum Green (s)	19.3	19.3	9.3	39.3	24.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.8	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	4.0	4.0	
Recall Mode	None	None	None	Min	Min	
Walk Time (s)					7.0	
Flash Dont Walk (s)					10.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	19.3	19.3		23.2	23.1	
Actuated g/C Ratio	0.36	0.36		0.43	0.43	
v/c Ratio	0.82	0.56		0.40	0.77	
Control Delay	30.3	4.4		12.4	20.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	30.3	4.4		12.4	20.0	
LOS	C	A		B	C	

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	17.7			12.4	20.0	
Approach LOS	B			B	C	
Queue Length 50th (ft)	151	0		64	136	
Queue Length 95th (ft)	#304	52		115	#295	
Internal Link Dist (ft)	409			948	2547	
Turn Bay Length (ft)						
Base Capacity (vph)	627	874		1312	815	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.82	0.56		0.24	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 53.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 88.2%

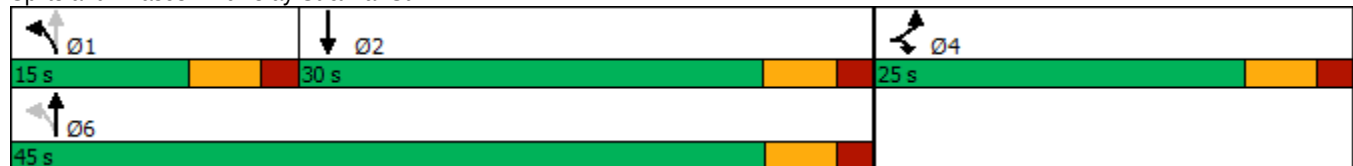
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Clay St & Par St



Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	128	51	219	85	59	27	204	404	41	203	5
Future Volume (vph)	8	128	51	219	85	59	27	204	404	41	203	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963			0.978				0.850		0.997	
Flt Protected		0.998			0.971			0.994			0.992	
Satd. Flow (prot)	0	1773	0	0	1752	0	0	1834	1568	0	1824	0
Flt Permitted		0.975			0.729			0.934			0.903	
Satd. Flow (perm)	0	1732	0	0	1315	0	0	1723	1568	0	1661	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			15				483		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1258			2643			2627			1353	
Travel Time (s)		28.6			60.1			59.7			30.8	
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	10	153	61	262	102	71	32	244	483	49	243	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	224	0	0	435	0	0	276	483	0	298	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		
Detector Phase	4	4		4	4		2	2	2	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.7	22.7		22.7	22.7		22.7	22.7	22.7	22.7	22.7	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%	61.5%	61.5%	61.5%	
Maximum Green (s)	19.3	19.3		19.3	19.3		34.3	34.3	34.3	34.3	34.3	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.7			5.7			5.7	5.7		5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		19.7			19.7			18.3	18.3		18.3	
Actuated g/C Ratio		0.40			0.40			0.37	0.37		0.37	
v/c Ratio		0.32			0.82			0.44	0.55		0.49	
Control Delay		12.9			33.0			13.2	3.7		14.0	

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		12.9			33.0			13.2	3.7		14.0	
LOS		B			C			B	A		B	
Approach Delay		12.9			33.0			7.1			14.0	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)		35			100			56	0		62	
Queue Length 95th (ft)		111			#343			100	39		109	
Internal Link Dist (ft)		1178			2563			2547			1273	
Turn Bay Length (ft)									100			
Base Capacity (vph)		705			531			1265	1280		1220	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.32			0.82			0.22	0.38		0.24	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 49.7

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 80.6%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: Clay St & Minnesota Ave



Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1163	248	103	1004	1	167	5	92	8	9	1
Future Volume (vph)	2	1163	248	103	1004	1	167	5	92	8	9	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	250		0	90		0	50		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99						0.98		1.00		
Frt		0.974						0.858			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3429	0	1770	3539	0	1770	1573	0	1770	1837	0
Flt Permitted	0.252			0.103			0.377			0.851		
Satd. Flow (perm)	469	3429	0	192	3539	0	702	1573	0	1579	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27						103			1	
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1582			1028			1353			483	
Travel Time (s)		30.8			20.0			30.8			13.2	
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	2	1305	278	116	1127	1	187	6	103	9	10	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1583	0	116	1128	0	187	109	0	9	11	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		7	4			8	
Permitted Phases	6			2			4			8		
Detector Phase	6	6		5	2		7	4		8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		6.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	27.4	27.4		12.4	25.4		11.7	30.1		32.3	32.3	
Total Split (s)	120.0	120.0		20.0	140.0		22.0	40.0		18.0	18.0	
Total Split (%)	66.7%	66.7%		11.1%	77.8%		12.2%	22.2%		10.0%	10.0%	
Maximum Green (s)	113.6	113.6		13.6	133.6		16.3	33.9		11.7	11.7	
Yellow Time (s)	4.1	4.1		4.0	4.0		3.7	3.7		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.4	2.4		2.0	2.4		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		5.7	6.1		6.3	6.3	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0			12.0			17.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	128.1	128.1		143.1	143.1		24.8	24.4		7.1	7.1	
Actuated g/C Ratio	0.71	0.71		0.80	0.80		0.14	0.14		0.04	0.04	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.01	0.65		0.51	0.40		0.97	0.36		0.15	0.15	
Control Delay	10.5	16.3		27.5	3.8		130.6	15.5		87.9	82.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	16.3		27.5	3.8		130.6	15.5		87.9	82.0	
LOS	B	B		C	A		F	B		F	F	
Approach Delay		16.3			6.0			88.2			84.7	
Approach LOS		B			A			F			F	
Queue Length 50th (ft)	1	529		36	86		210	6		11	12	
Queue Length 95th (ft)	4	673		m52	m98		#290	66		33	36	
Internal Link Dist (ft)		1502			948			1273			403	
Turn Bay Length (ft)	200			250			90			50		
Base Capacity (vph)	333	2448		271	2813		193	379		102	120	
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	0.01	0.65		0.43	0.40		0.97	0.29		0.09	0.09	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 7 (4%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 19.4

Intersection LOS: B

Intersection Capacity Utilization 83.2%

ICU Level of Service E

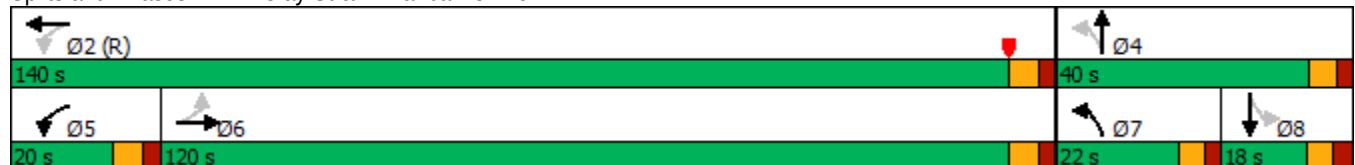
Analysis Period (min) 15

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.

Splits and Phases: 11: Clay St & W Fairbanks Ave



Lanes, Volumes, Timings
12: Webster Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↘		↗	↘	
Traffic Volume (vph)	19	92	5	3	165	221	5	4	3	316	19	27
Future Volume (vph)	19	92	5	3	165	221	5	4	3	316	19	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.915			0.933			0.911	
Flt Protected		0.992					0.950			0.950		
Satd. Flow (prot)	0	3390	0	0	3146	0	1719	1688	0	1719	1648	0
Flt Permitted		0.801			0.953		0.950			0.950		
Satd. Flow (perm)	0	2737	0	0	2998	0	1719	1688	0	1719	1648	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			283			4			35	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		717			560			179			821	
Travel Time (s)		16.3			12.7			4.1			16.0	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	24	118	6	4	211	283	6	5	4	404	24	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	498	0	6	9	0	404	59	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6								
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	6.0		10.0	10.0	
Minimum Split (s)	30.3	30.3		30.3	30.3		12.3	23.2		16.3	15.7	
Total Split (s)	31.0	31.0		31.0	31.0		12.0	23.0		36.0	47.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		13.3%	25.6%		40.0%	52.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		5.7	16.8		29.7	41.3	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.8	3.8		3.8	3.7	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.5	2.4		2.5	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.3			6.3		6.3	6.2		6.3	5.7	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0				
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			10.0				
Pedestrian Calls (#/hr)	0	0		0	0			0				
Act Effct Green (s)		24.7			24.7		5.7	21.3		25.2	50.9	
Actuated g/C Ratio		0.27			0.27		0.06	0.24		0.28	0.57	
v/c Ratio		0.20			0.48		0.06	0.02		0.84	0.06	
Control Delay		27.6			13.1		40.8	24.0		41.8	2.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		27.6			13.1		40.8	24.0		41.8	2.0	
LOS		C			B		D	C		D	A	

Lanes, Volumes, Timings
12: Webster Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		27.6			13.1			30.7			36.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)		44			50		3	2		182	0	
Queue Length 95th (ft)		63			86		15	14		268	m3	
Internal Link Dist (ft)		637			480			99			741	
Turn Bay Length (ft)												
Base Capacity (vph)		754			1028		108	401		567	947	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.20			0.48		0.06	0.02		0.71	0.06	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 25.0

Intersection LOS: C

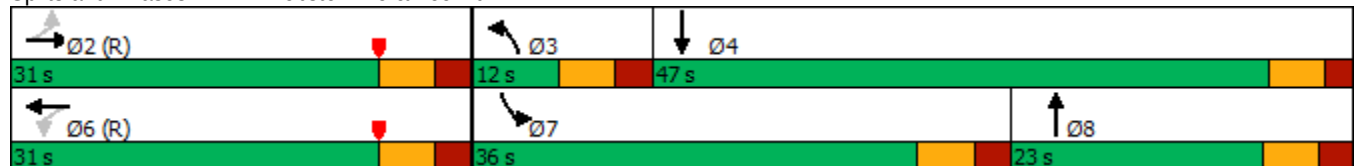
Intersection Capacity Utilization 53.8%

ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 12: Webster Ave & Lee Rd



Lanes, Volumes, Timings

13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis

Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↗	↘		↗	↘	
Traffic Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Future Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	170		0	180		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.971			0.978			0.978	
Flt Protected		0.997			0.995		0.950			0.950		
Satd. Flow (prot)	0	3392	0	0	3354	0	1736	1787	0	1736	1787	0
Flt Permitted		0.923			0.875		0.535			0.605		
Satd. Flow (perm)	0	3140	0	0	2949	0	977	1787	0	1105	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			35			13			13	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			708			993			972	
Travel Time (s)		29.7			16.1			27.1			26.5	
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	23	331	56	22	155	42	55	212	36	68	273	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	410	0	0	219	0	55	248	0	68	320	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	27.0	27.0		27.0	27.0		15.0	38.0		15.0	38.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		18.8%	47.5%		18.8%	47.5%	
Maximum Green (s)	21.1	21.1		20.9	20.9		8.4	31.4		8.5	31.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)		14.6			14.4		36.5	32.2		36.7	32.3	
Actuated g/C Ratio		0.22			0.21		0.54	0.48		0.54	0.48	
v/c Ratio		0.59			0.33		0.09	0.29		0.10	0.37	
Control Delay		27.1			21.2		6.8	13.9		6.8	14.8	

Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		27.1			21.2		6.8	13.9		6.8	14.8	
LOS		C			C		A	B		A	B	
Approach Delay		27.1			21.2			12.6			13.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		85			37		8	66		10	91	
Queue Length 95th (ft)		129			67		25	133		29	174	
Internal Link Dist (ft)		1228			628			913			892	
Turn Bay Length (ft)							170			180		
Base Capacity (vph)		1021			960		628	860		685	863	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.40			0.23		0.09	0.29		0.10	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 67.4

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 18.8

Intersection LOS: B

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

 Ø1	 Ø2	 Ø4
15 s	38 s	27 s
 Ø5	 Ø6	 Ø8
15 s	38 s	27 s

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	147	76	12	45	16	35	151	7	23	279	20
Future Volume (vph)	22	147	76	12	45	16	35	151	7	23	279	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	50		0	90		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.961			0.993			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1717	0	1719	1739	0	1719	1797	0	1719	1791	0
Flt Permitted	0.455			0.587			0.408			0.632		
Satd. Flow (perm)	823	1717	0	1062	1739	0	738	1797	0	1144	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			19			3			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		708			657			972			1315	
Travel Time (s)		19.3			17.9			26.5			35.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	28	186	96	15	57	20	44	191	9	29	353	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	282	0	15	77	0	44	200	0	29	378	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	15.0	
Minimum Split (s)	14.1	23.1		26.0	26.0		13.8	22.8		13.7	23.7	
Total Split (s)	14.0	40.0		26.0	26.0		14.0	31.0		14.0	31.0	
Total Split (%)	16.5%	47.1%		30.6%	30.6%		16.5%	36.5%		16.5%	36.5%	
Maximum Green (s)	7.9	33.9		20.0	20.0		8.2	25.2		8.3	25.3	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.4		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.0	6.0		5.8	5.8		5.7	5.7	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		13.0	13.0			10.0			11.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	15.6	15.6		11.1	11.1		32.0	29.3		30.9	26.8	
Actuated g/C Ratio	0.25	0.25		0.18	0.18		0.52	0.47		0.50	0.43	
v/c Ratio	0.09	0.61		0.08	0.24		0.09	0.23		0.04	0.49	
Control Delay	18.8	24.3		28.5	23.4		8.7	14.6		8.6	19.2	

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	24.3		28.5	23.4		8.7	14.6		8.6	19.2	
LOS	B	C		C	C		A	B		A	B	
Approach Delay		23.8			24.3			13.6			18.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	9	90		5	19		6	32		4	112	
Queue Length 95th (ft)	25	152		22	59		24	116		17	225	
Internal Link Dist (ft)		628			577			892			1235	
Turn Bay Length (ft)	100			50			90			150		
Base Capacity (vph)	326	999		359	600		517	852		655	777	
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	0.09	0.28		0.04	0.13		0.09	0.23		0.04	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 61.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 19.4

Intersection LOS: B

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: N Denning Dr & Canton Ave

 Ø1	 Ø2	 Ø4
14 s	31 s	40 s
 Ø5	 Ø6	 Ø7
14 s	31 s	14 s
		 Ø8
		26 s

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	270	105	61	261	11	69	92	24	8	180	58
Future Volume (vph)	41	270	105	61	261	11	69	92	24	8	180	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	200		0	180		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996			0.969			0.963	
Flt Protected		0.994			0.991		0.950			0.950		
Satd. Flow (prot)	0	1799	1538	0	1607	0	1719	1753	0	1719	1743	0
Flt Permitted		0.994			0.991		0.283			0.669		
Satd. Flow (perm)	0	1799	1538	0	1607	0	512	1753	0	1211	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			197		2			16			17	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		560			679			1315			1264	
Travel Time (s)		12.7			15.4			35.9			34.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)					0							
Adj. Flow (vph)	48	319	124	72	309	13	82	109	28	9	213	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	367	124	0	394	0	82	137	0	9	282	0
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		1	6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		10.0	10.0	
Minimum Split (s)	12.8	12.8	12.8	22.7	22.7		11.6	23.6		24.2	24.2	
Total Split (s)	25.0	25.0	25.0	26.0	26.0		12.0	37.0		25.0	25.0	
Total Split (%)	28.4%	28.4%	28.4%	29.5%	29.5%		13.6%	42.0%		28.4%	28.4%	
Maximum Green (s)	19.2	19.2	19.2	20.3	20.3		5.4	30.4		18.8	18.8	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0		3.2	3.2		2.8	2.8	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.8	5.8		5.7		6.6	6.6		6.2	6.2	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	None		Max	Max	
Walk Time (s)				7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)				10.0	10.0			10.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0			0		0	0	
Act Effct Green (s)		18.8	18.8		20.4		27.8	27.8		18.9	18.9	
Actuated g/C Ratio		0.22	0.22		0.24		0.33	0.33		0.22	0.22	
v/c Ratio		0.92	0.25		1.02		0.34	0.24		0.03	0.71	

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		64.6	2.0		86.7		23.9	19.3		28.0	40.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		64.6	2.0		86.7		23.9	19.3		28.0	40.9	
LOS		E	A		F		C	B		C	D	
Approach Delay		48.8			86.7			21.0			40.5	
Approach LOS		D			F			C			D	
Queue Length 50th (ft)		201	0		~242		31	47		4	138	
Queue Length 95th (ft)		#369	9		#420		63	89		17	#250	
Internal Link Dist (ft)		480			599			1235			1184	
Turn Bay Length (ft)							200			180		
Base Capacity (vph)		407	500		386		243	638		268	399	
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		0.90	0.25		1.02		0.34	0.21		0.03	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 88

Actuated Cycle Length: 85.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 53.4

Intersection LOS: D

Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 15

~ 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.

Splits and Phases: 15: N Denning Dr & Webster Ave

 Ø1	 Ø2	 Ø4	 Ø8
12 s	25 s	25 s	26 s
 Ø6			
37 s			

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Future Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	190		0	170		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.984			0.992			0.979	
Flt Protected		0.995			0.998		0.950			0.950		
Satd. Flow (prot)	0	3466	0	0	3442	0	1752	1830	0	1752	1806	0
Flt Permitted		0.678			0.821		0.118			0.471		
Satd. Flow (perm)	0	2362	0	0	2831	0	218	1830	0	869	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			13			1			4	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1337			657			1308			713	
Travel Time (s)		26.0			12.8			35.7			19.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	86	816	37	47	803	99	25	157	9	28	309	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	939	0	0	949	0	25	166	0	28	359	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		15.0	15.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	10.0	23.7		24.1	24.1		10.2	24.2		9.9	24.9	
Total Split (s)	15.0	130.0		115.0	115.0		15.0	35.0		15.0	35.0	
Total Split (%)	8.3%	72.2%		63.9%	63.9%		8.3%	19.4%		8.3%	19.4%	
Maximum Green (s)	9.0	123.9		108.9	108.9		8.8	28.8		9.1	29.1	
Yellow Time (s)	4.0	4.1		4.1	4.1		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.1			6.1		6.2	6.2		5.9	5.9	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		None	None	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		10.0	10.0			10.0			12.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)		123.9			123.9		38.9	32.7		40.5	35.5	
Actuated g/C Ratio		0.69			0.69		0.22	0.18		0.22	0.20	
v/c Ratio		0.58			0.49		0.23	0.50		0.12	1.00	
Control Delay		12.0			13.9		57.7	73.2		53.7	114.8	

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		12.0			13.9		57.7	73.2		53.7	114.8	
LOS		B			B		E	E		D	F	
Approach Delay		12.0			13.9			71.2			110.4	
Approach LOS		B			B			E			F	
Queue Length 50th (ft)		122			257		23	181		26	~497	
Queue Length 95th (ft)		110			305		52	271		56	#734	
Internal Link Dist (ft)		1257			577			1228			633	
Turn Bay Length (ft)							190			170		
Base Capacity (vph)		1627			1952		123	332		242	359	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.58			0.49		0.20	0.50		0.12	1.00	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 82 (46%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 32.8

Intersection LOS: C

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15

~ 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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET
Lane Configurations												
Traffic Volume (vph)	17	4	844	165	12	33	5	793	304	1	168	344
Future Volume (vph)	17	4	844	165	12	33	5	793	304	1	168	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	2200	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)		50		0			100		0		0	
Storage Lanes		1		0			1		0		1	
Taper Length (ft)		25					25				25	
Lane Util. Factor	0.95	1.00	*1.00	*1.00	0.95	0.95	*1.00	*1.00	*1.00	0.95	1.00	1.00
Ped Bike Factor			1.00									
Frt			0.974									0.991
Flt Protected		0.950					0.950				0.950	
Satd. Flow (prot)	0	1787	3656	0	0	0	1787	4356	0	0	1787	1864
Flt Permitted		0.950					0.950				0.950	
Satd. Flow (perm)	0	1787	3656	0	0	0	1787	4356	0	0	1787	1864
Right Turn on Red				Yes							Yes	
Satd. Flow (RTOR)			1									1
Link Speed (mph)			35					35				30
Link Distance (ft)			1129					1335				3497
Travel Time (s)			22.0					26.0				79.5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)				4								
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	19	4	947	185	13	37	6	890	341	1	189	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	1145	0	0	0	43	1232	0	0	189	411
Turn Type	Prot	Prot	NA			Prot	Prot	NA			Prot	NA
Protected Phases	5	5	2			1	1	6			7	4
Permitted Phases												
Detector Phase	5	5	2			1	1	6			7	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0			5.0	5.0	15.0			5.0	7.0
Minimum Split (s)	11.2	11.2	24.7			12.0	12.0	38.4			13.2	36.2
Total Split (s)	15.0	15.0	80.0			15.0	15.0	80.0			35.0	43.0
Total Split (%)	8.3%	8.3%	44.4%			8.3%	8.3%	44.4%			19.4%	23.9%
Maximum Green (s)	8.8	8.8	72.3			8.0	8.0	72.6			26.8	35.8
Yellow Time (s)	4.1	4.1	4.1			4.0	4.0	4.0			3.7	3.7
All-Red Time (s)	2.1	2.1	3.6			3.0	3.0	3.4			4.5	3.5
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		6.2	7.7				7.0	7.4			8.2	7.2
Lead/Lag	Lag	Lag	Lag			Lead	Lead	Lead			Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes			Yes	Yes
Vehicle Extension (s)	3.0	3.0	4.0			3.0	3.0	4.0			3.0	3.0
Recall Mode	None	None	C-Max			None	None	Max			None	None
Walk Time (s)			7.0					7.0				7.0
Flash Dont Walk (s)			10.0					24.0				22.0
Pedestrian Calls (#/hr)			0					0				0

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), AM Peak Hour



Lane Group	NER	NER2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	13	9	247	539	11	23
Future Volume (vph)	13	9	247	539	11	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Storage Length (ft)	0		165		0	
Storage Lanes	0		1		0	
Taper Length (ft)			130			
Lane Util. Factor	1.00	1.00	1.00	*1.00	*1.00	0.95
Ped Bike Factor				1.00		
Frt				0.991		
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1787	3726	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1787	3726	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)				2		
Link Speed (mph)				30		
Link Distance (ft)				928		
Travel Time (s)				21.1		
Confl. Peds. (#/hr)						1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	15	10	277	605	12	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	277	643	0	0
Turn Type			Prot	NA		
Protected Phases			3	8		
Permitted Phases						
Detector Phase			3	8		
Switch Phase						
Minimum Initial (s)			5.0	7.0		
Minimum Split (s)			12.8	41.2		
Total Split (s)			42.0	50.0		
Total Split (%)			23.3%	27.8%		
Maximum Green (s)			34.2	42.8		
Yellow Time (s)			3.7	3.7		
All-Red Time (s)			4.1	3.5		
Lost Time Adjust (s)			0.0	0.0		
Total Lost Time (s)			7.8	7.2		
Lead/Lag			Lead	Lag		
Lead-Lag Optimize?			Yes	Yes		
Vehicle Extension (s)			3.0	3.0		
Recall Mode			None	None		
Walk Time (s)				7.0		
Flash Dont Walk (s)				27.0		
Pedestrian Calls (#/hr)				0		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET
Act Effect Green (s)		7.7	75.3				7.6	78.6			23.1	38.7
Actuated g/C Ratio		0.04	0.42				0.04	0.44			0.13	0.22
v/c Ratio		0.30	0.75				0.57	0.65			0.83	1.02
Control Delay		93.3	48.8				144.9	20.6			103.7	117.4
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		93.3	48.8				144.9	20.6			103.7	117.4
LOS		F	D				F	C			F	F
Approach Delay			49.7					24.8				113.1
Approach LOS			D					C				F
Queue Length 50th (ft)		27	588				52	138			220	~544
Queue Length 95th (ft)		62	674				m73	338			313	#781
Internal Link Dist (ft)			1049					1255				3417
Turn Bay Length (ft)		50					100					
Base Capacity (vph)		87	1530				79	1901			266	401
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.26	0.75				0.54	0.65			0.71	1.02

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 9 (5%), Referenced to phase 2:NBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 57.3

Intersection LOS: E

Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

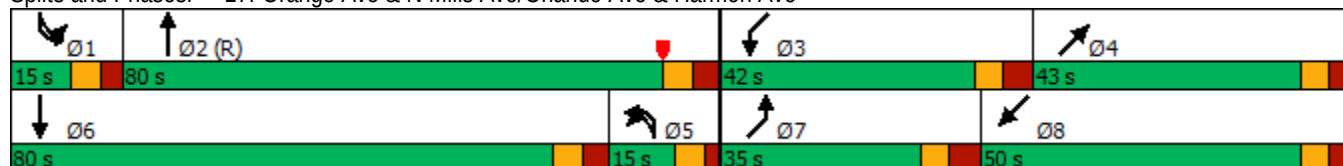
Queue shown is maximum after two cycles.

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.

Splits and Phases: 17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave





Lane Group	NER	NER2	SWL	SWT	SWR	SWR2
Act Effect Green (s)			31.3	46.5		
Actuated g/C Ratio			0.17	0.26		
v/c Ratio			0.89	0.67		
Control Delay			101.8	64.3		
Queue Delay			0.0	0.0		
Total Delay			101.8	64.3		
LOS			F	E		
Approach Delay				75.6		
Approach LOS				E		
Queue Length 50th (ft)			319	346		
Queue Length 95th (ft)			#463	424		
Internal Link Dist (ft)				848		
Turn Bay Length (ft)			165			
Base Capacity (vph)			339	964		
Starvation Cap Reductn			0	0		
Spillback Cap Reductn			0	0		
Storage Cap Reductn			0	0		
Reduced v/c Ratio			0.82	0.67		
Intersection Summary						

Lanes, Volumes, Timings

18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis

Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations												
Traffic Volume (vph)	11	82	70	11	3	59	155	53	7	2	2	24
Future Volume (vph)	11	82	70	11	3	59	155	53	7	2	2	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0		0		0			0	
Storage Lanes		0		0		0		0			0	
Taper Length (ft)		25				25					25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			1.00				0.99					1.00
Frt			0.989				0.971					0.954
Flt Protected			0.974				0.989					0.996
Satd. Flow (prot)	0	0	1810	0	0	0	1796	0	0	0	0	1787
Flt Permitted			0.974				0.989					0.968
Satd. Flow (perm)	0	0	1806	0	0	0	1796	0	0	0	0	1737
Right Turn on Red				Yes				Yes				
Satd. Flow (RTOR)			1				1					
Link Speed (mph)			25				25					25
Link Distance (ft)			1345				1248					619
Travel Time (s)			36.7				34.0					16.9
Confl. Peds. (#/hr)	2				1	1		2		1		
Confl. Bikes (#/hr)					1							
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	13	98	84	13	4	71	185	63	8	2	2	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	212	0	0	0	327	0	0	0	0	50
Turn Type	Split	Split	NA			Split	NA			Perm	Perm	NA
Protected Phases	4	4	4			8	8					10
Permitted Phases										10	10	
Detector Phase	4	4	4			8	8			10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0			5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	12.7			29.5	29.5			30.5	30.5	30.5
Total Split (s)	32.0	32.0	32.0			26.0	26.0			29.0	29.0	29.0
Total Split (%)	24.6%	24.6%	24.6%			20.0%	20.0%			22.3%	22.3%	22.3%
Maximum Green (s)	24.3	24.3	24.3			17.5	17.5			21.5	21.5	21.5
Yellow Time (s)	3.4	3.4	3.4			3.4	3.4			3.4	3.4	3.4
All-Red Time (s)	4.3	4.3	4.3			5.1	5.1			4.1	4.1	4.1
Lost Time Adjust (s)			0.0				0.0					0.0
Total Lost Time (s)			7.7				8.5					7.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0	3.0	3.0
Recall Mode	None	None	None			None	None			None	None	None
Walk Time (s)						7.0	7.0			7.0	7.0	7.0
Flash Dont Walk (s)						14.0	14.0			16.0	16.0	16.0
Pedestrian Calls (#/hr)						0	0			0	0	0
Act Effect Green (s)			18.4				17.7					15.3

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	NBR	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2	SWL
Lane Configurations												
Traffic Volume (vph)	14	3	41	25	82	14	12	469	31	1	5	7
Future Volume (vph)	14	3	41	25	82	14	12	469	31	1	5	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		130		0		0		0			0
Storage Lanes	0		1		0		0		0			0
Taper Length (ft)			25				25					25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	*1.00	*1.00	*1.00	*0.95	*0.95	*1.00
Ped Bike Factor			1.00	0.99				1.00				
Frt				0.881				0.991				
Flt Protected			0.950					0.999				
Satd. Flow (prot)	0	0	1787	1623	0	0	0	3681	0	0	0	0
Flt Permitted			0.724					0.822				
Satd. Flow (perm)	0	0	1356	1623	0	0	0	3029	0	0	0	0
Right Turn on Red							Yes			Yes		
Satd. Flow (RTOR)				4								
Link Speed (mph)				25				30				
Link Distance (ft)				1308				944				
Travel Time (s)				35.7				21.5				
Confl. Peds. (#/hr)		3			1		2		3		3	
Confl. Bikes (#/hr)									1	1		
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	17	4	49	30	98	17	14	561	37	1	6	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	53	145	0	0	0	613	0	0	0	0
Turn Type		Perm	Perm	NA			Perm	NA			Perm	Perm
Protected Phases				14				2				
Permitted Phases		14	14				2				6	6
Detector Phase		14	14	14			2	2			6	6
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0			12.0	12.0			12.0	12.0
Minimum Split (s)		24.5	24.5	24.5			30.1	30.1			26.6	26.6
Total Split (s)		29.0	29.0	29.0			43.0	43.0			43.0	43.0
Total Split (%)		22.3%	22.3%	22.3%			33.1%	33.1%			33.1%	33.1%
Maximum Green (s)		21.5	21.5	21.5			34.9	34.9			35.4	35.4
Yellow Time (s)		3.4	3.4	3.4			3.7	3.7			3.7	3.7
All-Red Time (s)		4.1	4.1	4.1			4.4	4.4			3.9	3.9
Lost Time Adjust (s)			0.0	0.0				0.0				
Total Lost Time (s)			7.5	7.5				8.1				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0			3.0	3.0
Recall Mode		None	None	None			None	None			None	None
Walk Time (s)		7.0	7.0	7.0			7.0	7.0			7.0	7.0
Flash Dont Walk (s)		10.0	10.0	10.0			15.0	15.0			12.0	12.0
Pedestrian Calls (#/hr)		0	0	0			0	0			0	0
Act Effect Green (s)			15.3	15.3				33.8				

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour



Lane Group	SWT	SWR	SWR2
Lane Configurations	4T		
Traffic Volume (vph)	663	69	1
Future Volume (vph)	663	69	1
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)		0	
Storage Lanes		0	
Taper Length (ft)			
Lane Util. Factor	*1.00	*1.00	*0.95
Ped Bike Factor	1.00		
Frt	0.986		
Flt Protected	0.999		
Satd. Flow (prot)	3660	0	0
Flt Permitted	0.938		
Satd. Flow (perm)	3437	0	0
Right Turn on Red			Yes
Satd. Flow (RTOR)			
Link Speed (mph)	30		
Link Distance (ft)	1859		
Travel Time (s)	42.3		
Confl. Peds. (#/hr)			2
Confl. Bikes (#/hr)			
Peak Hour Factor	0.92	0.92	0.92
Growth Factor	110%	110%	110%
Heavy Vehicles (%)	2%	2%	2%
Adj. Flow (vph)	793	83	1
Shared Lane Traffic (%)			
Lane Group Flow (vph)	891	0	0
Turn Type	NA		
Protected Phases	6		
Permitted Phases			
Detector Phase	6		
Switch Phase			
Minimum Initial (s)	12.0		
Minimum Split (s)	26.6		
Total Split (s)	43.0		
Total Split (%)	33.1%		
Maximum Green (s)	35.4		
Yellow Time (s)	3.7		
All-Red Time (s)	3.9		
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	7.6		
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0		
Recall Mode	None		
Walk Time (s)	7.0		
Flash Dont Walk (s)	12.0		
Pedestrian Calls (#/hr)	0		
Act Effect Green (s)	34.3		

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Actuated g/C Ratio			0.16				0.15					0.13
v/c Ratio			0.74				1.21					0.22
Control Delay			64.1				166.2					49.3
Queue Delay			0.0				0.0					0.0
Total Delay			64.1				166.2					49.3
LOS			E				F					D
Approach Delay			64.1				166.2					49.3
Approach LOS			E				F					D
Queue Length 50th (ft)			156				~311					35
Queue Length 95th (ft)			252				#555					76
Internal Link Dist (ft)			1265				1168					539
Turn Bay Length (ft)												
Base Capacity (vph)			379				271					321
Starvation Cap Reductn			0				0					0
Spillback Cap Reductn			0				0					0
Storage Cap Reductn			0				0					0
Reduced v/c Ratio			0.56				1.21					0.16

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 117.3

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 68.0

Intersection LOS: E

Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

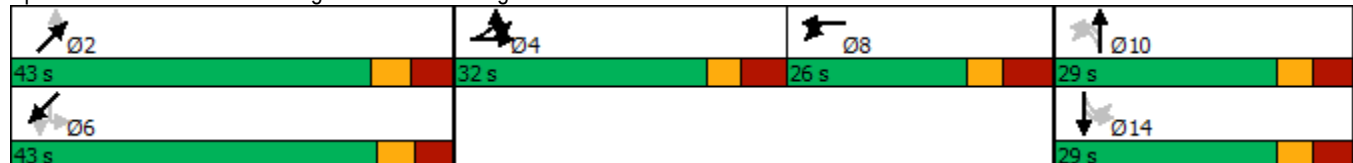
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 18: Orange Ave & S Denning Dr & Minnesota Ave



Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

												
Lane Group	NBR	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2	SWL
Actuated g/C Ratio			0.13	0.13				0.29				
v/c Ratio			0.30	0.67				0.70				
Control Delay			52.1	64.2				43.5				
Queue Delay			0.0	0.0				0.0				
Total Delay			52.1	64.2				43.5				
LOS			D	E				D				
Approach Delay				61.0				43.5				
Approach LOS				E				D				
Queue Length 50th (ft)			37	104				208				
Queue Length 95th (ft)			80	181				305				
Internal Link Dist (ft)				1228				864				
Turn Bay Length (ft)			130									
Base Capacity (vph)			250	303				909				
Starvation Cap Reductn			0	0				0				
Spillback Cap Reductn			0	0				0				
Storage Cap Reductn			0	0				0				
Reduced v/c Ratio			0.21	0.48				0.67				
Intersection Summary												

Lanes, Volumes, Timings
 18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
 Existing Conditions (Year 2020), AM Peak Hour



Lane Group	SWT	SWR	SWR2
Actuated g/C Ratio	0.29		
v/c Ratio	0.89		
Control Delay	52.3		
Queue Delay	0.0		
Total Delay	52.3		
LOS	D		
Approach Delay	52.3		
Approach LOS	D		
Queue Length 50th (ft)	323		
Queue Length 95th (ft)	#495		
Internal Link Dist (ft)	1779		
Turn Bay Length (ft)			
Base Capacity (vph)	1046		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.85		
Intersection Summary			

Lanes, Volumes, Timings

Orlando Ave Analysis

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave Existing Conditions (Year 2020), AM Peak Hour

	→	↘	↗	↖	←	↗	↘	↖	↑	↗	↘	↓
Lane Group	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑↑			↖↗	↑↑				↑↑			↖↗
Traffic Volume (vph)	506	22	8	711	881	25	5	19	62	10	13	40
Future Volume (vph)	506	22	8	711	881	25	5	19	62	10	13	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		0		0		0	0	
Storage Lanes		0		2		0		0		0	0	
Taper Length (ft)				100				25			25	
Lane Util. Factor	0.95	0.95	0.95	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00							1.00
Frt	0.992				0.996				0.986			0.919
Flt Protected				*0.975					0.987			0.995
Satd. Flow (prot)	3473	0	0	3489	3489	0	0	0	1795	0	0	1687
Flt Permitted				0.975					0.810			0.958
Satd. Flow (perm)	3473	0	0	3489	3489	0	0	0	1473	0	0	1624
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)	1				5				3			4
Link Speed (mph)	35				35				30			30
Link Distance (ft)	688				1712				1141			859
Travel Time (s)	13.4				33.4				25.9			19.5
Confl. Peds. (#/hr)		1	1								1	
Confl. Bikes (#/hr)		3	1			1						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	574	25	9	806	999	28	6	22	70	11	15	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	608	0	0	806	1027	0	0	0	109	0	0	149
Turn Type	NA			Prot	NA		Perm	Perm	NA		Perm	NA
Protected Phases	2			1	6				4			8
Permitted Phases							4	4			8	
Detector Phase	2			1	6		4	4	4		8	8
Switch Phase												
Minimum Initial (s)	8.0			8.0	8.0		8.0	8.0	8.0		8.0	8.0
Minimum Split (s)	32.7			26.5	25.5		16.5	16.5	16.5		26.6	26.6
Total Split (s)	56.0			69.0	125.0		35.0	35.0	35.0		35.0	35.0
Total Split (%)	35.0%			43.1%	78.1%		21.9%	21.9%	21.9%		21.9%	21.9%
Maximum Green (s)	48.3			60.5	119.0		26.5	26.5	26.5		26.4	26.4
Yellow Time (s)	4.1			4.0	4.0		3.7	3.7	3.7		3.7	3.7
All-Red Time (s)	3.6			4.5	2.0		4.8	4.8	4.8		4.9	4.9
Lost Time Adjust (s)	0.0			0.0	0.0				0.0			0.0
Total Lost Time (s)	7.7			8.5	6.0				8.5			8.6
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0			3.0	3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	Max			Max	Max		Max	Max	Max		Max	Max
Walk Time (s)	7.0			7.0	7.0						7.0	7.0
Flash Dont Walk (s)	18.0			10.0	10.0						10.0	10.0
Pedestrian Calls (#/hr)	0			0	0						0	0
Act Effect Green (s)	48.3			60.5	119.0				26.5			26.4

Kimley-Horn
May 2021

Synchro 10 Report



Lane Group	SBR	SBR2	NER	NER2
Lane Configurations			FF	
Traffic Volume (vph)	63	16	475	2
Future Volume (vph)	63	16	475	2
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)	0		0	
Storage Lanes	0		2	
Taper Length (ft)				
Lane Util. Factor	1.00	1.00	0.88	1.00
Ped Bike Factor			0.98	
Frt			0.850	
Flt Protected				
Satd. Flow (prot)	0	0	2760	0
Flt Permitted				
Satd. Flow (perm)	0	0	2692	0
Right Turn on Red		Yes		Yes
Satd. Flow (RTOR)			91	
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				1
Confl. Bikes (#/hr)				
Peak Hour Factor	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%
Adj. Flow (vph)	71	18	539	2
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	0	541	0
Turn Type			Perm	
Protected Phases				
Permitted Phases			1	
Detector Phase			1	
Switch Phase				
Minimum Initial (s)			8.0	
Minimum Split (s)			26.5	
Total Split (s)			69.0	
Total Split (%)			43.1%	
Maximum Green (s)			60.5	
Yellow Time (s)			4.0	
All-Red Time (s)			4.5	
Lost Time Adjust (s)			0.0	
Total Lost Time (s)			8.5	
Lead/Lag			Lag	
Lead-Lag Optimize?			Yes	
Vehicle Extension (s)			3.0	
Recall Mode			Max	
Walk Time (s)			7.0	
Flash Dont Walk (s)			10.0	
Pedestrian Calls (#/hr)			0	
Act Effect Green (s)			60.5	

Lanes, Volumes, Timings

Orlando Ave Analysis

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave Existing Conditions (Year 2020), AM Peak Hour

	→	↘	↗	↖	←	↗	↖	↖	↑	↗	↘	↓
Lane Group	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.30			0.38	0.74				0.17			0.16
v/c Ratio	0.58			0.61	0.40				0.44			0.55
Control Delay	49.8			42.7	7.9				64.8			68.2
Queue Delay	0.0			0.0	0.0				0.0			0.0
Total Delay	49.8			42.7	7.9				64.8			68.2
LOS	D			D	A				E			E
Approach Delay	49.8				23.2				64.8			68.2
Approach LOS	D				C				E			E
Queue Length 50th (ft)	284			350	185				101			141
Queue Length 95th (ft)	350			421	218				168			221
Internal Link Dist (ft)	608				1632				1061			779
Turn Bay Length (ft)				150								
Base Capacity (vph)	1049			1319	2596				246			271
Starvation Cap Reductn	0			0	0				0			0
Spillback Cap Reductn	0			0	0				0			0
Storage Cap Reductn	0			0	0				0			0
Reduced v/c Ratio	0.58			0.61	0.40				0.44			0.55

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 33.3

Intersection LOS: C

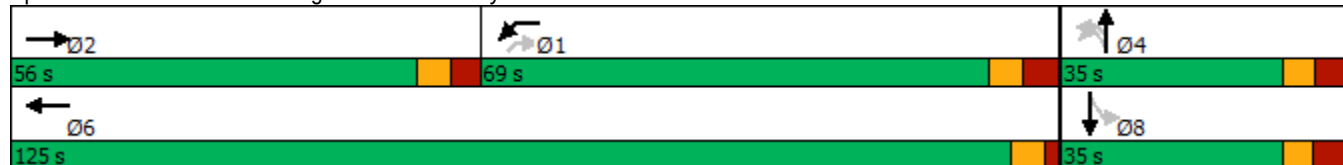
Intersection Capacity Utilization 91.6%

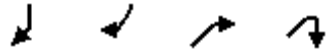
ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave





Lane Group	SBR	SBR2	NER	NER2
Actuated g/C Ratio			0.38	
v/c Ratio			0.50	
Control Delay			33.2	
Queue Delay			0.0	
Total Delay			33.2	
LOS			C	
Approach Delay				
Approach LOS				
Queue Length 50th (ft)			205	
Queue Length 95th (ft)			269	
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)			1074	
Starvation Cap Reductn			0	
Spillback Cap Reductn			0	
Storage Cap Reductn			0	
Reduced v/c Ratio			0.50	
Intersection Summary				

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Lane Configurations							
Traffic Volume (vph)	14	10	507	13	22	814	
Future Volume (vph)	14	10	507	13	22	814	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	*1.00	0.95	0.95	*1.00	
Ped Bike Factor	0.99		1.00			1.00	
Frt	0.944		0.996				
Flt Protected	0.972					0.999	
Satd. Flow (prot)	1693	0	3708	0	0	3722	
Flt Permitted	0.972					0.933	
Satd. Flow (perm)	1693	0	3708	0	0	3476	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	12		6				
Link Speed (mph)	25		30			30	
Link Distance (ft)	398		928			944	
Travel Time (s)	10.9		21.1			21.5	
Confl. Peds. (#/hr)		5		1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Growth Factor	110%	110%	110%	110%	110%	110%	
Adj. Flow (vph)	17	12	600	15	26	963	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	29	0	615	0	0	989	
Turn Type	Prot		NA		Perm	NA	
Protected Phases	4		6			2	8
Permitted Phases					2		
Detector Phase	4		6		2	2	
Switch Phase							
Minimum Initial (s)	5.0		45.0		45.0	45.0	5.0
Minimum Split (s)	10.8		50.9		50.7	50.7	22.5
Total Split (s)	23.0		112.0		112.0	112.0	23.0
Total Split (%)	17.0%		83.0%		83.0%	83.0%	17%
Maximum Green (s)	17.2		106.1		106.3	106.3	19.6
Yellow Time (s)	3.4		3.7		3.7	3.7	3.4
All-Red Time (s)	2.4		2.2		2.0	2.0	0.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	5.8		5.9			5.7	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0
Recall Mode	None		None		None	None	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			10.0				10.0
Pedestrian Calls (#/hr)			0				0
Act Effect Green (s)	6.2		49.4			49.5	
Actuated g/C Ratio	0.11		0.88			0.88	
v/c Ratio	0.15		0.19			0.32	
Control Delay	20.5		1.9			2.3	
Queue Delay	0.0		0.0			0.0	
Total Delay	20.5		1.9			2.3	

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour

							
Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
LOS	C		A			A	
Approach Delay	20.5		1.9			2.3	
Approach LOS	C		A			A	
Queue Length 50th (ft)	5		0			0	
Queue Length 95th (ft)	27		48			86	
Internal Link Dist (ft)	318		848			864	
Turn Bay Length (ft)							
Base Capacity (vph)	534		3708			3476	
Starvation Cap Reductn	0		0			0	
Spillback Cap Reductn	0		0			0	
Storage Cap Reductn	0		0			0	
Reduced v/c Ratio	0.05		0.17			0.28	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 56

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 2.5

Intersection LOS: A

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

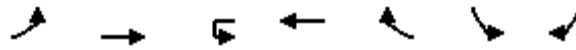
* User Entered Value

Splits and Phases: 20: Orange Ave & Cypress Ave

 Ø2	 Ø4
112 s	23 s
 Ø6	 Ø8
112 s	23 s

Lanes, Volumes, Timings
80: Lee Rd & Bennett Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), AM Peak Hour



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	73	1361	9	1152	16	12	84
Future Volume (vph)	73	1361	9	1152	16	12	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		80		0	0	0
Storage Lanes	1		1		0	1	0
Taper Length (ft)	25		25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt				0.998		0.882	
Flt Protected	0.950		0.950			0.994	
Satd. Flow (prot)	1752	3505	1752	3498	0	1617	0
Flt Permitted	0.950		0.950			0.994	
Satd. Flow (perm)	1752	3505	1752	3498	0	1617	0
Link Speed (mph)		35		35		25	
Link Distance (ft)		786		168		1431	
Travel Time (s)		15.3		3.3		39.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	84	1559	10	1320	18	14	96
Shared Lane Traffic (%)							
Lane Group Flow (vph)	84	1559	10	1338	0	110	0
Sign Control		Free		Free		Stop	
Intersection Summary							
Area Type:	Other						
Control Type: Unsignalized							
Intersection Capacity Utilization 61.2%				ICU Level of Service B			
Analysis Period (min) 15							

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	73	1361	9	1152	16	12	84
Future Vol, veh/h	73	1361	9	1152	16	12	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	150	-	80	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	1	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	84	1559	10	1320	18	14	96
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1338	0	1559	-	0	2297	669
Stage 1	-	-	-	-	-	1349	-
Stage 2	-	-	-	-	-	948	-
Critical Hdwy	4.16	-	6.46	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	2.53	-	-	3.53	3.33
Pot Cap-1 Maneuver	506	-	143	-	-	32	398
Stage 1	-	-	-	-	-	205	-
Stage 2	-	-	-	-	-	335	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	506	-	143	-	-	25	398
Mov Cap-2 Maneuver	-	-	-	-	-	110	-
Stage 1	-	-	-	-	-	171	-
Stage 2	-	-	-	-	-	312	-
Approach	EB		WB		SB		
HCM Control Delay, s	0.7		0.2		23.8		
HCM LOS	C						
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	
Capacity (veh/h)	506		-	143	-	-	300
HCM Lane V/C Ratio	0.165		-	0.072	-	-	0.367
HCM Control Delay (s)	13.5		-	32.1	-	-	23.8
HCM Lane LOS	B		-	D	-	-	C
HCM 95th %tile Q(veh)	0.6		-	0.2	-	-	1.6

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	261	67	47	121	77	51	1086	35	133	1264	82
Future Volume (vph)	211	261	67	47	121	77	51	1086	35	133	1264	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99			1.00			1.00	
Frt		0.969			0.942			0.995			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1828	0	1805	1776	0	1805	3589	0	1805	3571	0
Flt Permitted	0.200			0.542			0.080			0.121		
Satd. Flow (perm)	379	1828	0	1016	1776	0	152	3589	0	230	3571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			14			2			5	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		2643			1345			1335			1329	
Travel Time (s)		60.1			30.6			26.0			25.9	
Confl. Peds. (#/hr)	3		9	9		3	1		1	1		1
Confl. Bikes (#/hr)			1			1			2			3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	237	293	75	53	136	86	57	1219	39	149	1419	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	368	0	53	222	0	57	1258	0	149	1511	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	11.6	35.6		35.7	35.7		11.1	25.1		13.0	25.1	
Total Split (s)	32.0	76.0		44.0	44.0		20.0	100.0		24.0	104.0	
Total Split (%)	16.0%	38.0%		22.0%	22.0%		10.0%	50.0%		12.0%	52.0%	
Maximum Green (s)	25.4	69.4		37.3	37.3		13.9	93.9		17.9	97.9	
Yellow Time (s)	3.9	3.9		4.0	4.0		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.7	6.7		6.1	6.1		6.1	6.1	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		18.0		18.0	18.0			10.0			10.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	59.5	59.5		28.7	28.7		117.4	109.0		126.0	113.3	

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.30	0.30		0.14	0.14		0.59	0.54		0.63	0.57	
v/c Ratio	0.83	0.67		0.36	0.83		0.36	0.64		0.61	0.75	
Control Delay	80.2	66.0		82.6	102.3		22.3	27.9		47.2	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	80.2	66.0		82.6	102.3		22.3	27.9		47.2	27.8	
LOS	F	E		F	F		C	C		D	C	
Approach Delay		71.6			98.5			27.7			29.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	252	417		64	272		29	404		103	371	
Queue Length 95th (ft)	324	511		113	363		m45	m466		m151	520	
Internal Link Dist (ft)		2563			1265			1255			1249	
Turn Bay Length (ft)	150			250			200			200		
Base Capacity (vph)	293	638		189	342		208	1956		287	2024	
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	0.81	0.58		0.28	0.65		0.27	0.64		0.52	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 4 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 40.4

Intersection LOS: D

Intersection Capacity Utilization 92.7%

ICU Level of Service F

Analysis Period (min) 15

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

Splits and Phases: 1: Minnesota Ave & Orlando Ave



Lanes, Volumes, Timings

2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	622	86	114	729	103	108	1146	47	130	1035	205
Future Volume (vph)	231	622	86	114	729	103	108	1146	47	130	1035	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	670		0	200		0	200		0	200		50
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00		0.97
Frt		0.982			0.981			0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3501	0	1787	3499	0	1787	3549	0	1787	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1785	3501	0	1782	3499	0	1782	3549	0	1782	3574	1554
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			2				155
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1318			1337			1329				1662
Travel Time (s)		25.7			26.0			25.9				32.4
Confl. Peds. (#/hr)	2		4	4		2	7		8	8		7
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	265	713	99	131	835	118	124	1313	54	149	1186	235
Shared Lane Traffic (%)												
Lane Group Flow (vph)	265	812	0	131	953	0	124	1367	0	149	1186	235
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.3	42.1		11.2	39.6		11.3	37.3		11.2	37.2	37.2
Total Split (s)	32.0	70.0		25.0	60.0		32.0	83.0		22.0	73.0	73.0
Total Split (%)	16.0%	35.0%		12.5%	30.0%		16.0%	41.5%		11.0%	36.5%	36.5%
Maximum Green (s)	25.7	63.7		18.8	53.5		25.7	76.7		15.8	66.8	66.8
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.1	2.4		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.2	6.5		6.3	6.3		6.2	6.2	6.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		22.0			22.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	25.7	64.4		17.6	56.0		19.1	76.7		16.3	73.9	73.9

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.32		0.09	0.28		0.10	0.38		0.08	0.37	0.37
v/c Ratio	1.16	0.72		0.83	0.97		0.73	1.00		1.03	0.90	0.35
Control Delay	175.3	32.1		138.7	74.4		131.2	77.2		167.4	59.8	17.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	175.3	32.1		138.7	74.4		131.2	77.2		167.4	59.8	17.2
LOS	F	C		F	E		F	E		F	E	B
Approach Delay		67.4			82.2			81.7			63.6	
Approach LOS		E			F			F			E	
Queue Length 50th (ft)	~403	417		178	546		172	~867		~211	810	69
Queue Length 95th (ft)	#609	418		m#291	#780		m246	#1114		#390	#993	196
Internal Link Dist (ft)		1238			1257			1249			1582	
Turn Bay Length (ft)	670			200			200			200		50
Base Capacity (vph)	229	1132		167	994		229	1362		145	1319	671
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	1.16	0.72		0.78	0.96		0.54	1.00		1.03	0.90	0.35

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 196 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 73.4

Intersection LOS: E

Intersection Capacity Utilization 105.4%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

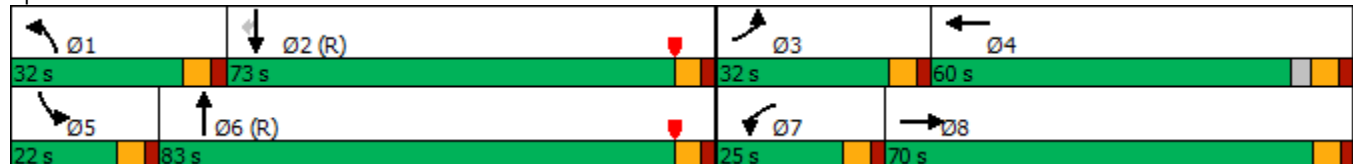
Queue shown is maximum after two cycles.

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.

Splits and Phases: 2: Orlando Ave & W Fairbanks Ave



Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Future Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	0		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		0.99	0.97			1.00			1.00	
Frt		0.896			0.883			0.990			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1663	0	1787	1617	0	1787	3533	0	1787	3570	0
Flt Permitted	0.351			0.648			0.139			0.087		
Satd. Flow (perm)	653	1663	0	1211	1617	0	261	3533	0	164	3570	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			83			6			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		262			1308			1662			1539	
Travel Time (s)		6.0			29.7			32.4			30.0	
Confl. Peds. (#/hr)	9		3	3		9	1		4	4		1
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	63	29	65	196	49	171	83	1502	105	126	1406	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	94	0	196	220	0	83	1607	0	126	1416	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	34.4	34.4		34.4	34.4		10.0	35.0		10.1	27.1	
Total Split (s)	55.0	55.0		55.0	55.0		26.0	119.0		26.0	119.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		13.0%	59.5%		13.0%	59.5%	
Maximum Green (s)	48.6	48.6		48.6	48.6		20.0	113.0		19.9	112.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	37.4	37.4		37.4	37.4		139.5	131.4		148.1	136.1	

Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.70	0.66		0.74	0.68	
v/c Ratio	0.52	0.27		0.87	0.60		0.34	0.69		0.56	0.58	
Control Delay	86.4	31.3		111.5	51.0		10.9	46.0		34.0	15.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	86.4	31.3		111.5	51.0		10.9	46.0		34.0	15.1	
LOS	F	C		F	D		B	D		C	B	
Approach Delay		53.4			79.5			44.3			16.6	
Approach LOS		D			E			D			B	
Queue Length 50th (ft)	76	46		254	168		35	1120		68	280	
Queue Length 95th (ft)	128	101		343	253		m48	m1121		m135	356	
Internal Link Dist (ft)		182			1228			1582			1459	
Turn Bay Length (ft)	125						200			200		
Base Capacity (vph)	158	444		294	455		347	2323		284	2429	
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	0.21		0.67	0.48		0.24	0.69		0.44	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 135 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 37.3

Intersection LOS: D

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
26 s	119 s	55 s
 Ø5	 Ø6 (R)	
26 s	119 s	

Lanes, Volumes, Timings
4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	32	106	97	21	114	83	1263	111	134	1153	23
Future Volume (vph)	34	32	106	97	21	114	83	1263	111	134	1153	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	200		270	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98		0.99	0.99				0.94		1.00	
Frt		0.885			0.874				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1651	0	1805	1641	0	1805	3610	1615	1805	3597	0
Flt Permitted	0.950			0.950			0.153			0.114		
Satd. Flow (perm)	1802	1651	0	1790	1641	0	291	3610	1516	217	3597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			116				109			2
Link Speed (mph)		25			15			35				35
Link Distance (ft)		538			337			1539				751
Travel Time (s)		14.7			15.3			30.0				14.6
Confl. Peds. (#/hr)	1		5	5		1	2		7	7		2
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	39	36	120	110	24	129	94	1432	126	152	1308	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	156	0	110	153	0	94	1432	126	152	1334	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	8.0		4.0	8.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	10.4	35.7		12.3	36.5		10.0	23.0	23.0	10.2	23.2	
Total Split (s)	24.0	41.0		24.0	41.0		20.0	115.0	115.0	20.0	115.0	
Total Split (%)	12.0%	20.5%		12.0%	20.5%		10.0%	57.5%	57.5%	10.0%	57.5%	
Maximum Green (s)	17.6	34.3		15.7	32.5		14.0	109.0	109.0	13.8	108.8	
Yellow Time (s)	3.5	3.5		3.4	3.4		4.0	4.0	4.0	4.1	4.1	
All-Red Time (s)	2.9	3.2		4.9	5.1		2.0	2.0	2.0	2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.7		8.3	8.5		6.0	6.0	6.0	6.2	6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		22.0			21.0			10.0	10.0		10.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	9.7	16.1		15.0	23.9		137.2	128.7	128.7	145.7	133.3	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.05	0.08		0.08	0.12		0.69	0.64	0.64	0.73	0.67	
v/c Ratio	0.45	0.78		0.82	0.51		0.36	0.62	0.12	0.58	0.56	
Control Delay	107.5	73.4		130.0	28.9		8.6	11.0	3.1	36.5	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	
Total Delay	107.5	73.4		130.0	28.9		8.6	11.0	3.1	36.5	9.5	
LOS	F	E		F	C		A	B	A	D	A	
Approach Delay		80.2			71.1			10.3			12.2	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	51	111		145	45		8	142	2	67	132	
Queue Length 95th (ft)	98	196		#256	127		m55	384	m33	m150	282	
Internal Link Dist (ft)		458			257			1459			671	
Turn Bay Length (ft)	150						200		270	300		
Base Capacity (vph)	158	342		141	363		313	2323	1014	281	2397	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	272	
Spillback Cap Reductn	0	0		0	0		0	16	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.25	0.46		0.78	0.42		0.30	0.62	0.12	0.54	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 128 (64%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

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.

Splits and Phases: 4: Orlando Ave & Gay Rd

				
Ø1	Ø2 (R)		Ø3	Ø4
20 s	115 s		24 s	41 s
				
Ø5	Ø6 (R)		Ø7	Ø8
20 s	115 s		24 s	41 s

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	103	83	56	104	115	142	1206	64	0	1198	72
Future Volume (vph)	150	103	83	56	104	115	142	1206	64	0	1198	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	240		0	0		0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00		0.98		1.00			1.00	
Fr _t		0.933				0.850		0.992			0.992	
Fl _t Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1741	0	1787	1881	1599	1787	3542	0	0	3540	0
Fl _t Permitted	0.378			0.338			0.086					
Satd. Flow (perm)	710	1741	0	635	1881	1567	162	3542	0	0	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				87		6			4	
Link Speed (mph)		15			30			35			35	
Link Distance (ft)		232			717			751			749	
Travel Time (s)		10.5			16.3			14.6			14.6	
Confl. Peds. (#/hr)	1		1	1		1	1		3	3		1
Confl. Bikes (#/hr)			3			4						6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	174	119	96	65	120	133	164	1396	74	0	1387	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	215	0	65	120	133	164	1470	0	0	1470	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA			NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		3	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0			15.0	
Minimum Split (s)	12.2	36.7		11.4	37.8	37.8	13.0	29.5			27.0	
Total Split (s)	25.0	38.0		25.0	38.0	38.0	30.0	137.0			107.0	
Total Split (%)	12.5%	19.0%		12.5%	19.0%	19.0%	15.0%	68.5%			53.5%	
Maximum Green (s)	18.6	31.6		18.6	31.5	31.5	24.2	131.2			101.3	
Yellow Time (s)	3.4	3.4		3.8	3.8	3.8	3.7	3.7			3.7	
All-Red Time (s)	3.0	3.0		2.6	2.7	2.7	2.1	2.1			2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.5	6.5	5.8	5.8			5.7	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag				Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes				Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0			4.0	
Recall Mode	None	None		None	None	None	None	C-Max			C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		13.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effect Green (s)	45.8	28.8		33.2	21.9	21.9	141.4	141.4			111.5	

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.23	0.14		0.17	0.11	0.11	0.71	0.71			0.56	
v/c Ratio	0.67	0.81		0.38	0.58	0.53	0.53	0.59			0.74	
Control Delay	77.6	98.9		65.9	94.8	37.3	41.9	5.4			17.7	
Queue Delay	2.0	0.0		0.0	0.0	0.9	0.0	0.4			5.4	
Total Delay	79.6	98.9		65.9	94.8	38.2	41.9	5.8			23.1	
LOS	E	F		E	F	D	D	A			C	
Approach Delay		90.3			65.2			9.4			23.1	
Approach LOS		F			E			A			C	
Queue Length 50th (ft)	197	258		69	153	57	97	162			886	
Queue Length 95th (ft)	263	352		111	219	131	194	445			1076	
Internal Link Dist (ft)		152			637			671			669	
Turn Bay Length (ft)				150			240					
Base Capacity (vph)	262	298		235	296	320	310	2506			1975	
Starvation Cap Reductn	0	0		0	0	0	0	467			442	
Spillback Cap Reductn	25	0		0	0	56	0	51			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.73	0.72		0.28	0.41	0.50	0.53	0.72			0.96	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 143 (72%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 27.6

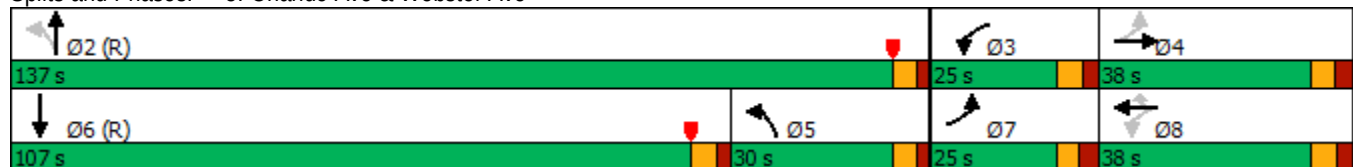
Intersection LOS: C

Intersection Capacity Utilization 83.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: Orlando Ave & Webster Ave



Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Future Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		0	230		0	180		0	240		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00	1.00		1.00	1.00		1.00		0.98
Frt			0.850		0.975			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1599	1787	3476	0	3467	3558	0	1787	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3455	1881	1571	1782	3476	0	3451	3558	0	1786	3574	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			312		11			2				180
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		505			534			749			2645	
Travel Time (s)		9.8			10.4			14.6			51.5	
Confl. Peds. (#/hr)	2		3	3		2	5		2	2		5
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	824	420	451	64	291	59	439	1286	37	78	982	346
Shared Lane Traffic (%)												
Lane Group Flow (vph)	824	420	451	64	350	0	439	1323	0	78	982	346
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.9	39.1	39.1	11.7	41.9		12.0	32.6		11.8	33.5	33.5
Total Split (s)	55.0	71.0	71.0	30.0	46.0		40.0	81.0		18.0	59.0	59.0
Total Split (%)	27.5%	35.5%	35.5%	15.0%	23.0%		20.0%	40.5%		9.0%	29.5%	29.5%
Maximum Green (s)	48.1	63.9	63.9	23.3	39.1		33.0	74.4		11.2	52.5	52.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5		2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6		6.8	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	3.0	3.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0			0	0
Act Effect Green (s)	48.1	61.0	61.0	13.5	26.4		31.2	83.5		14.7	66.9	66.9

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
6: Orlando Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.24	0.30	0.30	0.07	0.13		0.16	0.42		0.07	0.33	0.33
v/c Ratio	0.99	0.73	0.65	0.53	0.75		0.81	0.89		0.60	0.82	0.54
Control Delay	102.7	70.6	21.9	105.4	90.7		100.6	62.6		107.9	67.4	29.7
Queue Delay	0.0	0.0	0.1	0.0	0.0		0.0	5.6		0.0	9.7	0.0
Total Delay	102.7	70.6	22.0	105.4	90.7		100.6	68.3		107.9	77.1	29.7
LOS	F	E	C	F	F		F	E		F	E	C
Approach Delay	73.2			93.0			76.3			67.2		
Approach LOS	E			F			E			E		
Queue Length 50th (ft)	564	502	163	83	231		302	762		101	626	178
Queue Length 95th (ft)	#708	624	291	140	280		354	#1072		168	#876	326
Internal Link Dist (ft)	425			454			669			2565		
Turn Bay Length (ft)	390			230			180			240		
Base Capacity (vph)	833	601	715	208	688		590	1487		132	1196	641
Starvation Cap Reductn	0	0	0	0	0		0	127		0	0	0
Spillback Cap Reductn	0	0	16	0	0		0	0		0	195	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.99	0.70	0.65	0.31	0.51		0.74	0.97		0.59	0.98	0.54

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 91 (46%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 74.2

Intersection LOS: E

Intersection Capacity Utilization 96.3%

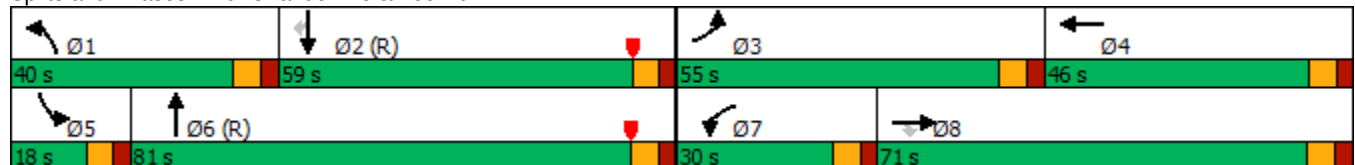
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

						
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑		↰	↑↑↑		
Traffic Volume (vph)	1916	0	191	1372	0	0
Future Volume (vph)	1916	0	191	1372	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	10	10	12	12
Storage Length (ft)		0	230		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	1.00
Fr						
Flt Protected			0.950			
Satd. Flow (prot)	3693	0	1668	4793	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3693	0	1668	4793	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	40			40	25	
Link Distance (ft)	2645			380	497	
Travel Time (s)	45.1			6.5	13.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2195	0	219	1572	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2195	0	219	1572	0	0
Turn Type	NA		Prot	NA		
Protected Phases	2		4	2 4		
Permitted Phases						
Detector Phase	2		4	2 4		
Switch Phase						
Minimum Initial (s)	40.0		7.0			
Minimum Split (s)	46.7		13.5			
Total Split (s)	80.0		30.0			
Total Split (%)	72.7%		27.3%			
Maximum Green (s)	73.6		23.5			
Yellow Time (s)	4.4		4.5			
All-Red Time (s)	2.0		2.0			
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.4		6.5			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			
Recall Mode	C-Min		None			
Walk Time (s)	7.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	74.5		22.6	110.0		
Actuated g/C Ratio	0.68		0.21	1.00		
v/c Ratio	0.88		0.64	0.33		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

	↑	↖	↙	↓	↘	↗
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Control Delay	19.8		49.1	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	19.8		49.1	0.2		
LOS	B		D	A		
Approach Delay	19.8			6.2		
Approach LOS	B			A		
Queue Length 50th (ft)	602		141	0		
Queue Length 95th (ft)	737		223	0		
Internal Link Dist (ft)	2565			300	417	
Turn Bay Length (ft)			230			
Base Capacity (vph)	2500		356	4775		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.88		0.62	0.33		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 19 (17%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 100.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 7: Orlando Ave & Park Ave



HCM 6th TWSC
8: Executive Dr & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	1743	61	0	1150	0	49
Future Vol, veh/h	1743	61	0	1150	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	1997	70	0	1318	0	56
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1034
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.31
Pot Cap-1 Maneuver	-	-	0	-	0	231
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	231
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		25.5	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	231	-	-	-		
HCM Lane V/C Ratio	0.243	-	-	-		
HCM Control Delay (s)	25.5	-	-	-		
HCM Lane LOS	D	-	-	-		
HCM 95th %tile Q(veh)	0.9	-	-	-		

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	351	198	246	253	100	383
Future Volume (vph)	351	198	246	253	100	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.893	
Flt Protected	0.950			0.976		
Satd. Flow (prot)	1787	1599	0	1836	1680	0
Flt Permitted	0.950			0.000		
Satd. Flow (perm)	1787	1599	0	0	1680	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		242			302	
Link Speed (mph)	30			30	30	
Link Distance (ft)	489			1028	2627	
Travel Time (s)	11.1			23.4	59.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	429	242	301	309	122	468
Shared Lane Traffic (%)						
Lane Group Flow (vph)	429	242	0	610	590	0
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases			6	1		
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	8.0	8.0	
Minimum Split (s)	11.7	11.7	9.7	13.7	22.8	
Total Split (s)	25.0	25.0	15.0	45.0	30.0	
Total Split (%)	35.7%	35.7%	21.4%	64.3%	42.9%	
Maximum Green (s)	19.3	19.3	9.3	39.3	24.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.8	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)					7.0	
Flash Dont Walk (s)					10.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	17.4	17.4		25.2	25.1	
Actuated g/C Ratio	0.32	0.32		0.46	0.46	
v/c Ratio	0.75	0.36		0.72	0.63	
Control Delay	29.6	4.8		17.1	8.3	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.6	4.8		17.1	8.3	
LOS	C	A		B	A	

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	20.7			17.1	8.3	
Approach LOS	C			B	A	
Queue Length 50th (ft)	119	0		157	60	
Queue Length 95th (ft)	#330	48		249	135	
Internal Link Dist (ft)	409			948	2547	
Turn Bay Length (ft)						
Base Capacity (vph)	662	744		1370	1030	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.65	0.33		0.45	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 54.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 97.1%

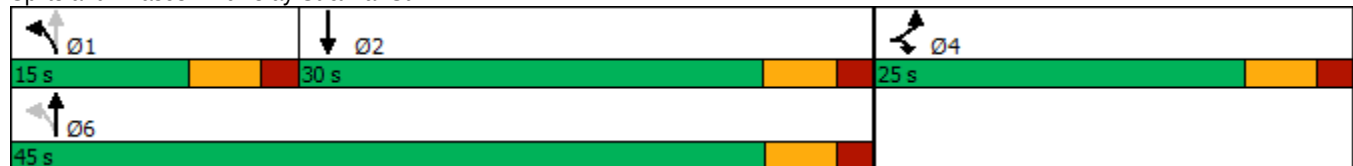
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Clay St & Par St



Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	138	36	259	166	133	19	266	296	41	186	6
Future Volume (vph)	6	138	36	259	166	133	19	266	296	41	186	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.968				0.850		0.996	
Flt Protected		0.998			0.977			0.997			0.991	
Satd. Flow (prot)	0	1827	0	0	1779	0	0	1876	1599	0	1857	0
Flt Permitted		0.979			0.751			0.964			0.813	
Satd. Flow (perm)	0	1792	0	0	1368	0	0	1813	1599	0	1523	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			41				343		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1258			2643			2627			1361	
Travel Time (s)		28.6			60.1			59.7			30.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	7	160	42	300	192	154	22	308	343	47	215	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	646	0	0	330	343	0	269	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		
Detector Phase	4	4		4	4		2	2	2	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.7	22.7		22.7	22.7		22.7	22.7	22.7	22.7	22.7	
Total Split (s)	33.0	33.0		33.0	33.0		22.0	22.0	22.0	22.0	22.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%	40.0%	40.0%	40.0%	
Maximum Green (s)	27.3	27.3		27.3	27.3		16.3	16.3	16.3	16.3	16.3	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.7			5.7			5.7	5.7		5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.4			25.4			14.1	14.1		14.1	
Actuated g/C Ratio		0.50			0.50			0.28	0.28		0.28	
v/c Ratio		0.23			0.92			0.66	0.50		0.64	
Control Delay		7.3			35.1			24.0	5.1		24.5	

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		7.3			35.1			24.0	5.1		24.5	
LOS		A			D			C	A		C	
Approach Delay		7.3			35.1			14.4			24.5	
Approach LOS		A			D			B			C	
Queue Length 50th (ft)		29			170			92	0		74	
Queue Length 95th (ft)		60			#377			164	48		139	
Internal Link Dist (ft)		1178			2563			2547			1281	
Turn Bay Length (ft)									100			
Base Capacity (vph)		993			765			590	752		497	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.21			0.84			0.56	0.46		0.54	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 51.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 22.5

Intersection LOS: C

Intersection Capacity Utilization 94.3%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: Clay St & Minnesota Ave



Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1124	166	130	1323	21	320	14	114	8	7	7
Future Volume (vph)	2	1124	166	130	1323	21	320	14	114	8	7	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	250		0	90		0	50		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00	0.99		1.00	0.99	
Frt		0.981			0.998			0.866			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3497	0	1787	3566	0	1787	1608	0	1787	1726	0
Flt Permitted	0.122			0.066			0.370			0.816		
Satd. Flow (perm)	230	3497	0	124	3566	0	693	1608	0	1532	1726	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			1			132			8	
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1582			1050			1361			483	
Travel Time (s)		30.8			20.5			30.9			13.2	
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	1301	192	151	1532	24	371	16	132	9	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1493	0	151	1556	0	371	148	0	9	16	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		7	4			8	
Permitted Phases	6			2			4			8		
Detector Phase	6	6		5	2		7	4		8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		6.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	27.4	27.4		12.4	25.4		11.7	30.1		32.3	32.3	
Total Split (s)	100.0	100.0		25.0	125.0		55.0	75.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		12.5%	62.5%		27.5%	37.5%		10.0%	10.0%	
Maximum Green (s)	93.6	93.6		18.6	118.6		49.3	68.9		13.7	13.7	
Yellow Time (s)	4.1	4.1		4.0	4.0		3.7	3.7		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.4	2.4		2.0	2.4		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		5.7	6.1		6.3	6.3	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0			12.0			17.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	110.7	110.7		134.1	134.1		53.8	53.4		7.3	7.3	

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.55	0.55		0.67	0.67		0.27	0.27		0.04	0.04	
v/c Ratio	0.02	0.77		0.67	0.65		0.86	0.28		0.16	0.23	
Control Delay	28.5	40.7		30.4	30.0		85.4	10.6		99.1	66.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.5	40.7		30.4	30.0		85.4	10.6		99.1	66.9	
LOS	C	D		C	C		F	B		F	E	
Approach Delay		40.6			30.1			64.1			78.5	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	1	866		104	990		431	15		12	10	
Queue Length 95th (ft)	8	1058		m140	m1080		547	74		35	42	
Internal Link Dist (ft)		1502			970			1281			403	
Turn Bay Length (ft)	200			250			90			50		
Base Capacity (vph)	127	1941		249	2391		469	640		104	125	
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	0.02	0.77		0.61	0.65		0.79	0.23		0.09	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 50 (25%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 39.3

Intersection LOS: D

Intersection Capacity Utilization 92.9%

ICU Level of Service F

Analysis Period (min) 15

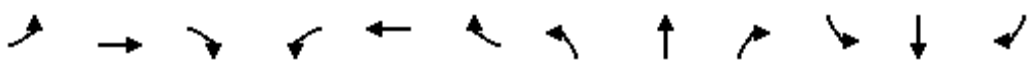
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Clay St & W Fairbanks Ave



Lanes, Volumes, Timings
12: Webster Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↗	↘		↗	↘	
Traffic Volume (vph)	11	158	5	21	201	264	9	26	14	364	43	36
Future Volume (vph)	11	158	5	21	201	264	9	26	14	364	43	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.919			0.947			0.932	
Flt Protected		0.997			0.998		0.950			0.950		
Satd. Flow (prot)	0	3511	0	0	3246	0	1770	1764	0	1770	1736	0
Flt Permitted		0.904			0.932		0.699			0.950		
Satd. Flow (perm)	0	3183	0	0	3031	0	1302	1764	0	1770	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			299			16			41	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		717			560			179			826	
Travel Time (s)		16.3			12.7			4.1			16.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	12	179	6	24	228	299	10	29	16	413	49	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	551	0	10	45	0	413	90	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8					
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		15.0	15.0		1.0	10.0		10.0	10.0	
Minimum Split (s)	30.4	30.4		30.3	30.3		9.5	15.7		16.3	23.2	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	16.0		33.0	38.0	
Total Split (%)	38.8%	38.8%		38.8%	38.8%		13.8%	20.0%		41.3%	47.5%	
Maximum Green (s)	24.6	24.6		24.7	24.7		4.9	10.3		26.7	31.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.8	3.8	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.0		2.5	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.4			6.3		6.1	5.7		6.3	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0						10.0	
Pedestrian Calls (#/hr)	0	0		0	0						0	
Act Effect Green (s)		24.6			24.7		18.7	14.2		22.8	40.6	
Actuated g/C Ratio		0.31			0.31		0.23	0.18		0.28	0.51	
v/c Ratio		0.20			0.48		0.03	0.14		0.82	0.10	
Control Delay		20.7			11.4		13.8	23.5		40.4	7.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		20.7			11.4		13.8	23.5		40.4	7.7	
LOS		C			B		B	C		D	A	
Approach Delay		20.7			11.4			21.7			34.5	

Lanes, Volumes, Timings
12: Webster Ave & Lee Rd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			C			C	
Queue Length 50th (ft)		36			49		2	12		188	11	
Queue Length 95th (ft)		62			93		9	42		278	43	
Internal Link Dist (ft)		637			480			99			746	
Turn Bay Length (ft)												
Base Capacity (vph)		981			1142		333	327		590	900	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.20			0.48		0.03	0.14		0.70	0.10	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 30.2 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 22.2

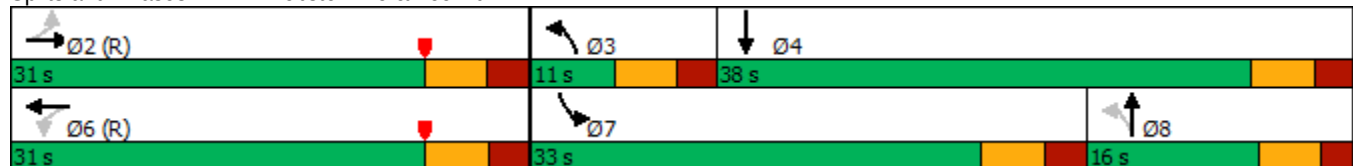
Intersection LOS: C

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 12: Webster Ave & Lee Rd

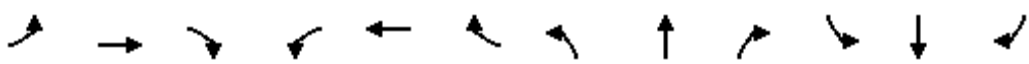


Lanes, Volumes, Timings

13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Future Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	170		0	180		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.965			0.981			0.976	
Flt Protected		0.997			0.996		0.950			0.950		
Satd. Flow (prot)	0	3384	0	0	3402	0	1770	1827	0	1770	1818	0
Flt Permitted		0.904			0.880		0.512			0.405		
Satd. Flow (perm)	0	3068	0	0	3006	0	954	1827	0	754	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			56			11			15	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			708			993			972	
Travel Time (s)		29.7			16.1			27.1			26.5	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	28	314	128	29	268	90	74	382	55	56	278	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	470	0	0	387	0	74	437	0	56	332	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	25.0	25.0		25.0	25.0		15.0	30.0		15.0	30.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		21.4%	42.9%		21.4%	42.9%	
Maximum Green (s)	19.1	19.1		18.9	18.9		8.4	23.4		8.5	23.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)		14.4			14.2		30.1	25.8		30.0	25.8	
Actuated g/C Ratio		0.24			0.23		0.50	0.43		0.49	0.43	
v/c Ratio		0.60			0.52		0.13	0.56		0.11	0.43	
Control Delay		21.5			20.8		7.5	19.1		7.5	16.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.5			20.8		7.5	19.1		7.5	16.6	
LOS		C			C		A	B		A	B	
Approach Delay		21.5			20.8			17.4			15.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		76			62		11	138		8	95	
Queue Length 95th (ft)		121			103		31	252		25	183	
Internal Link Dist (ft)		1228			628			913			892	
Turn Bay Length (ft)							170			180		
Base Capacity (vph)		1045			1002		591	782		522	780	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.45			0.39		0.13	0.56		0.11	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 60.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 18.8

Intersection LOS: B

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

 Ø1	 Ø2	 Ø4
15 s	30 s	25 s
 Ø5	 Ø6	 Ø8
15 s	30 s	25 s

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	130	94	11	101	43	90	365	21	38	233	53
Future Volume (vph)	51	130	94	11	101	43	90	365	21	38	233	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	50		0	90		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937			0.955			0.992			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1745	0	1770	1779	0	1770	1848	0	1770	1811	0
Flt Permitted	0.426			0.600			0.432			0.388		
Satd. Flow (perm)	794	1745	0	1118	1779	0	805	1848	0	723	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			23			3			14	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		708			657			972			1315	
Travel Time (s)		19.3			17.9			26.5			35.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	58	149	108	13	116	49	103	418	24	44	267	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	257	0	13	165	0	103	442	0	44	328	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	15.0	
Minimum Split (s)	14.1	23.1		26.0	26.0		13.8	22.8		13.7	23.7	
Total Split (s)	14.0	40.0		26.0	26.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.5%	47.1%		30.6%	30.6%		17.6%	35.3%		17.6%	35.3%	
Maximum Green (s)	7.9	33.9		20.0	20.0		9.2	24.2		9.3	24.3	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.4		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.0	6.0		5.8	5.8		5.7	5.7	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		13.0	13.0			10.0			11.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	19.2	19.2		12.0	12.0		33.5	29.0		31.6	25.6	
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.49	0.43		0.47	0.38	
v/c Ratio	0.17	0.48		0.07	0.49		0.20	0.56		0.09	0.47	
Control Delay	18.6	18.9		27.8	30.0		11.3	23.5		10.9	22.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	18.6	18.9		27.8	30.0		11.3	23.5		10.9	22.4	
LOS	B	B		C	C		B	C		B	C	
Approach Delay		18.8			29.8			21.2			21.0	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	18	71		5	62		24	179		10	119	
Queue Length 95th (ft)	43	134		20	121		55	#340		28	221	
Internal Link Dist (ft)		628			577			892			1235	
Turn Bay Length (ft)	100			50			90			150		
Base Capacity (vph)	344	942		347	568		538	790		497	691	
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	0.17	0.27		0.04	0.29		0.19	0.56		0.09	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 67.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 14: N Denning Dr & Canton Ave

 Ø1	 Ø2	 Ø4
15 s	30 s	40 s
 Ø5	 Ø6	 Ø7
15 s	30 s	14 s
		 Ø8
		26 s

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	365	139	49	269	4	160	240	49	8	128	61
Future Volume (vph)	24	365	139	49	269	4	160	240	49	8	128	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	200		0	180		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.998			0.974			0.952	
Flt Protected		0.997			0.992		0.950			0.950		
Satd. Flow (prot)	0	1857	1583	0	1844	0	1770	1814	0	1770	1773	0
Flt Permitted		0.997			0.992		0.450			0.562		
Satd. Flow (perm)	0	1857	1583	0	1844	0	838	1814	0	1047	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177		1			14			27	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		560			679			1315			1264	
Travel Time (s)		12.7			15.4			35.9			34.5	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	27	414	158	56	305	5	181	272	56	9	145	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	441	158	0	366	0	181	328	0	9	214	0
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4		8	8		1	6			2	
Permitted Phases			4				6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		10.0	10.0	
Minimum Split (s)	22.7	22.7	22.7	22.7	22.7		9.5	23.6		24.2	24.2	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		12.0	39.0		27.0	27.0	
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%		14.1%	45.9%		31.8%	31.8%	
Maximum Green (s)	17.3	17.3	17.3	17.3	17.3		7.5	32.4		20.8	20.8	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.5	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	3.2		2.8	2.8	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.7	5.7		5.7		4.5	6.6		6.2	6.2	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	None		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0	10.0			10.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)		17.3	17.3		17.3		34.5	32.4		20.8	20.8	
Actuated g/C Ratio		0.20	0.20		0.20		0.41	0.38		0.24	0.24	
v/c Ratio		1.17	0.34		0.97		0.43	0.47		0.04	0.47	
Control Delay		134.3	6.0		76.1		20.4	21.6		25.1	27.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		134.3	6.0		76.1		20.4	21.6		25.1	27.8	
LOS		F	A		E		C	C		C	C	
Approach Delay		100.5			76.1			21.2			27.7	
Approach LOS		F			E			C			C	
Queue Length 50th (ft)		~284	0		195		62	124		4	85	
Queue Length 95th (ft)		#462	39		#370		109	198		16	151	
Internal Link Dist (ft)		480			599			1235			1184	
Turn Bay Length (ft)							200			180		
Base Capacity (vph)		377	463		376		422	700		256	454	
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		1.17	0.34		0.97		0.43	0.47		0.04	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 61.9

Intersection LOS: E

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

~ 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.

Splits and Phases: 15: N Denning Dr & Webster Ave

 Ø1	 Ø2	 Ø4	 Ø8
12 s	27 s	23 s	23 s
 Ø6			
39 s			

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Future Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	190		0	170		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.989			0.993			0.965	
Flt Protected		0.996			0.998		0.950			0.950		
Satd. Flow (prot)	0	3535	0	0	3528	0	1787	1868	0	1787	1815	0
Flt Permitted		0.579			0.749		0.242			0.185		
Satd. Flow (perm)	0	2055	0	0	2648	0	455	1868	0	348	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			6			1			7	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1337			1345			1308			713	
Travel Time (s)		26.0			26.2			35.7			19.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	101	977	53	50	1039	86	46	315	15	59	244	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1131	0	0	1175	0	46	330	0	59	319	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		15.0	15.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	10.2	23.7		24.1	24.1		10.2	25.2		9.9	24.9	
Total Split (s)	20.0	135.0		115.0	115.0		20.0	45.0		20.0	45.0	
Total Split (%)	10.0%	67.5%		57.5%	57.5%		10.0%	22.5%		10.0%	22.5%	
Maximum Green (s)	14.0	128.9		108.9	108.9		13.8	38.8		14.1	39.1	
Yellow Time (s)	4.0	4.1		4.1	4.1		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.1			6.1		6.2	6.2		5.9	5.9	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		None	None	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		10.0	10.0			10.0			12.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)		128.9			128.9		51.7	42.5		55.2	46.2	
Actuated g/C Ratio		0.64			0.64		0.26	0.21		0.28	0.23	
v/c Ratio		0.85			0.69		0.26	0.83		0.35	0.75	
Control Delay		25.9			25.2		55.2	92.8		57.3	82.6	

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.9			25.2		55.2	92.8		57.3	82.6	
LOS		C			C		E	F		E	F	
Approach Delay		25.9			25.2			88.2			78.7	
Approach LOS		C			C			F			E	
Queue Length 50th (ft)		404			500		44	420		57	395	
Queue Length 95th (ft)		m417			580		83	#622		101	#573	
Internal Link Dist (ft)		1257			1265			1228			633	
Turn Bay Length (ft)							190			170		
Base Capacity (vph)		1326			1708		219	397		201	424	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.85			0.69		0.21	0.83		0.29	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 142 (71%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 97.4%

ICU Level of Service F

Analysis Period (min) 15

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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET
Lane Configurations												
Traffic Volume (vph)	20	5	700	219	2	48	6	934	193	2	309	382
Future Volume (vph)	20	5	700	219	2	48	6	934	193	2	309	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	2200	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)		50		0			100		0		0	
Storage Lanes		1		0			1		0		1	
Taper Length (ft)		25					25				25	
Lane Util. Factor	0.95	1.00	*1.00	*1.00	0.95	0.95	*1.00	*1.00	*1.00	0.95	1.00	1.00
Ped Bike Factor		1.00	0.99				1.00	0.99			1.00	1.00
Frt			0.964									0.995
Flt Protected		0.950					0.950				0.950	
Satd. Flow (prot)	0	1787	3606	0	0	0	1787	4334	0	0	1787	1871
Flt Permitted		0.950					0.950				0.950	
Satd. Flow (perm)	0	1784	3606	0	0	0	1782	4334	0	0	1786	1871
Right Turn on Red				Yes							Yes	
Satd. Flow (RTOR)												
Link Speed (mph)			35					35				30
Link Distance (ft)			1129					1335				3497
Travel Time (s)			22.0					26.0				79.5
Confl. Peds. (#/hr)	1	2		3		1	1		1	2	1	
Confl. Bikes (#/hr)				4					1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	22	6	786	246	2	54	7	1048	217	2	347	429
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	1034	0	0	0	61	1267	0	0	347	444
Turn Type	Prot	Prot	NA			Prot	Prot	NA			Prot	NA
Protected Phases	5	5	2			1	1	6			7	4
Permitted Phases												
Detector Phase	5	5	2			1	1	6			7	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0			5.0	5.0	15.0			5.0	7.0
Minimum Split (s)	11.2	11.2	24.7			12.0	12.0	38.4			13.2	36.2
Total Split (s)	16.0	16.0	89.0			18.0	18.0	91.0			46.0	57.0
Total Split (%)	8.0%	8.0%	44.5%			9.0%	9.0%	45.5%			23.0%	28.5%
Maximum Green (s)	9.8	9.8	81.3			11.0	11.0	83.6			37.8	49.8
Yellow Time (s)	4.1	4.1	4.1			4.0	4.0	4.0			3.7	3.7
All-Red Time (s)	2.1	2.1	3.6			3.0	3.0	3.4			4.5	3.5
Lost Time Adjust (s)		0.0	0.0				0.0	0.0			0.0	0.0
Total Lost Time (s)		6.2	7.7				7.0	7.4			8.2	7.2
Lead/Lag	Lead	Lead	Lag			Lead	Lead	Lag			Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes			Yes	Yes
Vehicle Extension (s)	3.0	3.0	4.0			3.0	3.0	4.0			3.0	3.0
Recall Mode	None	None	C-Max			None	None	Max			None	None
Walk Time (s)			7.0					7.0				7.0
Flash Dont Walk (s)			10.0					24.0				22.0
Pedestrian Calls (#/hr)			0					0				0

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), PM Peak Hour



Lane Group	NER	NER2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	6	7	220	369	16	44
Future Volume (vph)	6	7	220	369	16	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Storage Length (ft)	0		165		0	
Storage Lanes	0		1		0	
Taper Length (ft)			130			
Lane Util. Factor	1.00	1.00	1.00	*1.00	*1.00	0.95
Ped Bike Factor			1.00	1.00		
Frt				0.979		
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1787	3672	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1781	3672	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)				6		
Link Speed (mph)				30		
Link Distance (ft)				928		
Travel Time (s)				21.1		
Confl. Peds. (#/hr)	1	1	3		3	3
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	7	8	247	414	18	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	247	481	0	0
Turn Type			Prot	NA		
Protected Phases			3	8		
Permitted Phases						
Detector Phase			3	8		
Switch Phase						
Minimum Initial (s)			5.0	7.0		
Minimum Split (s)			12.8	41.2		
Total Split (s)			36.0	47.0		
Total Split (%)			18.0%	23.5%		
Maximum Green (s)			28.2	39.8		
Yellow Time (s)			3.7	3.7		
All-Red Time (s)			4.1	3.5		
Lost Time Adjust (s)			0.0	0.0		
Total Lost Time (s)			7.8	7.2		
Lead/Lag			Lead	Lag		
Lead-Lag Optimize?			Yes	Yes		
Vehicle Extension (s)			3.0	3.0		
Recall Mode			None	None		
Walk Time (s)				7.0		
Flash Dont Walk (s)				27.0		
Pedestrian Calls (#/hr)				0		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL	NET
Act Effect Green (s)		8.2	82.9				10.2	88.4			37.8	49.0
Actuated g/C Ratio		0.04	0.41				0.05	0.44			0.19	0.24
v/c Ratio		0.39	0.69				0.67	0.66			1.03	0.97
Control Delay		108.0	51.4				145.6	36.5			132.6	108.5
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		108.0	51.4				145.6	36.5			132.6	108.5
LOS		F	D				F	D			F	F
Approach Delay			52.9					41.5				119.0
Approach LOS			D					D				F
Queue Length 50th (ft)		37	567				85	583			~485	583
Queue Length 95th (ft)		78	646				m117	431			#708	#814
Internal Link Dist (ft)			1049					1255				3417
Turn Bay Length (ft)		50					100					
Base Capacity (vph)		87	1494				98	1915			337	465
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.32	0.69				0.62	0.66			1.03	0.95

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 5 (3%), Referenced to phase 2:NBT, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 70.8

Intersection LOS: E

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

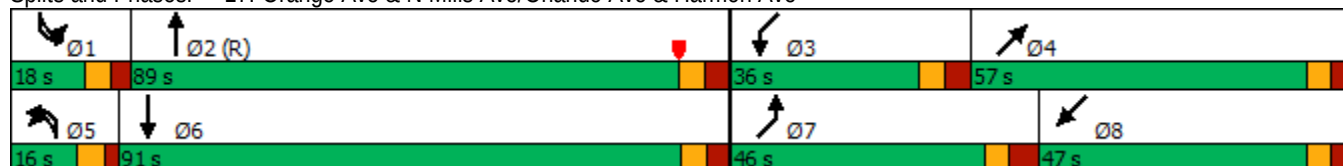
Queue shown is maximum after two cycles.

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.

Splits and Phases: 17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave





Lane Group	NER	NER2	SWL	SWT	SWR	SWR2
Act Effect Green (s)			28.2	39.0		
Actuated g/C Ratio			0.14	0.20		
v/c Ratio			0.98	0.67		
Control Delay			135.3	78.6		
Queue Delay			0.0	0.0		
Total Delay			135.3	78.6		
LOS			F	E		
Approach Delay				97.8		
Approach LOS				F		
Queue Length 50th (ft)			330	292		
Queue Length 95th (ft)			#531	358		
Internal Link Dist (ft)				848		
Turn Bay Length (ft)			165			
Base Capacity (vph)			251	735		
Starvation Cap Reductn			0	0		
Spillback Cap Reductn			0	0		
Storage Cap Reductn			0	0		
Reduced v/c Ratio			0.98	0.65		
Intersection Summary						

Lanes, Volumes, Timings

18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations												
Traffic Volume (vph)	26	138	179	2	4	55	115	60	13	3	6	81
Future Volume (vph)	26	138	179	2	4	55	115	60	13	3	6	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0		0		0			0	
Storage Lanes		0		0		0		0			0	
Taper Length (ft)		25				25					25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			1.00				0.99					0.99
Frt			0.998				0.959					0.942
Flt Protected			0.977				0.989					0.997
Satd. Flow (prot)	0	0	1834	0	0	0	1775	0	0	0	0	1743
Flt Permitted			0.977				0.989					0.823
Satd. Flow (perm)	0	0	1832	0	0	0	1775	0	0	0	0	1439
Right Turn on Red				Yes						Yes		
Satd. Flow (RTOR)							2					
Link Speed (mph)			25				25					25
Link Distance (ft)			1345				1248					619
Travel Time (s)			36.7				34.0					16.9
Confl. Peds. (#/hr)	1	1		1	1			1	1	1		
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	29	156	203	2	5	62	130	68	15	3	7	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	395	0	0	0	275	0	0	0	0	178
Turn Type	Perm	Split	NA			Split	NA			Perm	Perm	NA
Protected Phases		4	4			8	8					10
Permitted Phases	4									10	10	
Detector Phase	4	4	4			8	8			10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0			5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	12.7	12.7	12.7			29.5	29.5			30.5	30.5	30.5
Total Split (s)	31.0	31.0	31.0			24.0	24.0			22.0	22.0	22.0
Total Split (%)	23.8%	23.8%	23.8%			18.5%	18.5%			16.9%	16.9%	16.9%
Maximum Green (s)	23.3	23.3	23.3			15.5	15.5			14.5	14.5	14.5
Yellow Time (s)	3.4	3.4	3.4			3.4	3.4			3.4	3.4	3.4
All-Red Time (s)	4.3	4.3	4.3			5.1	5.1			4.1	4.1	4.1
Lost Time Adjust (s)			0.0				0.0					0.0
Total Lost Time (s)			7.7				8.5					7.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0	3.0	3.0
Recall Mode	None	None	None			None	None			None	None	None
Walk Time (s)						7.0	7.0			7.0	7.0	7.0
Flash Dont Walk (s)						14.0	14.0			16.0	16.0	16.0
Pedestrian Calls (#/hr)						0	0			0	0	0
Act Effect Green (s)			23.4				15.6					14.5

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL2
Lane Configurations												
Traffic Volume (vph)	66	1	8	72	36	105	18	2	26	611	42	10
Future Volume (vph)	66	1	8	72	36	105	18	2	26	611	42	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			130		0			0		0	
Storage Lanes	0			1		0			0		0	
Taper Length (ft)				25					25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00	*1.00	*1.00	*0.95
Ped Bike Factor				0.99						1.00		
Frt					0.884					0.991		
Flt Protected				0.950						0.998		
Satd. Flow (prot)	0	0	0	1787	1663	0	0	0	0	3714	0	0
Flt Permitted				0.391						0.869		
Satd. Flow (perm)	0	0	0	731	1663	0	0	0	0	3234	0	0
Right Turn on Red		Yes					Yes					
Satd. Flow (RTOR)					4							
Link Speed (mph)					25					30		
Link Distance (ft)					1308					944		
Travel Time (s)					35.7					21.5		
Confl. Peds. (#/hr)	1	3	1	3					1		3	3
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	75	1	9	82	41	119	20	2	29	693	48	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	91	180	0	0	0	0	772	0	0
Turn Type			Perm	Perm	NA			Perm	Perm	NA		Perm
Protected Phases					14					2		
Permitted Phases			14	14				2	2			6
Detector Phase			14	14	14			2	2	2		6
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0			12.0	12.0	12.0		12.0
Minimum Split (s)			24.5	24.5	24.5			30.1	30.1	30.1		26.6
Total Split (s)			22.0	22.0	22.0			53.0	53.0	53.0		53.0
Total Split (%)			16.9%	16.9%	16.9%			40.8%	40.8%	40.8%		40.8%
Maximum Green (s)			14.5	14.5	14.5			44.9	44.9	44.9		45.4
Yellow Time (s)			3.4	3.4	3.4			3.7	3.7	3.7		3.7
All-Red Time (s)			4.1	4.1	4.1			4.4	4.4	4.4		3.9
Lost Time Adjust (s)				0.0	0.0					0.0		
Total Lost Time (s)				7.5	7.5					8.1		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0	3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode			None	None	None			None	None	None		None
Walk Time (s)			7.0	7.0	7.0			7.0	7.0	7.0		7.0
Flash Dont Walk (s)			10.0	10.0	10.0			15.0	15.0	15.0		12.0
Pedestrian Calls (#/hr)			0	0	0			0	0	0		0
Act Effect Green (s)				14.5	14.5					34.0		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour



Lane Group	SWL	SWT	SWR	SWR2
Lane Configurations		↔↔		
Traffic Volume (vph)	4	436	43	4
Future Volume (vph)	4	436	43	4
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)	0		0	
Storage Lanes	0		0	
Taper Length (ft)	25			
Lane Util. Factor	*1.00	*1.00	*1.00	*0.95
Ped Bike Factor		1.00		
Frt		0.986		
Flt Protected		0.999		
Satd. Flow (prot)	0	3697	0	0
Flt Permitted		0.876		
Satd. Flow (perm)	0	3241	0	0
Right Turn on Red				Yes
Satd. Flow (RTOR)		1		
Link Speed (mph)		30		
Link Distance (ft)		1859		
Travel Time (s)		42.3		
Confl. Peds. (#/hr)	1			1
Confl. Bikes (#/hr)			2	1
Peak Hour Factor	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%
Adj. Flow (vph)	5	494	49	5
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	564	0	0
Turn Type	Perm	NA		
Protected Phases		6		
Permitted Phases	6			
Detector Phase	6	6		
Switch Phase				
Minimum Initial (s)	12.0	12.0		
Minimum Split (s)	26.6	26.6		
Total Split (s)	53.0	53.0		
Total Split (%)	40.8%	40.8%		
Maximum Green (s)	45.4	45.4		
Yellow Time (s)	3.7	3.7		
All-Red Time (s)	3.9	3.9		
Lost Time Adjust (s)		0.0		
Total Lost Time (s)		7.6		
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0		
Recall Mode	None	None		
Walk Time (s)	7.0	7.0		
Flash Dont Walk (s)	12.0	12.0		
Pedestrian Calls (#/hr)	0	0		
Act Effect Green (s)		34.5		

Lanes, Volumes, Timings
18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Actuated g/C Ratio			0.20				0.13					0.12
v/c Ratio			1.10				1.18					1.02
Control Delay			122.7				162.1					125.6
Queue Delay			0.0				0.0					0.0
Total Delay			122.7				162.1					125.6
LOS			F				F					F
Approach Delay			122.7				162.1					125.6
Approach LOS			F				F					F
Queue Length 50th (ft)			~343				~252					~141
Queue Length 95th (ft)			#602				#474					#322
Internal Link Dist (ft)			1265				1168					539
Turn Bay Length (ft)												
Base Capacity (vph)			359				233					175
Starvation Cap Reductn			0				0					0
Spillback Cap Reductn			0				0					0
Storage Cap Reductn			0				0					0
Reduced v/c Ratio			1.10				1.18					1.02

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 119.4

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 83.7

Intersection LOS: F

Intersection Capacity Utilization 129.2%

ICU Level of Service H

Analysis Period (min) 15

* User Entered Value

~ 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.

Splits and Phases: 18: Orange Ave & S Denning Dr & Minnesota Ave

 Ø2	 Ø4	 Ø8	 Ø10
53 s	31 s	24 s	22 s
 Ø6			 Ø14
53 s			22 s

Lanes, Volumes, Timings

18: Orange Ave & S Denning Dr & Minnesota Ave

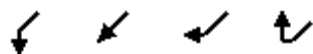
Orlando Ave Analysis

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL2
Actuated g/C Ratio				0.12	0.12					0.28		
v/c Ratio				1.02	0.87					0.84		
Control Delay				156.1	88.9					48.9		
Queue Delay				0.0	0.0					0.0		
Total Delay				156.1	88.9					48.9		
LOS				F	F					D		
Approach Delay					111.5					48.9		
Approach LOS					F					D		
Queue Length 50th (ft)				~74	134					278		
Queue Length 95th (ft)				#202	#297					349		
Internal Link Dist (ft)					1228					864		
Turn Bay Length (ft)				130								
Base Capacity (vph)				89	206					1220		
Starvation Cap Reductn				0	0					0		
Spillback Cap Reductn				0	0					0		
Storage Cap Reductn				0	0					0		
Reduced v/c Ratio				1.02	0.87					0.63		
Intersection Summary												

Lanes, Volumes, Timings
 18: Orange Ave & S Denning Dr & Minnesota Ave

Orlando Ave Analysis
 Existing Conditions (Year 2020), PM Peak Hour



Lane Group	SWL	SWT	SWR	SWR2
Actuated g/C Ratio		0.29		
v/c Ratio		0.60		
Control Delay		39.0		
Queue Delay		0.0		
Total Delay		39.0		
LOS		D		
Approach Delay		39.0		
Approach LOS		D		
Queue Length 50th (ft)		186		
Queue Length 95th (ft)		240		
Internal Link Dist (ft)		1779		
Turn Bay Length (ft)				
Base Capacity (vph)		1237		
Starvation Cap Reductn		0		
Spillback Cap Reductn		0		
Storage Cap Reductn		0		
Reduced v/c Ratio		0.46		
Intersection Summary				

Lanes, Volumes, Timings

Orlando Ave Analysis

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL
Lane Configurations		↑↑			↑↑	↑↑				↑↑		
Traffic Volume (vph)	2	630	25	10	424	747	32	8	30	152	29	19
Future Volume (vph)	2	630	25	10	424	747	32	8	30	152	29	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		150		0		0		0	0
Storage Lanes	0		0		2		0		0		0	0
Taper Length (ft)	25				100				25			25
Lane Util. Factor	0.95	0.95	0.95	0.95	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00	1.00				1.00		
Frt		0.992				0.994				0.982		
Flt Protected					*0.975					0.991		
Satd. Flow (prot)	0	3540	0	0	3558	3548	0	0	0	1825	0	0
Flt Permitted		0.953			0.975					0.667		
Satd. Flow (perm)	0	3374	0	0	3551	3548	0	0	0	1228	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)		1				7				4		
Link Speed (mph)		35				35				30		
Link Distance (ft)		1345				1310				1141		
Travel Time (s)		26.2				25.5				25.9		
Confl. Peds. (#/hr)	3		2		2		3				9	9
Confl. Bikes (#/hr)			1									
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	753	30	12	507	893	38	10	36	182	35	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	797	0	0	507	931	0	0	0	263	0	0
Turn Type	Perm	NA			Prot	NA		Perm	Perm	NA		Perm
Protected Phases		2			1	6				4		
Permitted Phases	2							4	4			8
Detector Phase	2	2			1	6		4	4	4		8
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0	8.0		8.0	8.0	8.0		8.0
Minimum Split (s)	32.7	32.7			26.5	24.0		16.5	16.5	16.5		26.6
Total Split (s)	48.0	48.0			72.0	120.0		40.0	40.0	40.0		40.0
Total Split (%)	30.0%	30.0%			45.0%	75.0%		25.0%	25.0%	25.0%		25.0%
Maximum Green (s)	40.3	40.3			63.5	114.0		31.5	31.5	31.5		31.4
Yellow Time (s)	4.1	4.1			4.0	4.0		3.7	3.7	3.7		3.7
All-Red Time (s)	3.6	3.6			4.5	2.0		4.8	4.8	4.8		4.9
Lost Time Adjust (s)		0.0			0.0	0.0				0.0		
Total Lost Time (s)		7.7			8.5	6.0				8.5		
Lead/Lag	Lead	Lead			Lag							
Lead-Lag Optimize?	Yes	Yes			Yes							
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0		3.0
Recall Mode	Max	Max			None	Max		None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0						7.0
Flash Dont Walk (s)	18.0	18.0			10.0	10.0						10.0
Pedestrian Calls (#/hr)	0	0			0	0						0
Act Effect Green (s)		40.3			63.5	114.0				31.5		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Existing Conditions (Year 2020), PM Peak Hour

					
Lane Group	SBT	SBR	SBR2	NER	NER2
Lane Configurations					
Traffic Volume (vph)	139	51	22	750	3
Future Volume (vph)	139	51	22	750	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	
Storage Lanes		0		2	
Taper Length (ft)					
Lane Util. Factor	1.00	1.00	1.00	0.88	1.00
Ped Bike Factor				0.97	
Frt	0.957			0.850	
Flt Protected	0.996				
Satd. Flow (prot)	1793	0	0	2814	0
Flt Permitted	0.892				
Satd. Flow (perm)	1606	0	0	2729	0
Right Turn on Red			Yes		Yes
Satd. Flow (RTOR)	3			91	
Link Speed (mph)	30				
Link Distance (ft)	859				
Travel Time (s)	19.5				
Confl. Peds. (#/hr)					2
Confl. Bikes (#/hr)					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Growth Factor	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%
Adj. Flow (vph)	166	61	26	897	4
Shared Lane Traffic (%)					
Lane Group Flow (vph)	276	0	0	901	0
Turn Type	NA			Perm	
Protected Phases	8				
Permitted Phases				1	
Detector Phase	8			1	
Switch Phase					
Minimum Initial (s)	8.0			8.0	
Minimum Split (s)	26.6			26.5	
Total Split (s)	40.0			72.0	
Total Split (%)	25.0%			45.0%	
Maximum Green (s)	31.4			63.5	
Yellow Time (s)	3.7			4.0	
All-Red Time (s)	4.9			4.5	
Lost Time Adjust (s)	0.0			0.0	
Total Lost Time (s)	8.6			8.5	
Lead/Lag				Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	3.0			3.0	
Recall Mode	None			None	
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	10.0			10.0	
Pedestrian Calls (#/hr)	0			0	
Act Effect Green (s)	31.4			63.5	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

Orlando Ave Analysis

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Existing Conditions (Year 2020), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL
Actuated g/C Ratio		0.25			0.40	0.71				0.20		
v/c Ratio		0.94			0.36	0.37				1.08		
Control Delay		77.2			34.9	9.4				137.2		
Queue Delay		0.0			0.0	0.0				0.0		
Total Delay		77.2			34.9	9.4				137.2		
LOS		E			C	A				F		
Approach Delay		77.2				18.4				137.2		
Approach LOS		E				B				F		
Queue Length 50th (ft)		433			191	183				~302		
Queue Length 95th (ft)		#558			240	216				#495		
Internal Link Dist (ft)		1265				1230				1061		
Turn Bay Length (ft)					150							
Base Capacity (vph)		850			1412	2529				244		
Starvation Cap Reductn		0			0	0				0		
Spillback Cap Reductn		0			0	0				0		
Storage Cap Reductn		0			0	0				0		
Reduced v/c Ratio		0.94			0.36	0.37				1.08		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 51.1

Intersection LOS: D

Intersection Capacity Utilization 93.2%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

~ 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.

Splits and Phases: 19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave



					
Lane Group	SBT	SBR	SBR2	NER	NER2
Actuated g/C Ratio	0.20			0.40	
v/c Ratio	0.87			0.79	
Control Delay	87.9			44.0	
Queue Delay	0.0			0.0	
Total Delay	87.9			44.0	
LOS	F			D	
Approach Delay	87.9				
Approach LOS	F				
Queue Length 50th (ft)	281			428	
Queue Length 95th (ft)	#446			527	
Internal Link Dist (ft)	779				
Turn Bay Length (ft)					
Base Capacity (vph)	317			1137	
Starvation Cap Reductn	0			0	
Spillback Cap Reductn	0			0	
Storage Cap Reductn	0			0	
Reduced v/c Ratio	0.87			0.79	
Intersection Summary					

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour

							
Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Lane Configurations							
Traffic Volume (vph)	53	25	655	17	20	597	
Future Volume (vph)	53	25	655	17	20	597	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	*1.00	0.95	0.95	*1.00	
Ped Bike Factor	0.99		1.00			1.00	
Frt	0.956		0.996				
Flt Protected	0.967					0.998	
Satd. Flow (prot)	1730	0	3744	0	0	3755	
Flt Permitted	0.967					0.923	
Satd. Flow (perm)	1730	0	3744	0	0	3473	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	15		7				
Link Speed (mph)	25		30			30	
Link Distance (ft)	398		928			944	
Travel Time (s)	10.9		21.1			21.5	
Confl. Peds. (#/hr)		1		4	1		
Confl. Bikes (#/hr)		1					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	110%	110%	110%	110%	110%	110%	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	61	29	758	20	23	691	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	90	0	778	0	0	714	
Turn Type	Prot		NA		Perm	NA	
Protected Phases	4		6			2	8
Permitted Phases					2		
Detector Phase	4		6		2	2	
Switch Phase							
Minimum Initial (s)	5.0		45.0		45.0	45.0	5.0
Minimum Split (s)	10.8		50.9		50.7	50.7	22.5
Total Split (s)	23.0		112.0		112.0	112.0	23.0
Total Split (%)	17.0%		83.0%		83.0%	83.0%	17%
Maximum Green (s)	17.2		106.1		106.3	106.3	19.6
Yellow Time (s)	3.4		3.7		3.7	3.7	3.4
All-Red Time (s)	2.4		2.2		2.0	2.0	0.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	5.8		5.9			5.7	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0
Recall Mode	None		None		None	None	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			10.0				10.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)	8.2		46.9			47.1	
Actuated g/C Ratio	0.13		0.75			0.75	
v/c Ratio	0.38		0.28			0.27	
Control Delay	27.2		4.0			3.9	

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Existing Conditions (Year 2020), PM Peak Hour



Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Queue Delay	0.0		0.0			0.0	
Total Delay	27.2		4.0			3.9	
LOS	C		A			A	
Approach Delay	27.2		4.0			3.9	
Approach LOS	C		A			A	
Queue Length 50th (ft)	28		47			43	
Queue Length 95th (ft)	66		77			71	
Internal Link Dist (ft)	318		848			864	
Turn Bay Length (ft)							
Base Capacity (vph)	491		3744			3473	
Starvation Cap Reductn	0		0			0	
Spillback Cap Reductn	0		0			0	
Storage Cap Reductn	0		0			0	
Reduced v/c Ratio	0.18		0.21			0.21	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 62.6

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 5.3

Intersection LOS: A

Intersection Capacity Utilization 52.2%

ICU Level of Service A

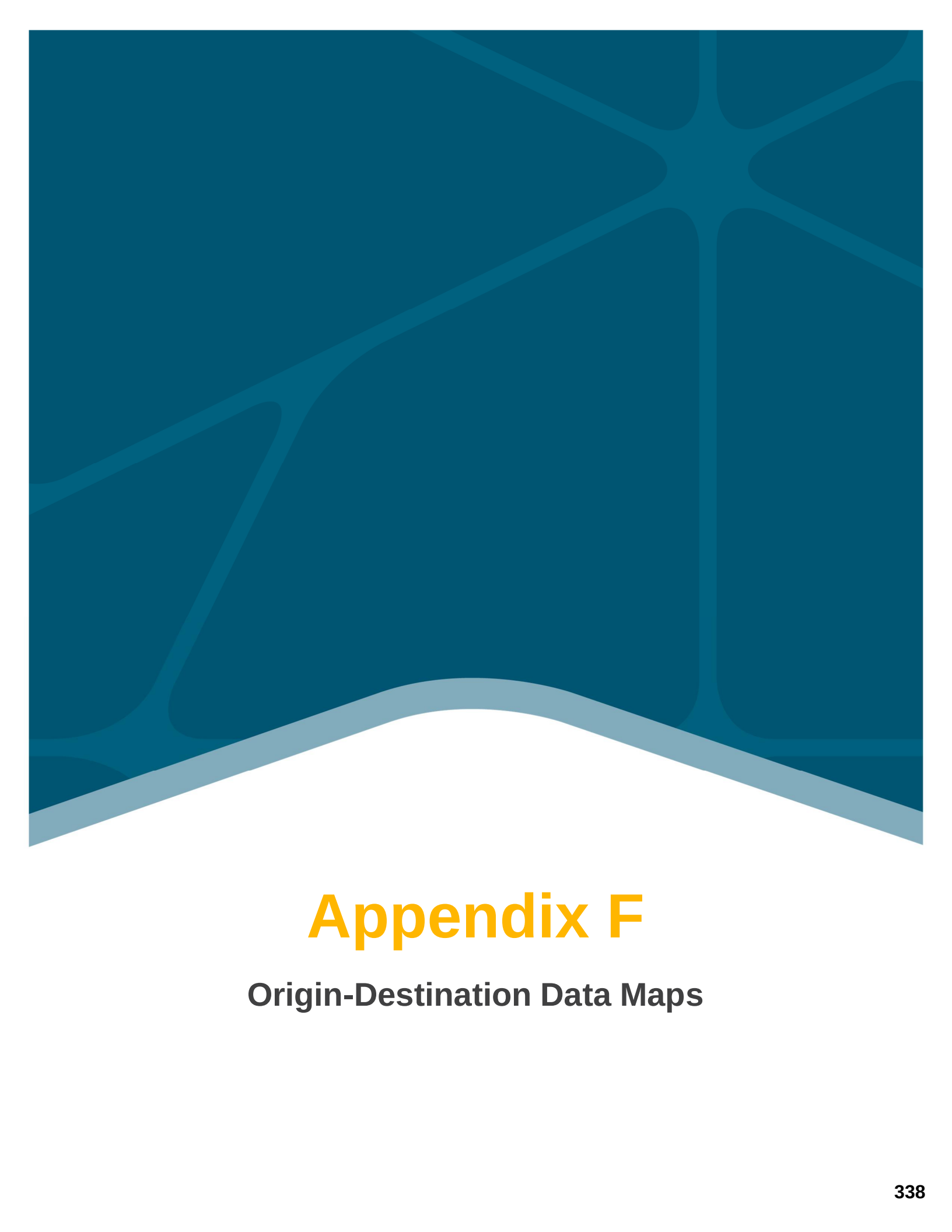
Analysis Period (min) 15

* User Entered Value

Splits and Phases: 20: Orange Ave & Cypress Ave

 Ø2	 Ø4
112 s	23 s
 Ø6	 Ø8
112 s	23 s

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	88	1804	5	1115	30	19	68
Future Vol, veh/h	88	1804	5	1115	30	19	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	150	-	80	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	1	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1	1
Mvmt Flow	101	2067	6	1278	34	22	78
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	1312	0	2067	-	0	2543	656
Stage 1	-	-	-	-	-	1307	-
Stage 2	-	-	-	-	-	1236	-
Critical Hdwy	4.12	-	6.42	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	-	5.82	-
Follow-up Hdwy	2.21	-	2.51	-	-	3.51	3.31
Pot Cap-1 Maneuver	528	-	68	-	-	22	410
Stage 1	-	-	-	-	-	219	-
Stage 2	-	-	-	-	-	239	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	528	-	68	-	-	~ 16	410
Mov Cap-2 Maneuver	-	-	-	-	-	95	-
Stage 1	-	-	-	-	-	177	-
Stage 2	-	-	-	-	-	218	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.6	0.3		30.6			
HCM LOS				D			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	
Capacity (veh/h)	528	-	68	-	-	238	
HCM Lane V/C Ratio	0.191	-	0.084	-	-	0.419	
HCM Control Delay (s)	13.4	-	62.8	-	-	30.6	
HCM Lane LOS	B	-	F	-	-	D	
HCM 95th %tile Q(veh)	0.7	-	0.3	-	-	1.9	
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							



Appendix F

Origin-Destination Data Maps



Fairbanks Avenue

AM peak-hour traffic traveling eastbound into Winter Park originates from a very large geographic area, without any major concentrations from individual census blocks. The block with the highest percentage of originating trips (the Rosemont area west of the intersection of SR 423 and US 441) only contributes 3.5% of the overall eastbound trips, with a handful of other blocks between 2% and 3%. There are blocks contributing more than 5% of the trips that are as far away as Apopka.

Eastbound AM peak-hour destinations are much more concentrated than the origins for the same time and direction. For example, the census blocks with the highest percentages of trips have 17.8%, 9.8%, 8.7%, and 7.5% of the total trips. East of the main concentration of destinations, there is a census block near UCF that is the destination for 1.7% of the trips.

Westbound AM peak-hour trips traveling through Winter Park originate from a wide area generally along Fairbanks Avenue (which becomes Aloma Avenue), and expanding to the south along SR 417. While most census blocks contribute small portions of the total trips, there are three zones near SR 436 that contribute 11.9%, 4.6%, and 4.4% of the total trips. Baldwin Park area is the destination for the 4.6% of trips, which likely get there via roads such as Pennsylvania Avenue and Lakemont Avenue.

Westbound AM peak-hour destination zones are spread in a north/south alignment, likely since Fairbanks Avenue does not extend west beyond Edgewater Drive. A high percentage of the trips have destinations just west of the city limits. Census blocks with more than ½ of a percent of trips have a relatively small combined total percentage, indicating that there is a large number of census blocks that have very low percentages of trips (less than ½ of a percent).

Eastbound PM peak-hour origin census blocks have low percentage, indicating that eastbound traffic arrives from many different areas, without major concentrations. Census blocks with the highest percentages are under 5%, except for the area immediately west of Orlando Avenue, which supplies 9% of the trips. There are two census blocks east of I-4 and south of SR 50 that provide a combined 2.9% of the eastbound trips, likely via I-4.

Eastbound PM destination zones are highly concentrated along Fairbanks Avenue within Winter Park – indicating that a high percentage of eastbound trips on Fairbanks Avenue (nearly 50%) are destined for nearby zones in Winter Park. Similar to the AM peak-hour, the census block near UCF is the destination for more than ½ of a percent of the trips (0.8%). Another similarity to the AM peak-hour is that Baldwin Park area is the destination for 2.5% of the trips, which likely get there via roads such as Pennsylvania Avenue and Lakemont Avenue.

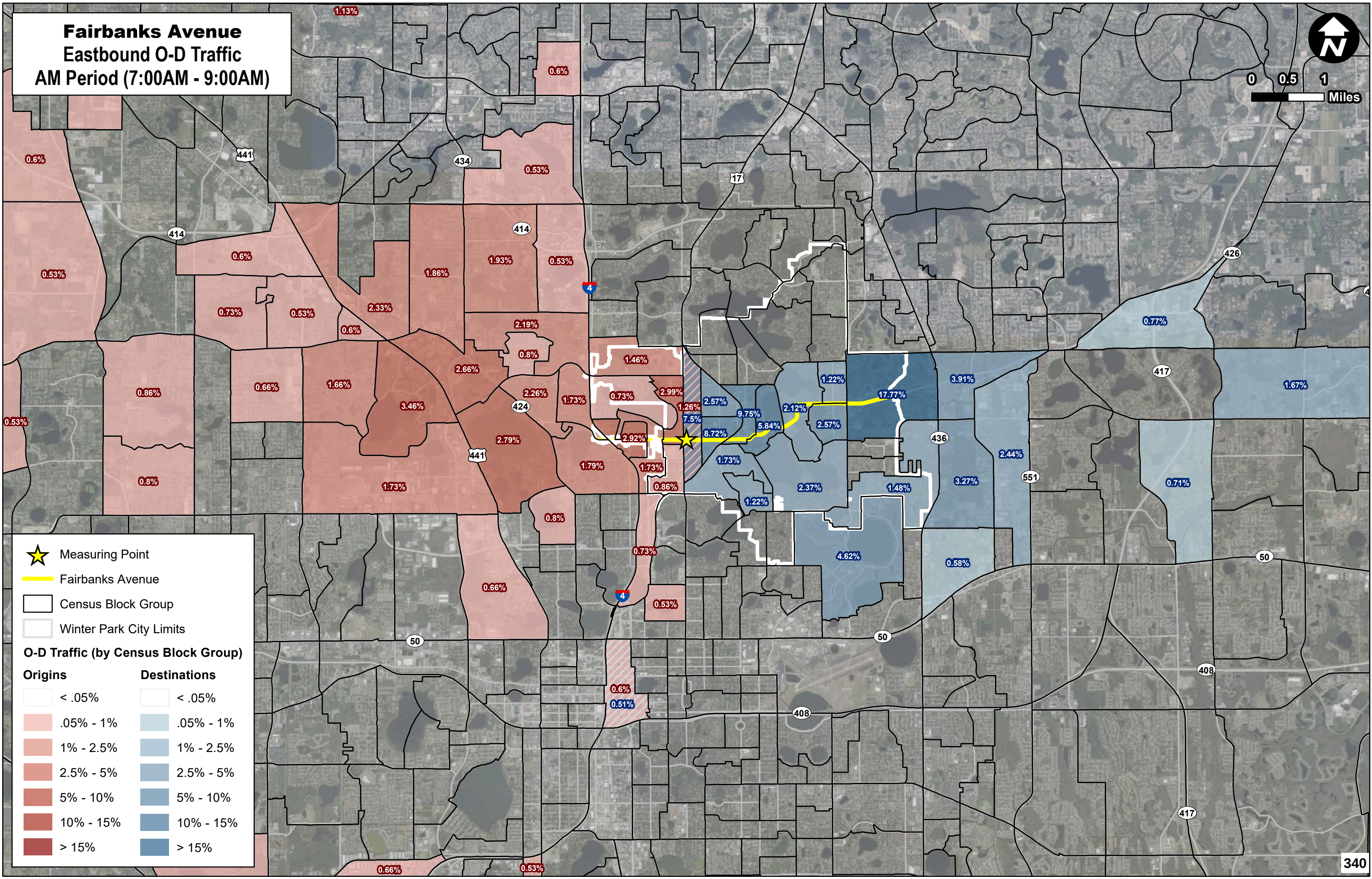
Westbound PM origin zones are generally concentrated along Fairbanks Avenue within the city limits, though there are some origin zones outside of the city. Almost 60% of the trips traveling westbound on Fairbanks Avenue originate from within the city, from census blocks along or adjacent to the road.

Westbound PM peak-hour destination zones are spread out over a large area, without major concentrations beyond the areas just west of Orlando Avenue. Census blocks with a moderate portion of the destination trips generally extend along Edgewater Drive and, to a lesser degree, US 441. Several of the blocks with more than ½ of a percent of the trips are located at long distances from Winter Park, such as the census blocks in downtown Orlando, west of the US 441 & SR 414 intersection, and blocks west of Clarcona Road.

**Fairbanks Avenue
Eastbound O-D Traffic
AM Period (7:00AM - 9:00AM)**



0 0.5 1
Miles



Measuring Point



Fairbanks Avenue



Census Block Group



Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins

	< .05%
	.05% - 1%
	1% - 2.5%
	2.5% - 5%
	5% - 10%
	10% - 15%
	> 15%

Destinations

	< .05%
	.05% - 1%
	1% - 2.5%
	2.5% - 5%
	5% - 10%
	10% - 15%
	> 15%

Fairbanks Avenue
Westbound O-D Traffic
AM Period (7:00AM - 9:00AM)



0 0.5 1
Miles



Measuring Point



Fairbanks Avenue



Census Block Group



Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%



> 15%

Destinations



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%

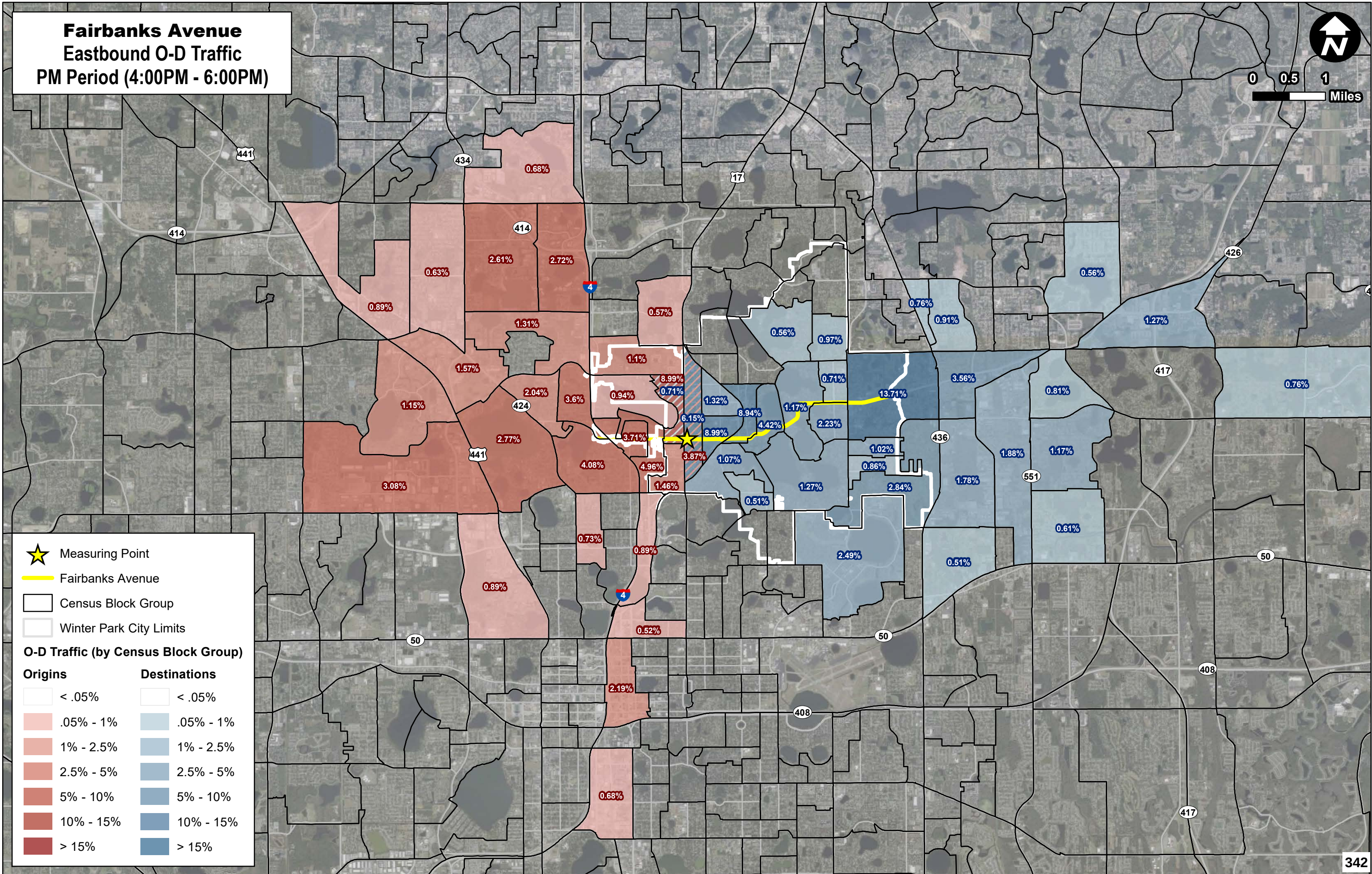
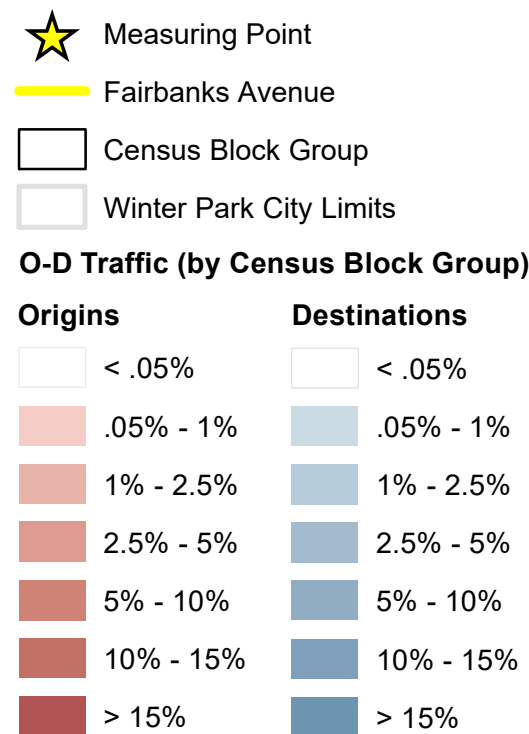


> 15%

Fairbanks Avenue
Eastbound O-D Traffic
PM Period (4:00PM - 6:00PM)



0 0.5 1
Miles



Fairbanks Avenue
Westbound O-D Traffic
PM Period (4:00PM - 6:00PM)



0 0.5 1
Miles



Measuring Point



Fairbanks Avenue



Census Block Group



Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%



> 15%

Destinations



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%



> 15%



Lee Road

AM peak-hour traffic traveling eastbound into Winter Park via Lee Road originates from a very large geographic area, similar to the origin areas that travel on Fairbanks Avenue. The origin zones with the highest percentages are located on the edge of Winter Park, with three census blocks contributing approximately 5% each, which is still a relatively low amount given the proximity. There are census blocks contributing more than ½ of a percent from as far away as Wekiva, Ocoee, and south of downtown Orlando.

AM peak-hour eastbound destination census blocks are in a tight concentration, almost all within or immediately adjacent to the City of Winter Park, with the exception of one area near UCF. A large portion of the trips (approximately 40%) is traveling to locations along Lee Road or along Orlando Avenue, with another 17% traveling to downtown Winter Park. It is safe to say that most of the AM peak-hour eastbound traffic on Lee Road is traveling to Winter Park.

AM peak-hour westbound traffic on Lee Road have origins that are spread far and wide, with relevant census blocks extending into Oviedo and Winter Springs. Only 15% (approximately) of the westbound trips originate within the city, and most of that percentage is from census blocks in the northwestern portion of the city. The origins are spread out where the top five blocks only contribute 6.2% (from the census block along Lee Road), 3.1%, 2.9%, 2.6%, and 2.3%, with all other blocks contributing less than 2% of the total traffic. These percentages are quite low considering that the census block near the Oviedo Mall contributes 1.5%, and the block near the Winter Springs Town Center contributes 1.4% of the total traffic.

Westbound AM peak-hour destinations are almost entirely outside of Winter Park, with some near I-4 south of Winter Park, and several along US 441. Only 15% (approximately) of the westbound AM peak-hour trips have destinations within the city. This, and the westbound AM origin sources, are a stark contrast with AM peak-hour eastbound traffic, which was mostly traveling to destinations within the city.

PM peak-hour traffic traveling eastbound into Winter Park via Lee Road originates from more concentrated area than in the AM peak-hour. Origin zones within or immediately adjacent to Winter Park contribute over 25% of the total trips, with other nearby census blocks also contributing relatively large percentages of trips.

PM peak-hour eastbound trips on Lee Road are generally traveling to locations in Winter Park near Lee Road or to areas to the northeast. A large portion of the trips (24%) are traveling to census blocks along Orlando Avenue within the city. Many of the remaining trips continue to the northeast to blocks that are just outside of city limits, with some smaller groups headed to Casselberry, Winter Springs, and Oviedo.

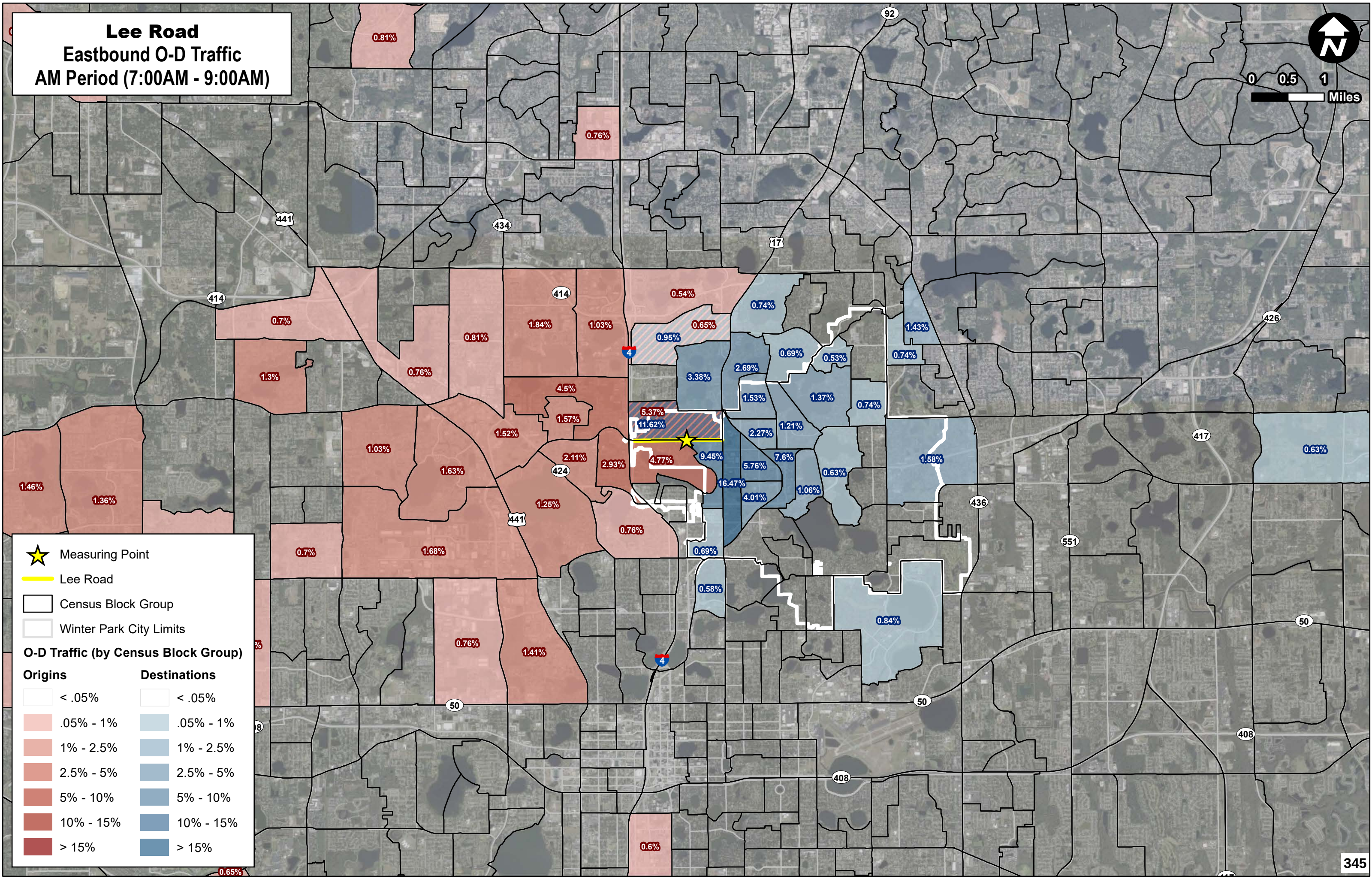
Westbound PM peak-hour trips on Lee Road originate from a very concentrated area, mostly from the northern portion of Winter Park and to a lesser degree, from census blocks just north of city limits. Only two blocks east of city limits contribute more than ½ of a percent of the trips. Census blocks immediately adjacent to Orlando Avenue and Lee Road contribute over 40% of the total trips, which is a strong concentration. Nearby blocks contribute an additional 6%, 5.5%, and 3.7%. This is a tighter concentration of origin trips than any of the other roadways/directions analyzed in this report.

While the PM peak-hour westbound origin trips were concentrated to a small area of census blocks, the destinations are much more spread out, with some heading to census blocks that are at the western edge of the map in Ocoee or north to Altamonte Springs. Approximately 24% of the trips are traveling to areas just west of the city. Unlike the AM version of this movement, fewer than ½ of a percent of trips are traveling to downtown Orlando, indicating that the ramp to westbound I-4 is likely less congested than in the AM peak-hour.

Lee Road
Eastbound O-D Traffic
AM Period (7:00AM - 9:00AM)



0 0.5 1 Miles



★ Measuring Point

— Lee Road

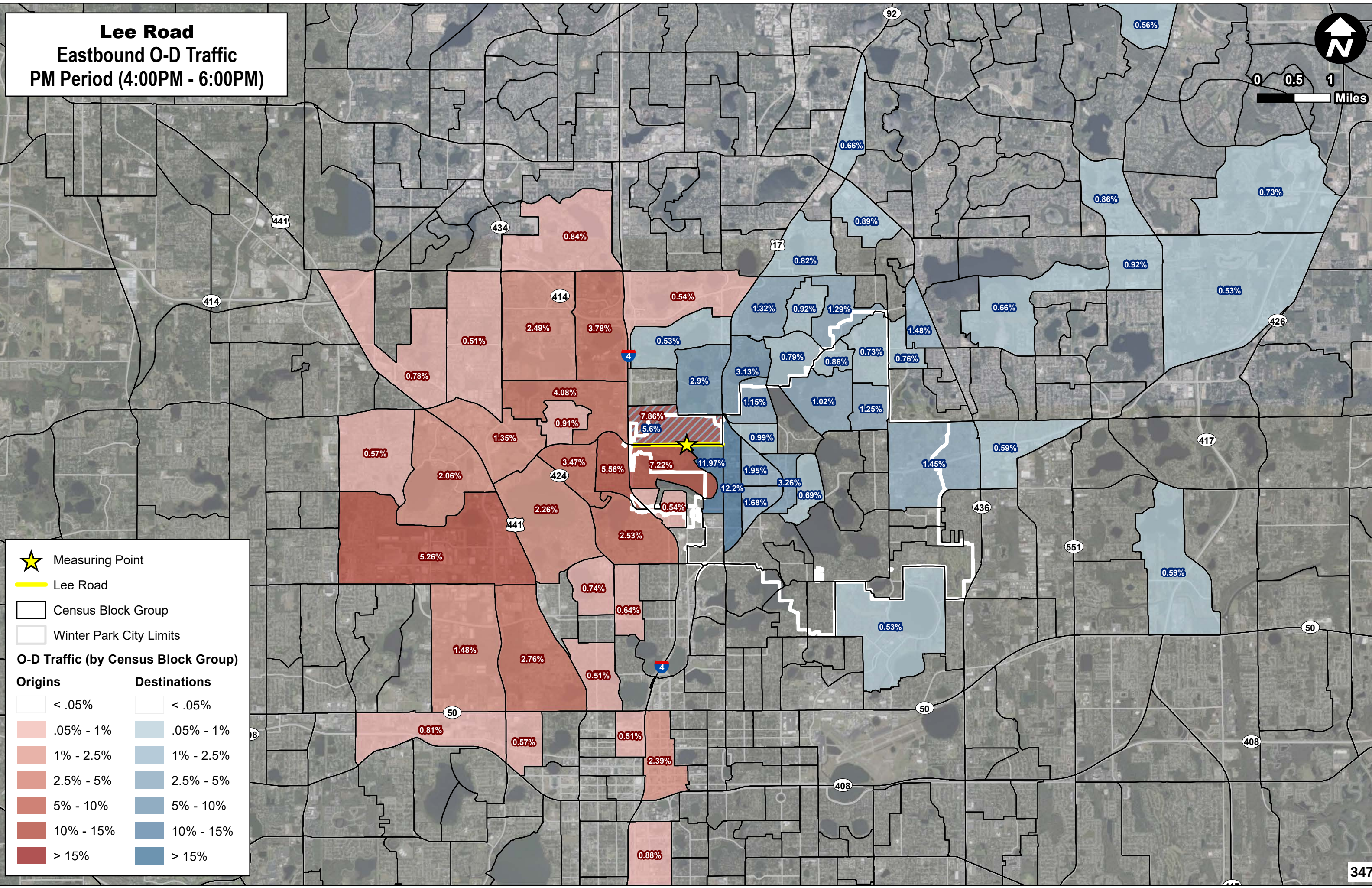
□ Census Block Group

□ Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins	Destinations
< .05%	< .05%
.05% - 1%	.05% - 1%
1% - 2.5%	1% - 2.5%
2.5% - 5%	2.5% - 5%
5% - 10%	5% - 10%
10% - 15%	10% - 15%
> 15%	> 15%

Lee Road
Eastbound O-D Traffic
PM Period (4:00PM - 6:00PM)

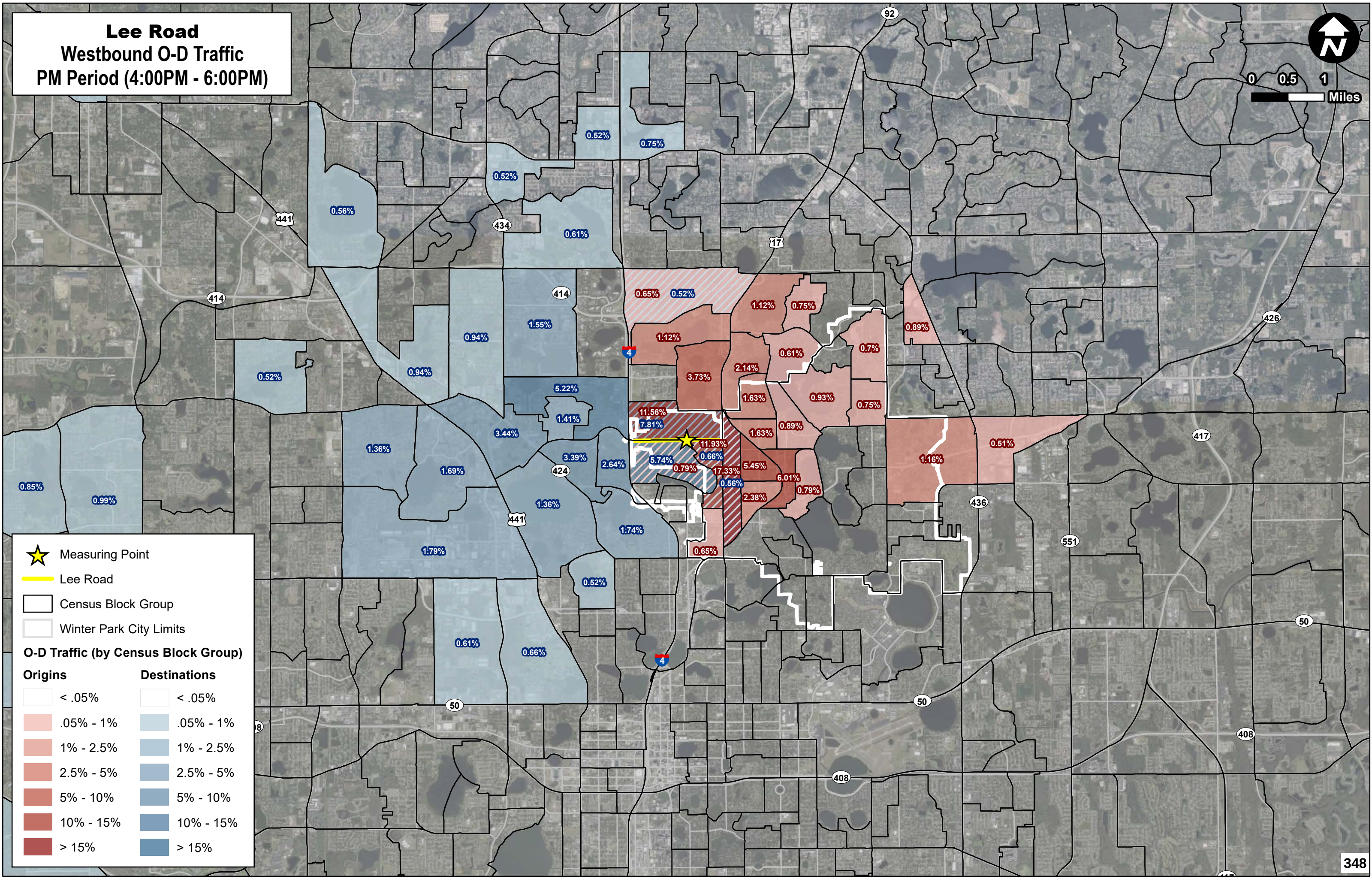


★ Measuring Point
— Lee Road
□ Census Block Group
□ Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins	Destinations
□ < .05%	□ < .05%
□ .05% - 1%	□ .05% - 1%
□ 1% - 2.5%	□ 1% - 2.5%
□ 2.5% - 5%	□ 2.5% - 5%
□ 5% - 10%	□ 5% - 10%
□ 10% - 15%	□ 10% - 15%
□ > 15%	□ > 15%

Lee Road
Westbound O-D Traffic
PM Period (4:00PM - 6:00PM)



★ Measuring Point
— Lee Road
□ Census Block Group
□ Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins	Destinations
< .05%	< .05%
.05% - 1%	.05% - 1%
1% - 2.5%	1% - 2.5%
2.5% - 5%	2.5% - 5%
5% - 10%	5% - 10%
10% - 15%	10% - 15%
> 15%	> 15%



Orlando Avenue

AM peak-hour traffic traveling northbound into Winter Park originates from a very large geographic area, with several census blocks generating over ½ of a percent of the total northbound trips from locations as far as 13 miles away. Census blocks generating the largest portion of traffic on Orlando Avenue are the Baldwin Park area with 4.2%, the area west of Lake Sue with 3.4%, and several other census blocks just south of the City that contribute over 2% each. Destination traffic is much more concentrated - a large portion of the traffic entering Winter Park via Orlando Avenue has a destination within the City, with almost 30% traveling to a census block bordering Orlando Avenue. The blocks furthest away from the City that have more than ½ of a percent of traffic are in the Maitland Concourse area, with 2.1%, and Aloma Avenue near SR 436, with 2.6%.

Southbound AM peak-hour traffic generally originates from blocks that are east of I-4 and west of SR 436 (with some exceptions). This pattern confirms that people living near SR 436 see it as a viable route, while a large amount of drivers choose Orlando Avenue instead of I-4. It is also noteworthy that the origin percentages are all low, without any blocks generating more than 5% of the total traffic. Many of the trips on Orlando Avenue are long-range trips, with several census blocks in the Casselberry and Altamonte Springs area generating more than ½ of a percent of the total trips. The census block generating the highest percentage of trips is the block between Lake Maitland and Temple Drive, north of Palmer Avenue, with 4.3% of the total trips.

Southbound traffic exiting the City via Orlando Avenue in the AM peak-hour is generally destined for areas concentrated near Orlando Avenue between Winter Park and downtown Orlando. Several blocks along Orlando Avenue just south of the City have high destination percentages, though the block with the highest percentage is in the downtown core of Orlando, with 10%.

Northbound PM peak-hour origin patterns are slightly more spread out than the AM peak-hour areas, indicating that a larger portion of the trips are for non-work purposes. The origin areas are generally bounded by SR 408, I-4, and SR 436. While more areas are included, there are several blocks with high percentages located adjacent to Orlando Avenue just south of Winter Park. The downtown core census block in Orlando is generating 4.9% of the trips, compared to the AM destination of 10%, indicating that a large portion of the downtown trips use Orlando Avenue in the AM but use other roads in the PM, or perhaps travel home outside of the 4:00 – 6:00 PM peak hour window.

Northbound PM peak-hour destination areas are quite similar to the areas with high percentages of AM peak-hour origin, which is typical for commuter travel (heading to work in the AM and home in the PM). The percentages of key census blocks, however, are much higher, indicating vibrant commercial destinations near Orlando Avenue. The block immediately to the east of Orlando Avenue is drawing over 15% of the total trips. Consistent with the AM origin areas, several blocks in Casselberry and Altamonte Springs have high trip percentages along Orlando Avenue.

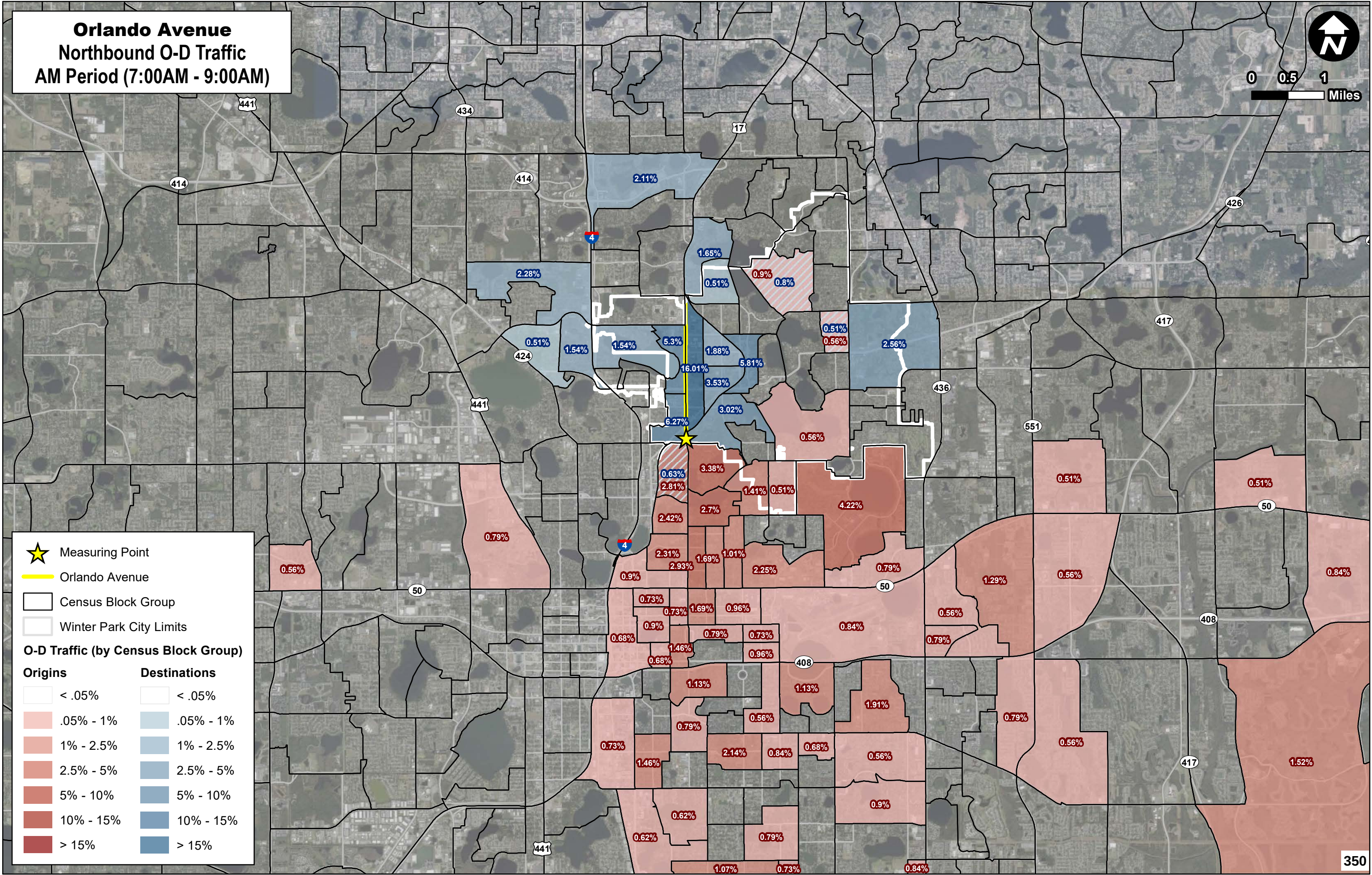
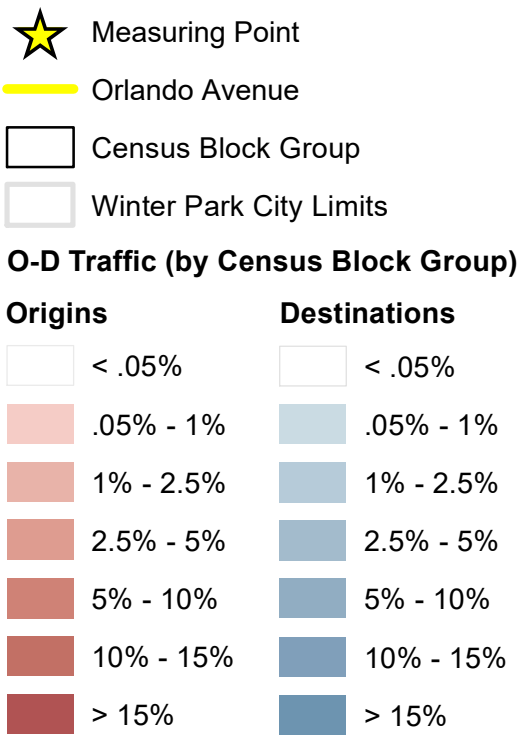
Southbound PM peak-hour trips are concentrated in a relatively small area of origin blocks, with some extending west of I-4. Compared to other directions and time-of-day maps, the area with high percentages is relatively concentrated, indicating that there are fewer trips driving through the city from far-away areas in the PM peak-hour. The census blocks within Winter Park immediately adjacent to Orlando Avenue contribute very high percentages of origin trips, further indicating that most of the southbound PM peak-hour trips are leaving from Winter Park.

Southbound PM peak-hour destination census blocks are very spread out, though the areas with highest percentages are still bounded by SR 408. None of the destinations are west of I-4.

Orlando Avenue
Northbound O-D Traffic
AM Period (7:00AM - 9:00AM)



0 0.5 1
Miles



Orlando Avenue
Southbound O-D Traffic
AM Period (7:00AM - 9:00AM)



0 0.5 1
Miles



Measuring Point



Orlando Avenue



Census Block Group



Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%



> 15%

Destinations



< .05%



.05% - 1%



1% - 2.5%



2.5% - 5%



5% - 10%



10% - 15%



> 15%

Orlando Avenue
Northbound O-D Traffic
PM Period (4:00PM - 6:00PM)



0 0.5 1
Miles

Measuring Point

Orlando Avenue

Census Block Group

Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins

< .05%

.05% - 1%

1% - 2.5%

2.5% - 5%

5% - 10%

10% - 15%

> 15%

Destinations

< .05%

.05% - 1%

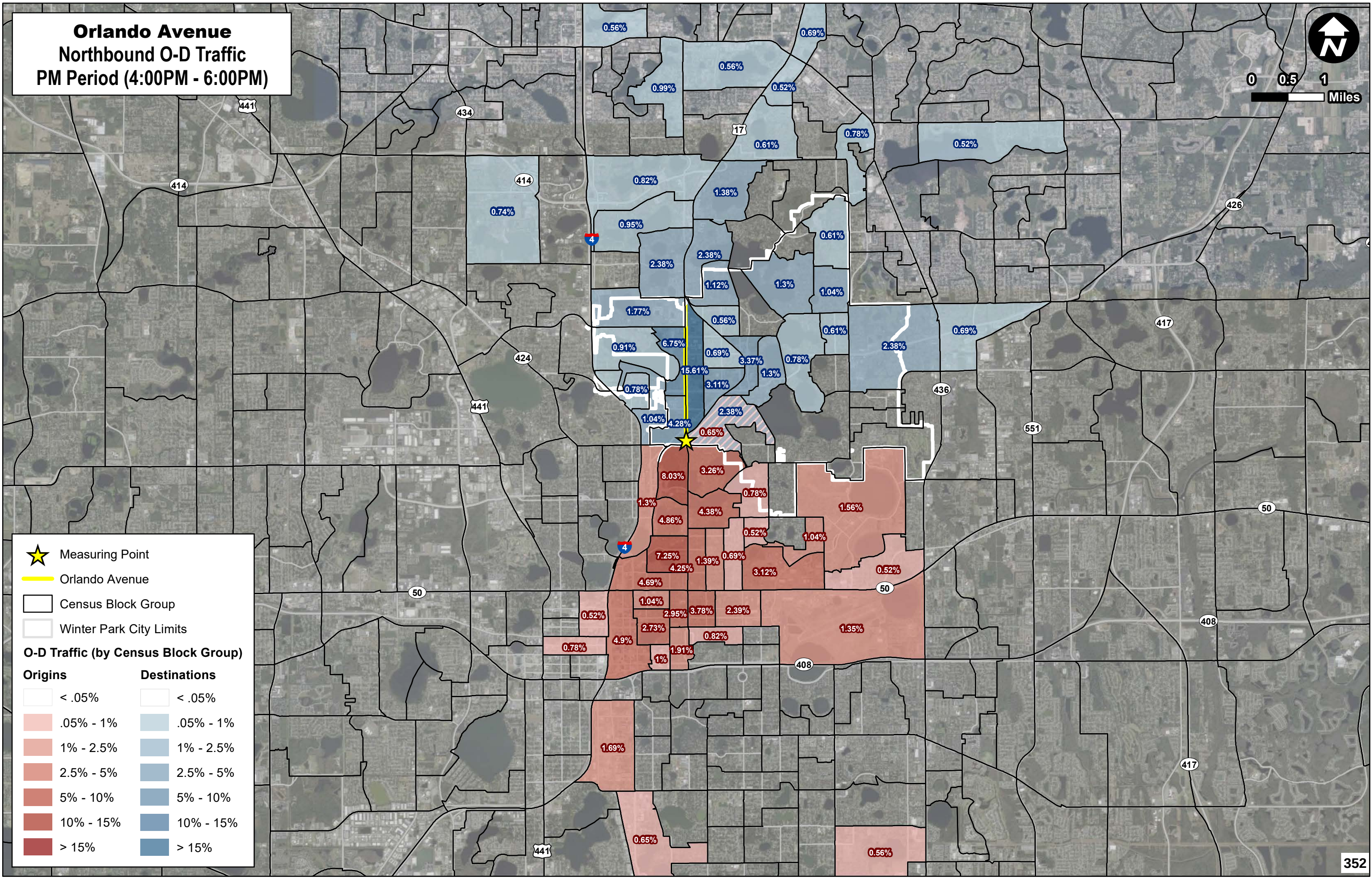
1% - 2.5%

2.5% - 5%

5% - 10%

10% - 15%

> 15%



Orlando Avenue
Southbound O-D Traffic
PM Period (4:00PM - 6:00PM)



Measuring Point

Orlando Avenue

Census Block Group

Winter Park City Limits

O-D Traffic (by Census Block Group)

Origins

< .05%

.05% - 1%

1% - 2.5%

2.5% - 5%

5% - 10%

10% - 15%

> 15%

Destinations

< .05%

.05% - 1%

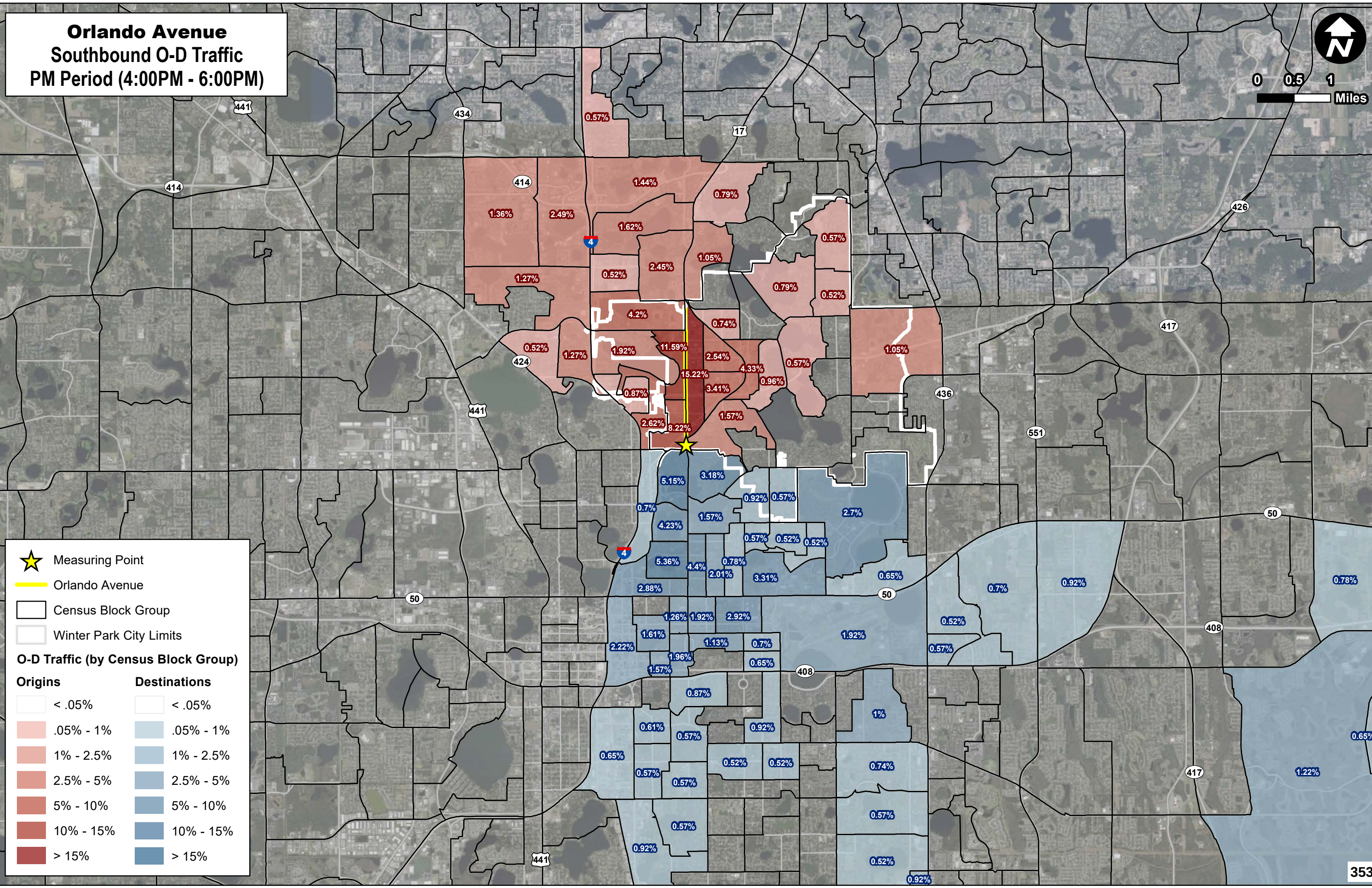
1% - 2.5%

2.5% - 5%

5% - 10%

10% - 15%

> 15%





Appendix G

Synchro Outputs – with Improvements Implemented

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	171	69	23	162	63	77	938	15	72	1220	87
Future Volume (vph)	146	171	69	23	162	63	77	938	15	72	1220	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00									1.00	
Frt		0.957			0.958			0.998			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1776	0	1770	1785	0	1770	3532	0	1770	3498	0
Flt Permitted	0.183			0.592			0.081			0.185		
Satd. Flow (perm)	341	1776	0	1103	1785	0	151	3532	0	345	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			9			1			6	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		2643			602			1335			1326	
Travel Time (s)		60.1			13.7			26.0			25.8	
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)			1									1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	166	194	78	26	184	71	87	1064	17	82	1384	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	272	0	26	255	0	87	1081	0	82	1483	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	11.6	31.6		35.7	35.7		24.0	25.1		24.0	25.1	
Total Split (s)	20.0	60.0		40.0	40.0		20.0	100.0		20.0	100.0	
Total Split (%)	11.1%	33.3%		22.2%	22.2%		11.1%	55.6%		11.1%	55.6%	
Maximum Green (s)	13.4	53.4		33.3	33.3		13.9	93.9		13.9	93.9	
Yellow Time (s)	3.9	3.9		4.0	4.0		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.7	6.7		6.1	6.1		6.1	6.1	
Lead/Lag	Lead			Lag	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		18.0		18.0	18.0			10.0			10.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	51.7	51.7		29.0	29.0		109.5	101.1		109.5	101.1	
Actuated g/C Ratio	0.29	0.29		0.16	0.16		0.61	0.56		0.61	0.56	

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.53		0.15	0.87		0.52	0.54		0.30	0.75	
Control Delay	69.9	54.9		64.8	97.8		29.1	13.7		7.0	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.9	54.9		64.8	97.8		29.1	13.7		7.0	9.3	
LOS	E	D		E	F		C	B		A	A	
Approach Delay		60.6			94.7			14.9			9.2	
Approach LOS		E			F			B			A	
Queue Length 50th (ft)	151	253		27	286		23	170		14	166	
Queue Length 95th (ft)	#252	356		60	392		m51	186		m16	174	
Internal Link Dist (ft)		2563			522			1255			1246	
Turn Bay Length (ft)	150			250			200			200		
Base Capacity (vph)	225	548		204	337		221	1984		330	1966	
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	0.74	0.50		0.13	0.76		0.39	0.54		0.25	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 172 (96%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 24.6

Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

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.

Splits and Phases: 1: Minnesota Ave & Orlando Ave

					
Ø2 (R)		Ø1	Ø3	Ø4	
100 s		20 s	20 s	40 s	
					
Ø6 (R)		Ø5	Ø8		
100 s		20 s	60 s		

Lanes, Volumes, Timings
2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	602	108	64	681	63	134	882	49	67	1071	171
Future Volume (vph)	232	602	108	64	681	63	134	882	49	67	1071	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	670		0	300		0	200		0	200		150
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00		1.00	1.00		1.00	1.00		1.00		0.98
Frt		0.977			0.987			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3448	0	1770	3489	0	1770	3508	0	1770	3539	1583
Flt Permitted	0.095			0.166			0.950			0.950		
Satd. Flow (perm)	343	3448	0	309	3489	0	1768	3508	0	1768	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			5			3				135
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1343			1312			1326			1665	
Travel Time (s)		26.2			25.6			25.8			32.4	
Confl. Peds. (#/hr)			4	4			3		2	2		3
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	263	683	122	73	772	71	152	1000	56	76	1215	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	805	0	73	843	0	152	1056	0	76	1215	194
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.3	42.3		11.2	39.6		24.0	37.3		11.2	37.2	37.2
Total Split (s)	38.0	70.0		20.0	52.0		25.0	70.0		20.0	65.0	65.0
Total Split (%)	21.1%	38.9%		11.1%	28.9%		13.9%	38.9%		11.1%	36.1%	36.1%
Maximum Green (s)	31.7	63.7		13.8	45.5		18.7	63.7		13.8	58.8	58.8
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.1	2.4		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.2	6.5		6.3	6.3		6.2	6.2	6.2
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		Max	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		22.0			22.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	71.2	56.5		61.6	51.4		18.7	76.3		12.2	69.9	69.9
Actuated g/C Ratio	0.40	0.31		0.34	0.29		0.10	0.42		0.07	0.39	0.39

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.68	0.74		0.39	0.84		0.83	0.71		0.63	0.88	0.28
Control Delay	33.8	44.2		35.4	54.1		108.9	50.4		116.0	33.8	2.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.8	44.2		35.4	54.1		108.9	50.4		116.0	33.8	2.6
LOS	C	D		D	D		F	D		F	C	A
Approach Delay		41.6			52.6			57.7			34.0	
Approach LOS		D			D			E			C	
Queue Length 50th (ft)	86	443		42	293		164	523		84	556	11
Queue Length 95th (ft)	106	492		m62	m294		m#299	607		143	#956	25
Internal Link Dist (ft)		1263			1232			1246			1585	
Turn Bay Length (ft)	670			300			200			200		150
Base Capacity (vph)	682	1233		224	1008		183	1489		138	1373	686
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	0.39	0.65		0.33	0.84		0.83	0.71		0.55	0.88	0.28

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 132 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 45.5

Intersection LOS: D

Intersection Capacity Utilization 92.0%

ICU Level of Service F

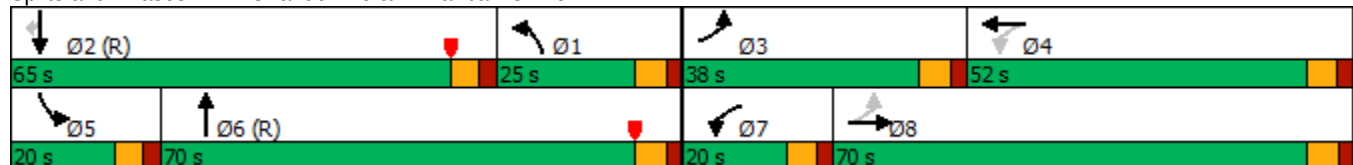
Analysis Period (min) 15

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.

Splits and Phases: 2: Orlando Ave & W Fairbanks Ave



Lanes, Volumes, Timings
3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Future Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	0		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00	0.99			0.99			1.00	
Frt		0.938			0.905			0.969			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1735	0	1770	1662	0	1770	3410	0	1770	3535	0
Flt Permitted	0.560			0.738			0.167			0.160		
Satd. Flow (perm)	1036	1735	0	1369	1662	0	311	3410	0	298	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			41			38			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		267			1308			1665			1539	
Travel Time (s)		6.1			29.7			32.4			30.0	
Confl. Peds. (#/hr)	4		2	2		4	3		7	7		3
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	27	17	12	101	38	66	35	1072	275	189	1381	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	29	0	101	104	0	35	1347	0	189	1392	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	34.4	34.4		34.4	34.4		10.0	35.0		10.1	27.1	
Total Split (s)	34.0	34.0		34.0	34.0		20.0	126.0		20.0	126.0	
Total Split (%)	18.9%	18.9%		18.9%	18.9%		11.1%	70.0%		11.1%	70.0%	
Maximum Green (s)	27.6	27.6		27.6	27.6		14.0	120.0		13.9	119.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	18.6	18.6		18.6	18.6		139.4	133.3		147.2	139.1	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.77	0.74		0.82	0.77	

Lanes, Volumes, Timings
3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.7
Total Split (s)	27.7
Total Split (%)	15%
Maximum Green (s)	24.0
Yellow Time (s)	3.7
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	17.0
Pedestrian Calls (#/hr)	0
Act Effect Green (s)	
Actuated g/C Ratio	

Lanes, Volumes, Timings
3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.25	0.15		0.72	0.50		0.12	0.53		0.59	0.51	
Control Delay	77.7	48.8		104.1	52.9		6.7	14.9		14.0	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.7	48.8		104.1	52.9		6.7	14.9		14.0	5.4	
LOS	E	D		F	D		A	B		B	A	
Approach Delay		62.7			78.1			14.7			6.4	
Approach LOS		E			E			B			A	
Queue Length 50th (ft)	30	19		118	71		5	289		29	138	
Queue Length 95th (ft)	64	53		184	135		m25	547		65	482	
Internal Link Dist (ft)		187			1228			1585			1459	
Turn Bay Length (ft)	125						200			200		
Base Capacity (vph)	158	276		209	289		367	2534		360	2731	
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	0.17	0.11		0.48	0.36		0.10	0.53		0.53	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 157 (87%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
20 s	126 s	34 s
 Ø5	 Ø6 (R)	 Ø8
20 s	126 s	27.7 s

Lane Group	Ø8
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings

4: Orlando Ave & Gay Rd

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	14	44	34	1	25	45	856	81	103	1521	8
Future Volume (vph)	14	14	44	34	1	25	45	856	81	103	1521	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	200		270	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.98				0.96			
Frt		0.887			0.855				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1635	0	1770	1568	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.097			0.263		
Satd. Flow (perm)	1763	1635	0	1767	1568	0	181	3539	1519	490	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			28				150			
Link Speed (mph)		25			15			35			35	
Link Distance (ft)		538			319			1539			751	
Travel Time (s)		14.7			14.5			30.0			14.6	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	16	16	49	38	1	28	50	951	90	114	1690	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	65	0	38	29	0	50	951	90	114	1699	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	8.0		4.0	8.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	10.4	40.7		23.4	41.5		10.0	35.2	35.2	29.1	25.2	
Total Split (s)	20.0	41.0		20.0	41.0		20.0	99.0	99.0	20.0	99.0	
Total Split (%)	11.1%	22.8%		11.1%	22.8%		11.1%	55.0%	55.0%	11.1%	55.0%	
Maximum Green (s)	13.6	34.3		11.7	32.5		14.0	93.0	93.0	13.8	92.8	
Yellow Time (s)	3.5	3.5		3.4	3.4		4.0	4.0	4.0	4.1	4.1	
All-Red Time (s)	2.9	3.2		4.9	5.1		2.0	2.0	2.0	2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.7		8.3	8.5		6.0	6.0	6.0	6.2	6.2	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		22.0			21.0			10.0	10.0		10.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	6.2	9.1		8.3	13.2		136.7	130.9	130.9	140.4	134.3	
Actuated g/C Ratio	0.03	0.05		0.05	0.07		0.76	0.73	0.73	0.78	0.75	
v/c Ratio	0.26	0.50		0.47	0.21		0.26	0.37	0.08	0.26	0.64	

Lanes, Volumes, Timings
4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	94.4	42.1		101.1	28.3		7.1	6.1	0.9	1.8	2.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.3	
Total Delay	94.4	42.1		101.1	28.3		7.1	6.1	0.9	1.8	3.0	
LOS	F	D		F	C		A	A	A	A	A	
Approach Delay		52.4			69.6			5.7			2.9	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	19	19		45	1		4	37	0	3	131	
Queue Length 95th (ft)	48	74		88	38		30	293	15	m4	266	
Internal Link Dist (ft)		458			239			1459			671	
Turn Bay Length (ft)	150						200		270	300		
Base Capacity (vph)	133	351		115	306		268	2572	1145	490	2637	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	338	
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	0.12	0.19		0.33	0.09		0.19	0.37	0.08	0.23	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 94 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 6.7

Intersection LOS: A

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 4: Orlando Ave & Gay Rd

 Ø1	 Ø2 (R)	 Ø4	 Ø3
20 s	99 s	41 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	99 s	20 s	41 s

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	61	31	40	44	85	51	773	80	0	1577	17
Future Volume (vph)	20	61	31	40	44	85	51	773	80	0	1577	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	240		0	0		0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00		0.98					1.00	
Fr _t		0.949				0.850		0.986			0.998	
Fl _t Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	1757	0	1770	1863	1583	1770	3490	0	0	3531	0
Fl _t Permitted	0.725			0.480			0.072					
Satd. Flow (perm)	1341	1757	0	891	1863	1546	134	3490	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				95		12			1	
Link Speed (mph)		15			30			35			35	
Link Distance (ft)		380			723			751			749	
Travel Time (s)		17.3			16.4			14.6			14.6	
Confl. Peds. (#/hr)	4		2	2		4	2					2
Confl. Bikes (#/hr)			1			3						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	2%	2%
Adj. Flow (vph)	22	68	35	45	49	95	57	868	90	0	1770	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	103	0	45	49	95	57	958	0	0	1789	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA			NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		3	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0			15.0	
Minimum Split (s)	12.2	36.7		11.4	37.8	37.8	11.0	29.0			27.0	
Total Split (s)	20.0	44.0		15.0	39.0	39.0	20.0	121.0			101.0	
Total Split (%)	11.1%	24.4%		8.3%	21.7%	21.7%	11.1%	67.2%			56.1%	
Maximum Green (s)	13.6	37.6		8.6	32.5	32.5	14.2	115.2			95.3	
Yellow Time (s)	3.4	3.4		3.8	3.8	3.8	3.7	3.7			3.7	
All-Red Time (s)	3.0	3.0		2.6	2.7	2.7	2.1	2.1			2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.5	6.5	5.8	5.8			5.7	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead				Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	
Recall Mode	None	None		None	None	None	None	C-Max			C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		13.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effect Green (s)	21.0	14.7		22.8	17.6	17.6	141.3	141.3			130.6	

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.08		0.13	0.10	0.10	0.78	0.78			0.73	
v/c Ratio	0.13	0.66		0.30	0.27	0.40	0.33	0.35			0.70	
Control Delay	63.2	89.6		72.2	82.6	23.0	19.9	9.8			8.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.1			0.1	
Total Delay	63.2	89.6		72.2	82.6	23.0	19.9	9.8			8.7	
LOS	E	F		E	F	C	B	A			A	
Approach Delay		85.0			50.2			10.4			8.7	
Approach LOS		F			D			B			A	
Queue Length 50th (ft)	22	105		49	57	1	25	233			127	
Queue Length 95th (ft)	50	172		96	109	78	51	233			172	
Internal Link Dist (ft)		300			643			671			669	
Turn Bay Length (ft)				150			240					
Base Capacity (vph)	230	377		154	336	356	234	2741			2561	
Starvation Cap Reductn	0	0		0	0	0	0	420			59	
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	0.10	0.27		0.29	0.15	0.27	0.24	0.41			0.72	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 66 (37%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 14.8

Intersection LOS: B

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Orlando Ave & Webster Ave



Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Future Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		390	230		0	450		100	240		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00					0.98
Frt			0.850		0.996			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	3523	0	3433	3532	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3416	1863	1559	1766	3523	0	3429	3532	0	1770	3539	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			276		1			1				377
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		646			534			749			2645	
Travel Time (s)		12.6			10.4			14.6			51.5	
Confl. Peds. (#/hr)	3		2	2		3	2					2
Confl. Bikes (#/hr)						3						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	475	332	299	15	294	9	448	631	9	30	1331	691
Shared Lane Traffic (%)												
Lane Group Flow (vph)	475	332	299	15	303	0	448	640	0	30	1331	691
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	12.9	47.5	47.5	11.7	46.3		12.4	36.6		11.8	41.5	41.5
Total Split (s)	43.0	48.0	48.0	20.0	25.0		29.0	92.0		20.0	83.0	83.0
Total Split (%)	23.9%	26.7%	26.7%	11.1%	13.9%		16.1%	51.1%		11.1%	46.1%	46.1%
Maximum Green (s)	36.1	40.9	40.9	13.3	18.1		22.0	85.4		13.2	76.5	76.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5		2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6		6.8	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0			0	0
Act Effect Green (s)	31.0	46.2	46.2	8.1	17.9		27.3	97.1		9.4	76.5	76.5
Actuated g/C Ratio	0.17	0.26	0.26	0.04	0.10		0.15	0.54		0.05	0.42	0.42

Lanes, Volumes, Timings 6: Orlando Ave & Lee Rd

Orlando Ave Analysis Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	0.69	0.49	0.19	0.86		0.86	0.34		0.33	0.88	0.79
Control Delay	82.4	69.9	10.6	108.5	92.0		90.7	11.7		89.5	55.1	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	82.4	69.9	10.6	108.5	92.0		90.7	11.7		89.5	55.1	25.6
LOS	F	E	B	F	F		F	B		F	E	C
Approach Delay	59.2			92.8			44.2			45.7		
Approach LOS	E			F			D			D		
Queue Length 50th (ft)	282	373	22	18	156		248	172		35	760	354
Queue Length 95th (ft)	338	488	113	m40	#252		#411	222		m67	864	549
Internal Link Dist (ft)	566			454			669			2565		
Turn Bay Length (ft)	390			230			450			240		
Base Capacity (vph)	688	478	605	130	355		520	1905		129	1504	878
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.69	0.69	0.49	0.12	0.85		0.86	0.34		0.23	0.88	0.79

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 48 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 51.9

Intersection LOS: D

Intersection Capacity Utilization 94.9%

ICU Level of Service F

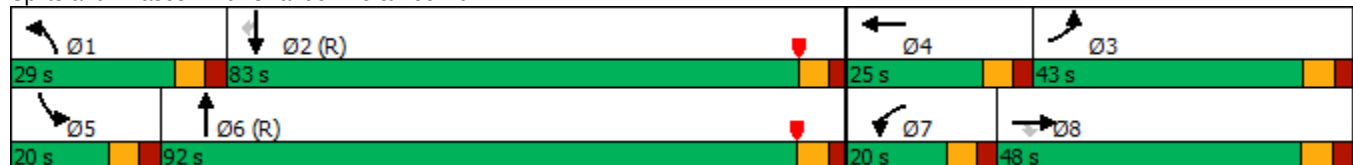
Analysis Period (min) 15

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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

						
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑		↙	↑↑↑		
Traffic Volume (vph)	994	0	266	2170	0	0
Future Volume (vph)	994	0	266	2170	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	10	10	12	12
Storage Length (ft)		0	230		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	1.00
Fr						
Flt Protected			0.950			
Satd. Flow (prot)	3657	0	1652	4746	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3657	0	1652	4746	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	40			40	25	
Link Distance (ft)	2645			380	497	
Travel Time (s)	45.1			6.5	13.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	1116	0	299	2436	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1116	0	299	2436	0	0
Turn Type	NA		Prot	NA		
Protected Phases	2		4	2		
Permitted Phases				4		
Detector Phase	2		4	2		
Switch Phase						
Minimum Initial (s)	40.0		7.0	40.0		
Minimum Split (s)	46.7		13.5	46.7		
Total Split (s)	129.0		51.0	129.0		
Total Split (%)	71.7%		28.3%	71.7%		
Maximum Green (s)	122.6		44.5	122.6		
Yellow Time (s)	4.4		4.5	4.4		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	6.4		6.5	6.4		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0		
Recall Mode	Min		C-Max	Min		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	10.0			10.0		
Pedestrian Calls (#/hr)	0			0		
Act Effect Green (s)	122.6		44.5	180.0		
Actuated g/C Ratio	0.68		0.25	1.00		
v/c Ratio	0.45		0.73	0.51		
Control Delay	6.0		74.2	0.4		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

	↑	↖	↙	↓	↘	↗
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Queue Delay	0.0		0.0	0.0		
Total Delay	6.0		74.2	0.4		
LOS	A		E	A		
Approach Delay	6.0			8.5		
Approach LOS	A			A		
Queue Length 50th (ft)	63		328	0		
Queue Length 95th (ft)	175		448	0		
Internal Link Dist (ft)	2565			300	417	
Turn Bay Length (ft)			230			
Base Capacity (vph)	2490		408	4746		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.45		0.73	0.51		

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 114 (63%), Referenced to phase 4:SBTL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 60.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Orlando Ave & Park Ave



HCM 6th TWSC
8: Executive Dr & Lee Rd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	1295	66	0	1177	0	12
Future Vol, veh/h	1295	66	0	1177	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1484	76	0	1349	0	14
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	780
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.33
Pot Cap-1 Maneuver	-	-	0	-	0	336
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	336
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		16.2	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	336	-	-	-		
HCM Lane V/C Ratio	0.041	-	-	-		
HCM Control Delay (s)	16.2	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	436	412	134	128	265	244
Future Volume (vph)	436	412	134	128	265	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.935	
Flt Protected	0.950			0.975		
Satd. Flow (prot)	1752	1568	0	1799	1725	0
Flt Permitted	0.950			0.000		
Satd. Flow (perm)	1752	1568	0	0	1725	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		487			68	
Link Speed (mph)	30			30	30	
Link Distance (ft)	489			1028	2627	
Travel Time (s)	11.1			23.4	59.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	516	487	158	151	313	289
Shared Lane Traffic (%)						
Lane Group Flow (vph)	516	487	0	309	602	0
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases			6	1		
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	8.0	8.0	
Minimum Split (s)	24.0	24.0	9.7	24.0	24.0	
Total Split (s)	28.0	28.0	15.0	42.0	27.0	
Total Split (%)	40.0%	40.0%	21.4%	60.0%	38.6%	
Maximum Green (s)	22.3	22.3	9.3	36.3	21.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.8	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Walk Time (s)					7.0	
Flash Dont Walk (s)					10.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	21.2	21.2		21.3	21.2	
Actuated g/C Ratio	0.39	0.39		0.40	0.39	
v/c Ratio	0.75	0.53		0.43	0.84	
Control Delay	22.6	3.8		14.7	26.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	22.6	3.8		14.7	26.9	
LOS	C	A		B	C	

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	13.5			14.7	26.9	
Approach LOS	B			B	C	
Queue Length 50th (ft)	136	0		72	154	
Queue Length 95th (ft)	#250	47		129	#330	
Internal Link Dist (ft)	409			948	2547	
Turn Bay Length (ft)						
Base Capacity (vph)	725	934		1212	720	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.71	0.52		0.25	0.84	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 53.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 17.9

Intersection LOS: B

Intersection Capacity Utilization 88.2%

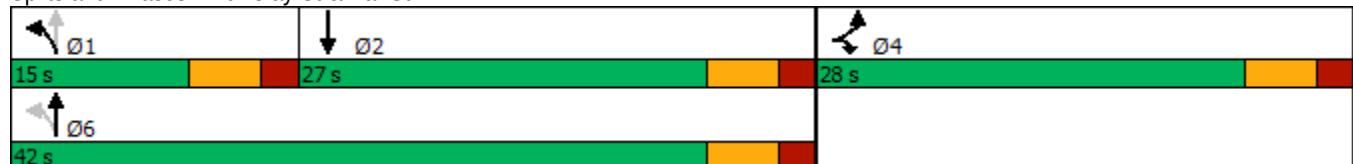
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Clay St & Par St



Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	128	51	219	85	59	27	204	404	41	203	5
Future Volume (vph)	8	128	51	219	85	59	27	204	404	41	203	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963			0.978				0.850		0.997	
Flt Protected		0.998			0.971			0.994			0.992	
Satd. Flow (prot)	0	1773	0	0	1752	0	0	1834	1568	0	1824	0
Flt Permitted		0.975			0.729			0.934			0.903	
Satd. Flow (perm)	0	1732	0	0	1315	0	0	1723	1568	0	1661	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			15				483		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1258			2643			2627			1353	
Travel Time (s)		28.6			60.1			59.7			30.8	
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	10	153	61	262	102	71	32	244	483	49	243	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	224	0	0	435	0	0	276	483	0	298	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		
Detector Phase	4	4		4	4		2	2	2	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	34.7	34.7		34.7	34.7		35.7	35.7	35.7	35.7	35.7	
Total Split (s)	25.0	25.0		25.0	25.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		61.5%	61.5%	61.5%	61.5%	61.5%	
Maximum Green (s)	19.3	19.3		19.3	19.3		34.3	34.3	34.3	34.3	34.3	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.7			5.7			5.7	5.7		5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		19.7			19.7			18.3	18.3		18.3	
Actuated g/C Ratio		0.40			0.40			0.37	0.37		0.37	
v/c Ratio		0.32			0.82			0.44	0.55		0.49	
Control Delay		12.9			33.0			13.2	3.7		14.0	

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	20.7	23.7
Total Split (s)	20.7	23.7
Total Split (%)	32%	36%
Maximum Green (s)	17.0	20.0
Yellow Time (s)	3.7	3.7
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	10.0	13.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		12.9			33.0			13.2	3.7		14.0	
LOS		B			C			B	A		B	
Approach Delay		12.9			33.0			7.1			14.0	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)		35			100			56	0		62	
Queue Length 95th (ft)		111			#343			100	39		109	
Internal Link Dist (ft)		1178			2563			2547			1273	
Turn Bay Length (ft)									100			
Base Capacity (vph)		705			531			1265	1280		1220	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.32			0.82			0.22	0.38		0.24	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 49.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 80.6%

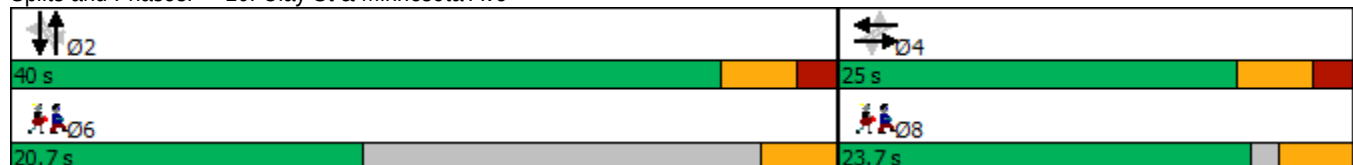
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: Clay St & Minnesota Ave



Lane Group	Ø6	Ø8
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1163	248	103	1004	1	167	5	92	8	9	1
Future Volume (vph)	2	1163	248	103	1004	1	167	5	92	8	9	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	250		0	90		0	50		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99						0.98		1.00		
Frt		0.974						0.858			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3429	0	1770	3539	0	1770	1573	0	1770	1837	0
Flt Permitted	0.252			0.103			0.377			0.851		
Satd. Flow (perm)	469	3429	0	192	3539	0	702	1573	0	1579	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27						103			1	
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1582			1028			1353			537	
Travel Time (s)		30.8			20.0			30.8			14.6	
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	2	1305	278	116	1127	1	187	6	103	9	10	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1583	0	116	1128	0	187	109	0	9	11	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		7	4			8	
Permitted Phases	6			2			4			8		
Detector Phase	6	6		5	2		7	4		8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		6.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	27.4	27.4		12.4	25.4		11.7	30.1		32.3	32.3	
Total Split (s)	120.0	120.0		20.0	140.0		22.0	40.0		18.0	18.0	
Total Split (%)	66.7%	66.7%		11.1%	77.8%		12.2%	22.2%		10.0%	10.0%	
Maximum Green (s)	113.6	113.6		13.6	133.6		16.3	33.9		11.7	11.7	
Yellow Time (s)	4.1	4.1		4.0	4.0		3.7	3.7		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.4	2.4		2.0	2.4		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		5.7	6.1		6.3	6.3	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0			12.0			17.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	128.1	128.1		143.1	143.1		24.8	24.4		7.1	7.1	
Actuated g/C Ratio	0.71	0.71		0.80	0.80		0.14	0.14		0.04	0.04	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.01	0.65		0.51	0.40		0.97	0.36		0.15	0.15	
Control Delay	10.5	16.3		12.8	4.7		130.6	15.5		87.9	82.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	16.3		12.8	4.7		130.6	15.5		87.9	82.0	
LOS	B	B		B	A		F	B		F	F	
Approach Delay		16.3			5.4			88.2			84.7	
Approach LOS		B			A			F			F	
Queue Length 50th (ft)	1	529		16	288		210	6		11	12	
Queue Length 95th (ft)	4	673		m24	365		#290	66		33	36	
Internal Link Dist (ft)		1502			948			1273			457	
Turn Bay Length (ft)	200			250			90			50		
Base Capacity (vph)	333	2448		271	2813		193	379		102	120	
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	0.01	0.65		0.43	0.40		0.97	0.29		0.09	0.09	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 24 (13%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 83.2%

ICU Level of Service E

Analysis Period (min) 15

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.

Splits and Phases: 11: Clay St & W Fairbanks Ave



Lanes, Volumes, Timings
12: Lee Rd & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↘		↗	↘	
Traffic Volume (vph)	19	92	5	3	165	221	5	4	3	316	19	27
Future Volume (vph)	19	92	5	3	165	221	5	4	3	316	19	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.915			0.933			0.911	
Flt Protected		0.992					0.950			0.950		
Satd. Flow (prot)	0	3390	0	0	3146	0	1719	1688	0	1719	1648	0
Flt Permitted		0.798			0.953		0.950			0.950		
Satd. Flow (perm)	0	2727	0	0	2998	0	1719	1688	0	1719	1648	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			283			4			35	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		723			556			336			814	
Travel Time (s)		16.4			12.6			7.6			15.9	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	24	118	6	4	211	283	6	5	4	404	24	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	498	0	6	9	0	404	59	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6								
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	6.0		10.0	10.0	
Minimum Split (s)	30.4	30.4		30.3	30.3		12.1	29.7		16.3	23.2	
Total Split (s)	31.0	31.0		31.0	31.0		12.0	23.0		36.0	47.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		13.3%	25.6%		40.0%	52.2%	
Maximum Green (s)	24.6	24.6		24.7	24.7		5.9	17.3		29.7	40.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.8	3.8	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.0		2.5	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.4			6.3		6.1	5.7		6.3	6.2	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			13.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		24.6			24.7		5.9	17.3		29.7	50.4	
Actuated g/C Ratio		0.27			0.27		0.07	0.19		0.33	0.56	
v/c Ratio		0.20			0.48		0.05	0.03		0.71	0.06	
Control Delay		19.5			13.1		40.6	24.0		27.3	7.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.5			13.1		40.6	24.0		27.3	7.1	
LOS		B			B		D	C		C	A	

Lanes, Volumes, Timings
12: Lee Rd & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.5			13.1			30.6			24.7	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)		40			50		3	2		137	6	
Queue Length 95th (ft)		54			86		15	14		274	m29	
Internal Link Dist (ft)		643			476			256			734	
Turn Bay Length (ft)												
Base Capacity (vph)		749			1028		112	327		567	938	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.20			0.48		0.05	0.03		0.71	0.06	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 63 (70%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 18.9

Intersection LOS: B

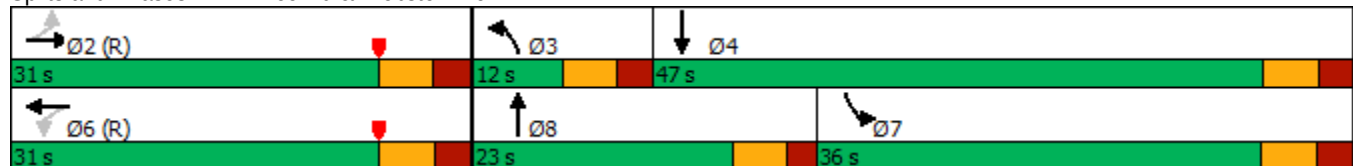
Intersection Capacity Utilization 54.3%

ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 12: Lee Rd & Webster Ave



Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Future Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	170		0	180		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.971			0.978			0.978	
Flt Protected		0.997			0.995		0.950			0.950		
Satd. Flow (prot)	0	3392	0	0	3354	0	1736	1787	0	1736	1787	0
Flt Permitted		0.923			0.875		0.535			0.605		
Satd. Flow (perm)	0	3140	0	0	2949	0	977	1787	0	1105	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			35			13			13	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			708			993			972	
Travel Time (s)		29.7			16.1			27.1			26.5	
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	23	331	56	22	155	42	55	212	36	68	273	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	410	0	0	219	0	55	248	0	68	320	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	27.0	27.0		27.0	27.0		15.0	38.0		15.0	38.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		18.8%	47.5%		18.8%	47.5%	
Maximum Green (s)	21.1	21.1		20.9	20.9		8.4	31.4		8.5	31.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)		14.6			14.4		36.5	32.2		36.7	32.3	
Actuated g/C Ratio		0.22			0.21		0.54	0.48		0.54	0.48	
v/c Ratio		0.59			0.33		0.09	0.29		0.10	0.37	
Control Delay		27.1			21.2		6.8	13.9		6.8	14.8	

Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		27.1			21.2		6.8	13.9		6.8	14.8	
LOS		C			C		A	B		A	B	
Approach Delay		27.1			21.2			12.6			13.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		85			37		8	66		10	91	
Queue Length 95th (ft)		129			67		25	133		29	174	
Internal Link Dist (ft)		1228			628			913			892	
Turn Bay Length (ft)							170			180		
Base Capacity (vph)		1021			960		628	860		685	863	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.40			0.23		0.09	0.29		0.10	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 67.4

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 18.8

Intersection LOS: B

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

 Ø1	 Ø2	 Ø4
15 s	38 s	27 s
 Ø5	 Ø6	 Ø8
15 s	38 s	27 s

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	147	76	12	45	16	35	151	7	23	279	20
Future Volume (vph)	22	147	76	12	45	16	35	151	7	23	279	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	50		0	90		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.961			0.993			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1717	0	1719	1739	0	1719	1797	0	1719	1791	0
Flt Permitted	0.455			0.587			0.408			0.632		
Satd. Flow (perm)	823	1717	0	1062	1739	0	738	1797	0	1144	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			19			3			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		708			657			972			1309	
Travel Time (s)		19.3			17.9			26.5			35.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	28	186	96	15	57	20	44	191	9	29	353	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	282	0	15	77	0	44	200	0	29	378	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	15.0	
Minimum Split (s)	14.1	28.1		28.0	28.0		14.0	27.8		14.0	27.7	
Total Split (s)	14.0	40.0		26.0	26.0		14.0	31.0		14.0	31.0	
Total Split (%)	16.5%	47.1%		30.6%	30.6%		16.5%	36.5%		16.5%	36.5%	
Maximum Green (s)	7.9	33.9		20.0	20.0		8.2	25.2		8.3	25.3	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.4		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.0	6.0		5.8	5.8		5.7	5.7	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		13.0	13.0			10.0			11.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	15.6	15.6		11.1	11.1		32.0	29.3		30.9	26.8	
Actuated g/C Ratio	0.25	0.25		0.18	0.18		0.52	0.47		0.50	0.43	
v/c Ratio	0.09	0.61		0.08	0.24		0.09	0.23		0.04	0.49	
Control Delay	18.8	24.3		28.5	23.4		8.7	14.6		8.6	19.2	

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	24.3		28.5	23.4		8.7	14.6		8.6	19.2	
LOS	B	C		C	C		A	B		A	B	
Approach Delay		23.8			24.3			13.6			18.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	9	90		5	19		6	32		4	112	
Queue Length 95th (ft)	25	152		22	59		24	116		17	225	
Internal Link Dist (ft)		628			577			892			1229	
Turn Bay Length (ft)	100			50			90			150		
Base Capacity (vph)	326	999		359	600		517	852		655	777	
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	0.09	0.28		0.04	0.13		0.09	0.23		0.04	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 61.9

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 19.4

Intersection LOS: B

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: N Denning Dr & Canton Ave

 Ø1	 Ø2	 Ø4
14 s	31 s	40 s
 Ø5	 Ø6	 Ø7
14 s	31 s	14 s
		 Ø8
		26 s

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	270	105	61	261	11	69	92	24	8	180	58
Future Volume (vph)	41	270	105	61	261	11	69	92	24	8	180	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	180		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.996			0.969			0.963	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1719	1734	0	0	1607	0	1719	1753	0	1719	1743	0
Flt Permitted	0.374				0.841		0.359			0.669		
Satd. Flow (perm)	677	1734	0	0	1364	0	650	1753	0	1211	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			2			16			17	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		556			679			1309			1264	
Travel Time (s)		12.6			15.4			35.7			34.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)					0							
Adj. Flow (vph)	48	319	124	72	309	13	82	109	28	9	213	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	443	0	0	394	0	82	137	0	9	282	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		10.0	10.0	
Minimum Split (s)	13.2	35.5		23.8	23.8		9.5	35.6		35.5	35.5	
Total Split (s)	20.0	51.0		31.0	31.0		12.0	37.0		25.0	25.0	
Total Split (%)	22.7%	58.0%		35.2%	35.2%		13.6%	42.0%		28.4%	28.4%	
Maximum Green (s)	14.2	45.3		25.2	25.2		7.5	30.4		18.8	18.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.5	3.4		3.4	3.4	
All-Red Time (s)	2.1	2.0		2.1	2.1		1.0	3.2		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.8	5.7			5.8		4.5	6.6		6.2	6.2	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		10.0		10.0	10.0			10.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0			0		0	0	
Act Effct Green (s)	33.2	33.3			25.8		26.0	24.8		19.2	19.2	
Actuated g/C Ratio	0.45	0.45			0.35		0.35	0.34		0.26	0.26	
v/c Ratio	0.12	0.55			0.82		0.25	0.23		0.03	0.60	

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	12.4	16.9			42.2		17.1	15.9		25.1	31.6	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	12.4	16.9			42.2		17.1	15.9		25.1	31.6	
LOS	B	B			D		B	B		C	C	
Approach Delay		16.4			42.2			16.4			31.4	
Approach LOS		B			D			B			C	
Queue Length 50th (ft)	13	139			191		25	40		4	123	
Queue Length 95th (ft)	30	222			#375		55	82		16	#217	
Internal Link Dist (ft)		476			599			1229			1184	
Turn Bay Length (ft)							200			180		
Base Capacity (vph)	510	1103			478		344	749		316	467	
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	0.40			0.82		0.24	0.18		0.03	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 88

Actuated Cycle Length: 73.7

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 79.2%

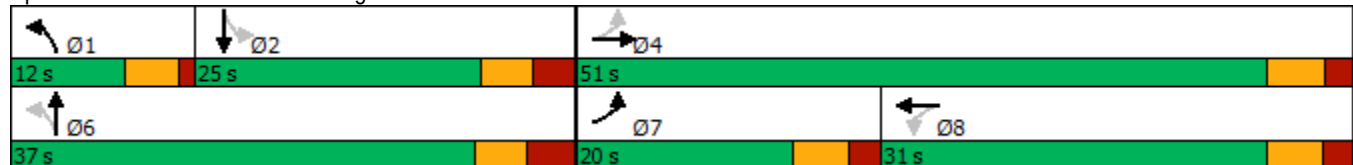
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 15: N Denning Dr & Webster Ave



Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Future Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	190		100	170		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.984			0.992			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3480	0	1752	3449	0	1752	1830	0	1752	1806	0
Flt Permitted	0.244			0.332			0.118			0.471		
Satd. Flow (perm)	450	3480	0	612	3449	0	218	1830	0	869	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			13			1			4	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1312			657			1308			713	
Travel Time (s)		25.6			12.8			35.7			19.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	86	816	37	47	803	99	25	157	9	28	309	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	853	0	47	902	0	25	166	0	28	359	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		15.0	15.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	10.0	23.7		24.1	24.1		10.2	24.2		9.9	24.9	
Total Split (s)	15.0	130.0		115.0	115.0		15.0	35.0		15.0	35.0	
Total Split (%)	8.3%	72.2%		63.9%	63.9%		8.3%	19.4%		8.3%	19.4%	
Maximum Green (s)	9.0	123.9		108.9	108.9		8.8	28.8		9.1	29.1	
Yellow Time (s)	4.0	4.1		4.1	4.1		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.1		6.1	6.1		6.2	6.2		5.9	5.9	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		None	None	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		10.0	10.0			10.0			12.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	124.0	123.9		109.8	109.8		38.9	32.7		40.5	35.5	
Actuated g/C Ratio	0.69	0.69		0.61	0.61		0.22	0.18		0.22	0.20	
v/c Ratio	0.23	0.36		0.13	0.43		0.23	0.50		0.12	1.00	
Control Delay	3.8	3.0		16.2	19.0		57.7	73.2		53.7	114.8	

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.8	3.0		16.2	19.0		57.7	73.2		53.7	114.8	
LOS	A	A		B	B		E	E		D	F	
Approach Delay		3.0			18.9			71.2			110.4	
Approach LOS		A			B			E			F	
Queue Length 50th (ft)	8	46		23	283		23	181		26	~497	
Queue Length 95th (ft)	m14	55		46	335		52	271		56	#734	
Internal Link Dist (ft)		1232			577			1228			633	
Turn Bay Length (ft)	150			200			190			170		
Base Capacity (vph)	375	2397		373	2109		123	332		242	359	
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	0.23	0.36		0.13	0.43		0.20	0.50		0.12	1.00	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 115 (64%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 31.3

Intersection LOS: C

Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

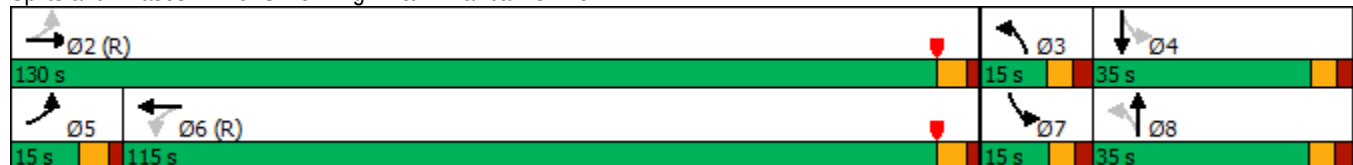
Queue shown is maximum after two cycles.

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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Lanes, Volumes, Timings

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL	NET	NER	SWL
Lane Configurations												
Traffic Volume (vph)	17	4	844	165	33	793	304	1	168	344	9	247
Future Volume (vph)	17	4	844	165	33	793	304	1	168	344	9	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2200	2200	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)		50		0	150		0		240		0	300
Storage Lanes		1		0	1		0		1		0	1
Taper Length (ft)		25			25				25			130
Lane Util. Factor	0.95	1.00	*1.00	*1.00	1.00	*1.00	*1.00	0.95	0.97	1.00	1.00	1.00
Ped Bike Factor			1.00									
Frt			0.975							0.996		
Flt Protected		0.950			0.950				0.950			0.950
Satd. Flow (prot)	0	1787	3654	0	1787	4356	0	0	3467	1874	0	1787
Flt Permitted		0.950			0.950				0.950			0.950
Satd. Flow (perm)	0	1787	3654	0	1787	4356	0	0	3467	1874	0	1787
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)			16							1		
Link Speed (mph)			35			35				30		
Link Distance (ft)			1129			1335				466		
Travel Time (s)			22.0			26.0				10.6		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)				4								
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	19	4	947	185	37	890	341	1	189	386	10	277
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	1132	0	37	1232	0	0	189	396	0	277
Turn Type	Prot	Prot	NA		Prot	NA			Prot	NA		Prot
Protected Phases	5	5	2		1	6			7	4		3
Permitted Phases												
Detector Phase	5	5	2		1	6			7	4		3
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0			5.0	7.0		5.0
Minimum Split (s)	11.2	11.2	24.7		12.0	38.4			13.2	36.2		12.8
Total Split (s)	15.0	15.0	80.0		15.0	80.0			35.0	50.0		35.0
Total Split (%)	8.3%	8.3%	44.4%		8.3%	44.4%			19.4%	27.8%		19.4%
Maximum Green (s)	8.8	8.8	72.3		8.0	72.6			26.8	42.8		27.2
Yellow Time (s)	4.1	4.1	4.1		4.0	4.0			3.7	3.7		3.7
All-Red Time (s)	2.1	2.1	3.6		3.0	3.4			4.5	3.5		4.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.2	7.7		7.0	7.4			8.2	7.2		7.8
Lead/Lag	Lead	Lead	Lead		Lag	Lag			Lead	Lead		Lag
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	4.0		3.0	4.0			3.0	3.0		3.0
Recall Mode	None	None	C-Max		None	Max			None	None		None
Walk Time (s)			7.0			7.0				7.0		
Flash Dont Walk (s)			10.0			24.0				22.0		
Pedestrian Calls (#/hr)			0			0				0		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Orlando Ave Analysis

Improved Conditions, AM Peak Hour



Lane Group	SWT	SWR	SWR2
Lane Configurations	↑↑		
Traffic Volume (vph)	539	11	23
Future Volume (vph)	539	11	23
Ideal Flow (vphpl)	1900	1900	1900
Lane Width (ft)	12	12	12
Storage Length (ft)		300	
Storage Lanes		1	
Taper Length (ft)			
Lane Util. Factor	*1.00	*1.00	0.95
Ped Bike Factor	1.00		
Frt	0.991		
Flt Protected			
Satd. Flow (prot)	3726	0	0
Flt Permitted			
Satd. Flow (perm)	3726	0	0
Right Turn on Red			Yes
Satd. Flow (RTOR)	2		
Link Speed (mph)	30		
Link Distance (ft)	928		
Travel Time (s)	21.1		
Confl. Peds. (#/hr)			1
Confl. Bikes (#/hr)			
Peak Hour Factor	0.98	0.98	0.98
Growth Factor	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%
Adj. Flow (vph)	605	12	26
Shared Lane Traffic (%)			
Lane Group Flow (vph)	643	0	0
Turn Type	NA		
Protected Phases	8		
Permitted Phases			
Detector Phase	8		
Switch Phase			
Minimum Initial (s)	7.0		
Minimum Split (s)	41.2		
Total Split (s)	50.0		
Total Split (%)	27.8%		
Maximum Green (s)	42.8		
Yellow Time (s)	3.7		
All-Red Time (s)	3.5		
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	7.2		
Lead/Lag	Lag		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	3.0		
Recall Mode	None		
Walk Time (s)	7.0		
Flash Dont Walk (s)	27.0		
Pedestrian Calls (#/hr)	0		

Lanes, Volumes, Timings

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL	NET	NER	SWL
Act Effect Green (s)		7.5	75.3		7.5	78.8			15.1	40.6		29.4
Actuated g/C Ratio		0.04	0.42		0.04	0.44			0.08	0.23		0.16
v/c Ratio		0.31	0.74		0.50	0.65			0.65	0.94		0.95
Control Delay		94.2	47.6		72.7	17.5			90.2	97.7		113.6
Queue Delay		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Delay		94.2	47.6		72.7	17.5			90.2	97.7		113.6
LOS		F	D		E	B			F	F		F
Approach Delay			48.5			19.1				95.3		
Approach LOS			D			B				F		
Queue Length 50th (ft)		27	570		40	100			113	456		~347
Queue Length 95th (ft)		62	655		m57	415			156	#648		#548
Internal Link Dist (ft)			1049			1255				386		
Turn Bay Length (ft)		50			150				240			300
Base Capacity (vph)		87	1538		79	1907			516	446		292
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		0.26	0.74		0.47	0.65			0.37	0.89		0.95

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 157 (87%), Referenced to phase 2:NBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 51.7

Intersection LOS: D

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

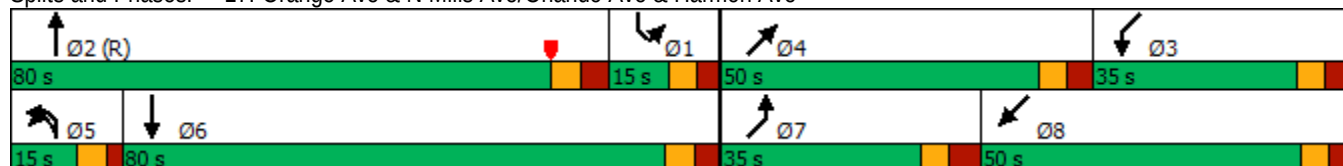
Queue shown is maximum after two cycles.

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.

Splits and Phases: 17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave





Lane Group	SWT	SWR	SWR2
Act Effect Green (s)	54.5		
Actuated g/C Ratio	0.30		
v/c Ratio	0.57		
Control Delay	55.6		
Queue Delay	0.0		
Total Delay	55.6		
LOS	E		
Approach Delay	73.0		
Approach LOS	E		
Queue Length 50th (ft)	321		
Queue Length 95th (ft)	400		
Internal Link Dist (ft)	848		
Turn Bay Length (ft)			
Base Capacity (vph)	1128		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.57		
Intersection Summary			

MOVEMENT SUMMARY

 Site: 18 [Orange at Minnesota / Denning_ImprovedAM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: NB Denning														
3b	L3	2	3.0	2	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.4
3	L2	2	3.0	2	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.5
8	T1	26	3.0	28	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.6
18a	R1	15	3.0	16	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.9
18	R2	1	3.0	1	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.1
Approach		46	3.0	50	3.0	0.088	7.5	LOS A	0.3	8.4	0.63	0.63	0.63	33.7
East: WB Minnesota														
1	L2	1	3.0	1	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	31.0
1a	L1	65	3.0	71	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	28.5
6	T1	171	3.0	186	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	30.0
16	R2	58	3.0	63	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	29.0
16b	R3	8	3.0	9	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	29.6
Approach		303	3.0	329	3.0	0.514	14.0	LOS B	3.3	83.7	0.76	0.89	1.15	29.5
NorthEast: Orange Ave														
1bx	L3	6	3.0	7	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	21.4
1ax	L1	8	3.0	9	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	21.0
6x	T1	729	3.0	792	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	18.3
16ax	R1	76	3.0	83	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	19.7
16bx	R3	1	3.0	1	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	19.2
Approach		820	3.0	891	3.0	0.992	49.4	LOS D	40.3	1031.4	1.00	2.14	3.81	18.5
North: SB Denning														
7b	L3	3	3.0	3	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	27.9
7	L2	45	3.0	49	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	27.5
4	T1	28	3.0	30	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	27.4
14a	R1	90	3.0	98	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	24.1
14	R2	15	3.0	16	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	25.3
Approach		181	3.0	197	3.0	0.493	20.0	LOS B	2.4	61.4	0.82	0.94	1.26	25.8
West: EB Minnesota														
5	L2	12	3.0	13	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	26.6
5a	L1	90	3.0	98	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	27.7
2	T1	77	3.0	84	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	27.9
12	R2	12	3.0	13	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	27.0
12b	R3	3	3.0	3	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	23.7
Approach		194	3.0	211	3.0	0.475	17.6	LOS B	2.4	60.5	0.79	0.91	1.19	27.6
SouthWest: Orange Ave														
5bx	L3	1	3.0	1	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	29.8
5ax	L1	13	3.0	13	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	28.7
2x	T1	516	3.0	532	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	30.6
12ax	R1	34	3.0	35	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	30.2
12bx	R3	1	3.0	1	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	29.0
Approach		565	3.0	582	3.0	0.589	11.7	LOS B	5.8	148.8	0.68	0.71	0.94	30.5
All Vehicles		2109	3.0	2261	3.0	0.992	28.1	LOS C	40.3	1031.4	0.84	1.34	2.15	23.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: K:\ORL_TPTO\049106004_Orlando Ave Analysis\11_Synchro\02_Improved\Roundabout @ Orange & Minnesota & Denning.sip9

Lanes, Volumes, Timings

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

	→	↘	↗	↖	←	↗	↘	↖	↑	↗	↘	↓
Lane Group	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑↑			↖↗	↑↑				↑↓			↑↓
Traffic Volume (vph)	506	22	8	711	881	25	5	19	62	10	13	40
Future Volume (vph)	506	22	8	711	881	25	5	19	62	10	13	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		150		150		0		0	0	
Storage Lanes		0		1		1		0		0	0	
Taper Length (ft)				100				25			25	
Lane Util. Factor	0.95	0.95	0.95	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00							1.00
Frt	0.992				0.996				0.986			0.919
Flt Protected				*0.975					0.987			0.995
Satd. Flow (prot)	3471	0	0	3489	3489	0	0	0	1795	0	0	1687
Flt Permitted				0.975					0.810			0.958
Satd. Flow (perm)	3471	0	0	3489	3489	0	0	0	1473	0	0	1624
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)	1				5				3			4
Link Speed (mph)	35				35				30			30
Link Distance (ft)	688				434				1141			859
Travel Time (s)	13.4				8.5				25.9			19.5
Confl. Peds. (#/hr)		1	1								1	
Confl. Bikes (#/hr)		3	1			1						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	574	25	9	806	999	28	6	22	70	11	15	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	608	0	0	806	1027	0	0	0	109	0	0	149
Turn Type	NA			Prot	NA		Perm	Perm	NA		Perm	NA
Protected Phases	2			1	6				4			8
Permitted Phases							4	4			8	
Detector Phase	2			1	6		4	4	4		8	8
Switch Phase												
Minimum Initial (s)	8.0			8.0	8.0		8.0	8.0	8.0		8.0	8.0
Minimum Split (s)	32.7			26.5	25.5		16.5	16.5	16.5		26.6	26.6
Total Split (s)	56.0			69.0	125.0		35.0	35.0	35.0		35.0	35.0
Total Split (%)	35.0%			43.1%	78.1%		21.9%	21.9%	21.9%		21.9%	21.9%
Maximum Green (s)	48.3			60.5	119.0		26.5	26.5	26.5		26.4	26.4
Yellow Time (s)	4.1			4.0	4.0		3.7	3.7	3.7		3.7	3.7
All-Red Time (s)	3.6			4.5	2.0		4.8	4.8	4.8		4.9	4.9
Lost Time Adjust (s)	0.0			0.0	0.0				0.0			0.0
Total Lost Time (s)	7.7			8.5	6.0				8.5			8.6
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0			3.0	3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	Max			Max	Max		Max	Max	Max		Max	Max
Walk Time (s)	7.0			7.0	7.0						7.0	7.0
Flash Dont Walk (s)	18.0			10.0	10.0						10.0	10.0
Pedestrian Calls (#/hr)	0			0	0						0	0
Act Effect Green (s)	48.3			60.5	119.0				26.5			26.4

Kimley-Horn
May 2021

Synchro 10 Report



Lane Group	SBR	SBR2	NER	NER2
Lane Configurations			FF	
Traffic Volume (vph)	63	16	475	2
Future Volume (vph)	63	16	475	2
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)	0		0	
Storage Lanes	0		2	
Taper Length (ft)				
Lane Util. Factor	1.00	1.00	0.88	1.00
Ped Bike Factor			0.98	
Frt			0.850	
Flt Protected				
Satd. Flow (prot)	0	0	2760	0
Flt Permitted				
Satd. Flow (perm)	0	0	2692	0
Right Turn on Red		Yes		Yes
Satd. Flow (RTOR)			91	
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				1
Confl. Bikes (#/hr)				
Peak Hour Factor	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%
Adj. Flow (vph)	71	18	539	2
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	0	541	0
Turn Type			Perm	
Protected Phases				
Permitted Phases			1	
Detector Phase			1	
Switch Phase				
Minimum Initial (s)			8.0	
Minimum Split (s)			26.5	
Total Split (s)			69.0	
Total Split (%)			43.1%	
Maximum Green (s)			60.5	
Yellow Time (s)			4.0	
All-Red Time (s)			4.5	
Lost Time Adjust (s)			0.0	
Total Lost Time (s)			8.5	
Lead/Lag			Lag	
Lead-Lag Optimize?			Yes	
Vehicle Extension (s)			3.0	
Recall Mode			Max	
Walk Time (s)			7.0	
Flash Dont Walk (s)			10.0	
Pedestrian Calls (#/hr)			0	
Act Effect Green (s)			60.5	

Lanes, Volumes, Timings

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions, AM Peak Hour

	→	↘	↗	↖	←	↗	↖	↖	↑	↗	↘	↓
Lane Group	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.30			0.38	0.74				0.17			0.16
v/c Ratio	0.58			0.61	0.40				0.44			0.55
Control Delay	49.8			42.7	7.9				64.8			68.2
Queue Delay	0.0			0.0	0.0				0.0			0.0
Total Delay	49.8			42.7	7.9				64.8			68.2
LOS	D			D	A				E			E
Approach Delay	49.8				23.2				64.8			68.2
Approach LOS	D				C				E			E
Queue Length 50th (ft)	284			350	185				101			141
Queue Length 95th (ft)	350			421	218				168			221
Internal Link Dist (ft)	608				354				1061			779
Turn Bay Length (ft)				150								
Base Capacity (vph)	1048			1319	2596				246			271
Starvation Cap Reductn	0			0	0				0			0
Spillback Cap Reductn	0			0	0				0			0
Storage Cap Reductn	0			0	0				0			0
Reduced v/c Ratio	0.58			0.61	0.40				0.44			0.55

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 33.3

Intersection LOS: C

Intersection Capacity Utilization 91.6%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

→ Ø2	↖ Ø1	↑ Ø4
56 s	69 s	35 s
← Ø6		↓ Ø8
125 s		35 s



Lane Group	SBR	SBR2	NER	NER2
Actuated g/C Ratio			0.38	
v/c Ratio			0.50	
Control Delay			33.2	
Queue Delay			0.0	
Total Delay			33.2	
LOS			C	
Approach Delay				
Approach LOS				
Queue Length 50th (ft)			205	
Queue Length 95th (ft)			269	
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)			1074	
Starvation Cap Reductn			0	
Spillback Cap Reductn			0	
Storage Cap Reductn			0	
Reduced v/c Ratio			0.50	
Intersection Summary				

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

							
Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Lane Configurations							
Traffic Volume (vph)	14	10	507	13	22	814	
Future Volume (vph)	14	10	507	13	22	814	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0	0		0	150		
Storage Lanes	1	0		0	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	*1.00	
Ped Bike Factor	0.98		1.00		1.00		
Frt	0.944		0.997				
Flt Protected	0.972				0.950		
Satd. Flow (prot)	1681	0	1856	0	1770	1863	
Flt Permitted	0.972				0.418		
Satd. Flow (perm)	1681	0	1856	0	778	1863	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	12		3				
Link Speed (mph)	25		30			30	
Link Distance (ft)	398		928			944	
Travel Time (s)	10.9		21.1			21.5	
Confl. Peds. (#/hr)		5		1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Growth Factor	110%	110%	110%	110%	110%	110%	
Adj. Flow (vph)	17	12	600	15	26	963	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	29	0	615	0	26	963	
Turn Type	Prot		NA		Perm	NA	
Protected Phases	4		6			2	8
Permitted Phases					2		
Detector Phase	4		6		2	2	
Switch Phase							
Minimum Initial (s)	5.0		45.0		45.0	45.0	5.0
Minimum Split (s)	10.8		50.9		50.7	50.7	22.5
Total Split (s)	23.0		112.0		112.0	112.0	23.0
Total Split (%)	17.0%		83.0%		83.0%	83.0%	17%
Maximum Green (s)	17.2		106.1		106.3	106.3	19.6
Yellow Time (s)	3.4		3.7		3.7	3.7	3.4
All-Red Time (s)	2.4		2.2		2.0	2.0	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.8		5.9		5.7	5.7	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0
Recall Mode	None		None		None	None	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			10.0				10.0
Pedestrian Calls (#/hr)			0				0
Act Effct Green (s)	6.4		51.0		51.1	51.1	
Actuated g/C Ratio	0.11		0.89		0.89	0.89	
v/c Ratio	0.15		0.37		0.04	0.58	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Improved Conditions, AM Peak Hour

							
Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Control Delay	21.7		3.0		2.4	5.0	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	21.7		3.0		2.4	5.0	
LOS	C		A		A	A	
Approach Delay	21.7		3.0			5.0	
Approach LOS	C		A			A	
Queue Length 50th (ft)	5		0		0	0	
Queue Length 95th (ft)	30		138		8	313	
Internal Link Dist (ft)	318		848			864	
Turn Bay Length (ft)					150		
Base Capacity (vph)	521		1856		778	1863	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.06		0.33		0.03	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 57.5

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 4.5

Intersection LOS: A

Intersection Capacity Utilization 60.9%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 20: Orange Ave & Cypress Ave

 Ø2	 Ø4
112 s	23 s
 Ø6	 Ø8
112 s	23 s

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	73	1361	9	1152	16	12	84
Future Vol, veh/h	73	1361	9	1152	16	12	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	150	-	80	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	1	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	84	1559	10	1320	18	14	96
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	1338	0	1559	-	0	2297	669
Stage 1	-	-	-	-	-	1349	-
Stage 2	-	-	-	-	-	948	-
Critical Hdwy	4.16	-	6.46	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	2.53	-	-	3.53	3.33
Pot Cap-1 Maneuver	506	-	143	-	-	32	398
Stage 1	-	-	-	-	-	205	-
Stage 2	-	-	-	-	-	335	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	506	-	143	-	-	25	398
Mov Cap-2 Maneuver	-	-	-	-	-	110	-
Stage 1	-	-	-	-	-	171	-
Stage 2	-	-	-	-	-	312	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.7	0.2		23.8			
HCM LOS	C						
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	
Capacity (veh/h)	506	-	143	-	-	300	
HCM Lane V/C Ratio	0.165	-	0.072	-	-	0.367	
HCM Control Delay (s)	13.5	-	32.1	-	-	23.8	
HCM Lane LOS	B	-	D	-	-	C	
HCM 95th %tile Q(veh)	0.6	-	0.2	-	-	1.6	

Arterial Level of Service: EB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Denning Dr	III	30	31.5	27.1	58.6	0.25	15.2	D
Total	III		31.5	27.1	58.6	0.25	15.2	D

Arterial Level of Service: WB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Denning Dr	III	30	18.0	21.2	39.2	0.13	12.3	E
Orlando Ave	III	30	31.5	52.9	84.4	0.25	10.6	E
Total	III		49.5	74.1	123.6	0.38	11.1	E

Lanes, Volumes, Timings
6: Orlando Ave & Lee Rd

Orlando Ave Analysis
Improved Conditions (Lee Road Alternative - EBL), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Future Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		275	230		0	450		100	240		0
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00					0.98
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	4990	1863	1583	1770	3523	0	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	4965	1863	1559	1766	3523	0	3429	3539	1583	1770	3539	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			276		1				107			377
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		646			534			749			2645	
Travel Time (s)		12.6			10.4			14.6			51.5	
Confl. Peds. (#/hr)	3		2	2		3	2					2
Confl. Bikes (#/hr)						3						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	475	332	299	15	294	9	448	631	9	30	1331	691
Shared Lane Traffic (%)												
Lane Group Flow (vph)	475	332	299	15	303	0	448	631	9	30	1331	691
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Detector Phase	3	8	8	7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.9	47.5	47.5	11.7	46.3		12.4	36.6	36.6	11.8	41.5	41.5
Total Split (s)	43.0	48.0	48.0	20.0	25.0		29.0	92.0	92.0	20.0	83.0	83.0
Total Split (%)	23.9%	26.7%	26.7%	11.1%	13.9%		16.1%	51.1%	51.1%	11.1%	46.1%	46.1%
Maximum Green (s)	36.1	40.9	40.9	13.3	18.1		22.0	85.4	85.4	13.2	76.5	76.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1	4.1	4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5	2.5	2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6	6.6	6.8	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0	19.0		20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	28.2	43.5	43.5	8.1	17.9		28.5	99.9	99.9	9.4	78.1	78.1
Actuated g/C Ratio	0.16	0.24	0.24	0.04	0.10		0.16	0.56	0.56	0.05	0.43	0.43

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - EBL), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.74	0.51	0.19	0.86		0.83	0.32	0.01	0.33	0.87	0.78
Control Delay	73.4	74.1	10.9	75.6	89.8		98.2	16.3	0.0	89.5	52.9	25.0
Queue Delay	0.0	0.0	1.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	74.1	12.1	75.6	89.8		98.2	16.3	0.0	89.5	52.9	25.0
LOS	E	E	B	E	F		F	B	A	F	D	C
Approach Delay		57.0			89.1			49.9			44.1	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	186	377	22	14	189		256	110	0	35	760	354
Queue Length 95th (ft)	219	488	113	m31	#270		#430	224	m0	m67	864	549
Internal Link Dist (ft)		566			454			669			2565	
Turn Bay Length (ft)	390		275	230			450		100	240		
Base Capacity (vph)	1000	452	587	130	355		543	1963	925	129	1534	888
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	123	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.73	0.64	0.12	0.85		0.83	0.32	0.01	0.23	0.87	0.78

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 60 (33%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 51.7

Intersection LOS: D

Intersection Capacity Utilization 93.3%

ICU Level of Service F

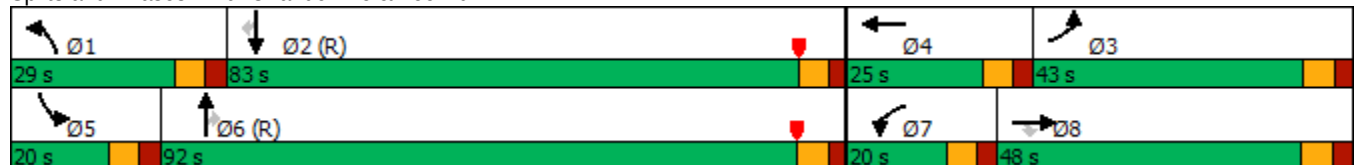
Analysis Period (min) 15

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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - NBR), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Future Volume (vph)	423	296	266	13	262	8	399	562	8	27	1186	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		390	230		0	450		100	240		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00					0.98
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	3523	0	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3416	1863	1559	1766	3523	0	3429	3539	1583	1770	3539	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			276		1				107			377
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		646			534			749			2645	
Travel Time (s)		12.6			10.4			14.6			51.5	
Confl. Peds. (#/hr)	3		2	2		3	2					2
Confl. Bikes (#/hr)						3						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	475	332	299	15	294	9	448	631	9	30	1331	691
Shared Lane Traffic (%)												
Lane Group Flow (vph)	475	332	299	15	303	0	448	631	9	30	1331	691
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Detector Phase	3	8	8	7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.9	47.5	47.5	11.7	46.3		12.4	36.6	36.6	11.8	41.5	41.5
Total Split (s)	43.0	48.0	48.0	20.0	25.0		29.0	92.0	92.0	20.0	83.0	83.0
Total Split (%)	23.9%	26.7%	26.7%	11.1%	13.9%		16.1%	51.1%	51.1%	11.1%	46.1%	46.1%
Maximum Green (s)	36.1	40.9	40.9	13.3	18.1		22.0	85.4	85.4	13.2	76.5	76.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1	4.1	4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5	2.5	2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6	6.6	6.8	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0	19.0		20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	31.0	46.2	46.2	8.1	17.9		27.3	97.1	97.1	9.4	76.5	76.5
Actuated g/C Ratio	0.17	0.26	0.26	0.04	0.10		0.15	0.54	0.54	0.05	0.42	0.42

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - NBR), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	0.69	0.49	0.19	0.86		0.86	0.33	0.01	0.33	0.88	0.79
Control Delay	82.4	69.9	10.6	108.5	92.0		90.7	11.7	0.0	89.5	55.1	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	69.9	10.6	108.5	92.0		90.7	11.7	0.0	89.5	55.1	25.6
LOS	F	E	B	F	F		F	B	A	F	E	C
Approach Delay	59.2			92.8			44.1			45.7		
Approach LOS	E			F			D			D		
Queue Length 50th (ft)	282	373	22	18	156		250	170	0	35	760	354
Queue Length 95th (ft)	338	488	113	m40	#252		#411	220	m0	m67	864	549
Internal Link Dist (ft)	566			454			669			2565		
Turn Bay Length (ft)	390		390	230			450		100	240		
Base Capacity (vph)	688	478	605	130	355		520	1909	903	129	1504	878
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.69	0.49	0.12	0.85		0.86	0.33	0.01	0.23	0.88	0.79

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 48 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 51.9

Intersection LOS: D

Intersection Capacity Utilization 94.9%

ICU Level of Service F

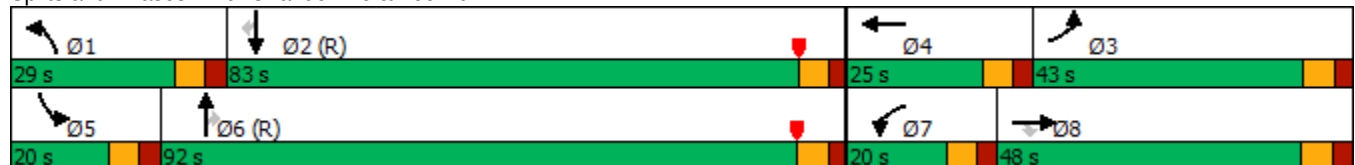
Analysis Period (min) 15

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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings

16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions (Denning Drive Alternative), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Future Volume (vph)	75	712	32	41	701	86	22	137	8	24	270	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	190		100	170		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3480	0	1752	3449	0	1752	1845	1568	1752	1845	1568
Flt Permitted	0.244			0.332			0.188			0.492		
Satd. Flow (perm)	450	3480	0	612	3449	0	347	1845	1568	908	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			13				93			93
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1312			657			1308			713	
Travel Time (s)		25.6			12.8			35.7			19.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	86	816	37	47	803	99	25	157	9	28	309	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	853	0	47	902	0	25	157	9	28	309	50
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		15.0	15.0		4.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	10.0	23.7		24.1	24.1		10.2	24.2	24.2	9.9	24.9	24.9
Total Split (s)	15.0	130.0		115.0	115.0		15.0	35.0	35.0	15.0	35.0	35.0
Total Split (%)	8.3%	72.2%		63.9%	63.9%		8.3%	19.4%	19.4%	8.3%	19.4%	19.4%
Maximum Green (s)	9.0	123.9		108.9	108.9		8.8	28.8	28.8	9.1	29.1	29.1
Yellow Time (s)	4.0	4.1		4.1	4.1		3.4	3.4	3.4	3.4	3.4	3.4
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8	2.8	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.1		6.1	6.1		6.2	6.2	6.2	5.9	5.9	5.9
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	Max	Max	None	None	None
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		10.0		10.0	10.0			10.0	10.0		12.0	12.0
Pedestrian Calls (#/hr)		0		0	0			0	0		0	0
Act Effect Green (s)	124.0	123.9		109.8	109.8		38.9	32.7	32.7	40.5	35.5	35.5
Actuated g/C Ratio	0.69	0.69		0.61	0.61		0.22	0.18	0.18	0.22	0.20	0.20
v/c Ratio	0.23	0.36		0.13	0.43		0.19	0.47	0.03	0.12	0.85	0.13
Control Delay	3.8	3.0		16.2	19.0		56.0	72.7	0.1	53.6	90.0	0.7

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions (Denning Drive Alternative), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	3.0		16.2	19.0		56.0	72.7	0.1	53.6	90.0	0.7
LOS	A	A		B	B		E	E	A	D	F	A
Approach Delay		3.1			18.9			67.1			75.8	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	8	45		23	283		23	171	0	26	370	0
Queue Length 95th (ft)	m14	58		46	335		52	257	0	56	#599	0
Internal Link Dist (ft)		1232			577			1228			633	
Turn Bay Length (ft)	150			200			190		100	170		100
Base Capacity (vph)	375	2397		373	2109		145	334	360	249	363	383
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.36		0.13	0.43		0.17	0.47	0.03	0.11	0.85	0.13

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 115 (64%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 25.5

Intersection LOS: C

Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Arterial Level of Service: EB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Denning Dr	III	30	31.5	39.6	71.1	0.25	12.5	E
Total	III		31.5	39.6	71.1	0.25	12.5	E

Arterial Level of Service: WB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Denning Dr	III	30	17.8	26.9	44.7	0.13	10.7	E
Orlando Ave	III	30	31.5	52.9	84.4	0.25	10.6	E
Total	III		49.3	79.8	129.1	0.38	10.6	E

Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions (Morse Blvd Alternative), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Future Volume (vph)	24	15	11	90	34	59	31	955	245	168	1230	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00	0.99			0.99			1.00	
Frt		0.938			0.905			0.969			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1735	0	1770	1662	0	1770	3397	0	1770	3535	0
Flt Permitted	0.560			0.738			0.167			0.160		
Satd. Flow (perm)	1036	1735	0	1369	1662	0	311	3397	0	298	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			41			38			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		267			1308			1665			1539	
Travel Time (s)		6.1			29.7			32.4			30.0	
Confl. Peds. (#/hr)	4		2	2		4	3		7	7		3
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	27	17	12	101	38	66	35	1072	275	189	1381	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	29	0	101	104	0	35	1347	0	189	1392	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	34.4	34.4		34.4	34.4		10.0	35.0		10.1	27.1	
Total Split (s)	34.0	34.0		34.0	34.0		20.0	126.0		20.0	126.0	
Total Split (%)	18.9%	18.9%		18.9%	18.9%		11.1%	70.0%		11.1%	70.0%	
Maximum Green (s)	27.6	27.6		27.6	27.6		14.0	120.0		13.9	119.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	18.6	18.6		18.6	18.6		139.4	133.3		147.2	139.1	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.77	0.74		0.82	0.77	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions (Morse Blvd Alternative), AM Peak Hour

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.7
Total Split (s)	27.7
Total Split (%)	15%
Maximum Green (s)	24.0
Yellow Time (s)	3.7
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	17.0
Pedestrian Calls (#/hr)	0
Act Effect Green (s)	
Actuated g/C Ratio	

Lanes, Volumes, Timings 3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions (Morse Blvd Alternative), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.25	0.15		0.72	0.50		0.12	0.53		0.59	0.51	
Control Delay	77.7	48.8		104.1	52.9		2.6	8.1		20.3	2.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.7	48.8		104.1	52.9		2.6	8.1		20.3	2.7	
LOS	E	D		F	D		A	A		C	A	
Approach Delay		62.7			78.1			8.0			4.8	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	30	19		118	71		2	336		29	25	
Queue Length 95th (ft)	64	53		184	135		m3	734		129	113	
Internal Link Dist (ft)		187			1228			1585			1459	
Turn Bay Length (ft)	125			200			200			200		
Base Capacity (vph)	158	276		209	289		367	2524		360	2731	
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	0.17	0.11		0.48	0.36		0.10	0.53		0.53	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 11.8

Intersection LOS: B

Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
20 s	126 s	34 s
 Ø5	 Ø6 (R)	 Ø8
20 s	126 s	27.7 s

Lane Group	Ø8
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings

Orlando Ave Analysis

13: S Denning Dr/N Denning Dr & Morse Blvd

Improved Conditions (Morse Blvd Alternative), AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Future Volume (vph)	19	277	47	18	130	35	46	177	30	57	228	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	170		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.968			0.978			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1787	0	1736	1768	0	1736	1787	0	1736	1787	0
Flt Permitted	0.597			0.245			0.547			0.572		
Satd. Flow (perm)	1091	1787	0	448	1768	0	999	1787	0	1045	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			17			13			13	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			702			993			972	
Travel Time (s)		29.7			16.0			27.1			26.5	
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	23	331	56	22	155	42	55	212	36	68	273	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	387	0	22	197	0	55	248	0	68	320	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	27.0	27.0		27.0	27.0		15.0	38.0		15.0	38.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		18.8%	47.5%		18.8%	47.5%	
Maximum Green (s)	21.1	21.1		20.9	20.9		8.4	31.4		8.5	31.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		6.1	6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	18.9	18.9		18.7	18.7		38.1	32.0		39.5	34.9	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.51	0.43		0.53	0.47	
v/c Ratio	0.08	0.84		0.20	0.43		0.09	0.32		0.11	0.38	
Control Delay	23.1	44.7		28.1	25.6		8.0	16.8		8.0	16.4	

Lanes, Volumes, Timings

Orlando Ave Analysis

13: S Denning Dr/N Denning Dr & Morse Blvd

Improved Conditions (Morse Blvd Alternative), AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.1	44.7		28.1	25.6		8.0	16.8		8.0	16.4	
LOS	C	D		C	C		A	B		A	B	
Approach Delay		43.5			25.8			15.2			14.9	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	9	175		9	74		11	79		14	109	
Queue Length 95th (ft)	27	#319		29	134		25	137		30	178	
Internal Link Dist (ft)		1228			622			913			892	
Turn Bay Length (ft)	200			200			170			180		
Base Capacity (vph)	314	521		127	516		597	773		635	843	
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	0.07	0.74		0.17	0.38		0.09	0.32		0.11	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 74.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 25.7

Intersection LOS: C

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

 Ø1	 Ø2	 Ø4
15 s	38 s	27 s
 Ø5	 Ø6	 Ø8
15 s	38 s	27 s

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	261	67	47	121	77	51	1086	35	133	1264	82
Future Volume (vph)	211	261	67	47	121	77	51	1086	35	133	1264	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99			1.00			1.00	
Frt		0.969			0.942			0.995			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1828	0	1805	1776	0	1805	3589	0	1805	3571	0
Flt Permitted	0.188			0.510			0.087			0.128		
Satd. Flow (perm)	356	1828	0	956	1776	0	165	3589	0	243	3571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			14			2			5	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		2643			1345			1335			1329	
Travel Time (s)		60.1			30.6			26.0			25.9	
Confl. Peds. (#/hr)	3		9	9		3	1		1	1		1
Confl. Bikes (#/hr)			1			1			2			3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	237	293	75	53	136	86	57	1219	39	149	1419	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	368	0	53	222	0	57	1258	0	149	1511	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	11.6	35.6		35.7	35.7		11.1	25.1		13.0	25.1	
Total Split (s)	29.0	69.0		40.0	40.0		20.0	107.0		24.0	111.0	
Total Split (%)	14.5%	34.5%		20.0%	20.0%		10.0%	53.5%		12.0%	55.5%	
Maximum Green (s)	22.4	62.4		33.3	33.3		13.9	100.9		17.9	104.9	
Yellow Time (s)	3.9	3.9		4.0	4.0		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.7	6.7		6.1	6.1		6.1	6.1	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		18.0		18.0	18.0			10.0			10.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	56.6	56.6		27.9	27.9		120.3	112.5		128.7	116.8	

Lanes, Volumes, Timings
1: Minnesota Ave & Orlando Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.28	0.28		0.14	0.14		0.60	0.56		0.64	0.58	
v/c Ratio	0.91	0.70		0.40	0.86		0.35	0.62		0.59	0.72	
Control Delay	95.9	70.4		86.1	107.1		16.9	17.0		36.2	10.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	95.9	70.4		86.1	107.1		16.9	17.0		36.2	10.4	
LOS	F	E		F	F		B	B		D	B	
Approach Delay		80.4			103.0			17.0			12.7	
Approach LOS		F			F			B			B	
Queue Length 50th (ft)	258	427		64	272		10	346		43	134	
Queue Length 95th (ft)	#373	540		116	372		m27	508		m82	150	
Internal Link Dist (ft)		2563			1265			1255			1249	
Turn Bay Length (ft)	150			250			200			200		
Base Capacity (vph)	262	575		159	307		218	2018		298	2087	
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	0.90	0.64		0.33	0.72		0.26	0.62		0.50	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 64 (32%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 31.2

Intersection LOS: C

Intersection Capacity Utilization 92.7%

ICU Level of Service F

Analysis Period (min) 15

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.

Splits and Phases: 1: Minnesota Ave & Orlando Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	111 s	29 s	40 s
 Ø5	 Ø6 (R)	 Ø7	
24 s	107 s	69 s	

Lanes, Volumes, Timings

2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	622	86	114	729	103	108	1146	47	130	1035	205
Future Volume (vph)	231	622	86	114	729	103	108	1146	47	130	1035	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	670		0	300		0	200		0	200		150
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00		0.97
Fr _t		0.982			0.981			0.994				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3501	0	1787	3499	0	1787	3549	0	1787	3574	1599
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3461	3501	0	1782	3499	0	1782	3549	0	1782	3574	1554
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			2				155
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1318			1337			1329				1662
Travel Time (s)		25.7			26.0			25.9				32.4
Confl. Peds. (#/hr)	2		4	4		2	7		8	8		7
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	265	713	99	131	835	118	124	1313	54	149	1186	235
Shared Lane Traffic (%)												
Lane Group Flow (vph)	265	812	0	131	953	0	124	1367	0	149	1186	235
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.3	42.1		11.2	39.6		11.3	37.3		11.2	37.2	37.2
Total Split (s)	25.0	70.0		25.0	70.0		32.0	81.0		24.0	73.0	73.0
Total Split (%)	12.5%	35.0%		12.5%	35.0%		16.0%	40.5%		12.0%	36.5%	36.5%
Maximum Green (s)	18.7	63.7		18.8	63.5		25.7	74.7		17.8	66.8	66.8
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.2	2.2		2.1	2.4		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.2	6.5		6.3	6.3		6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		22.0			22.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	18.6	60.9		17.6	59.7		19.1	77.7		18.8	77.3	77.3

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

2: Orlando Ave & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.30		0.09	0.30		0.10	0.39		0.09	0.39	0.39
v/c Ratio	0.82	0.76		0.83	0.91		0.73	0.99		0.89	0.86	0.34
Control Delay	86.5	49.0		148.2	55.2		97.4	81.9		139.4	46.3	12.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	86.5	49.0		148.2	55.2		97.4	81.9		139.4	46.3	12.8
LOS	F	D		F	E		F	F		F	D	B
Approach Delay		58.2			66.4			83.2			50.1	
Approach LOS		E			E			F			D	
Queue Length 50th (ft)	161	275		149	255		167	~988		206	772	50
Queue Length 95th (ft)	#246	425		m#279	274		m236	#1131		#362	#969	96
Internal Link Dist (ft)		1238			1257			1249			1582	
Turn Bay Length (ft)	670			300			200			200		150
Base Capacity (vph)	332	1120		167	1116		229	1379		168	1381	695
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	0.80	0.72		0.78	0.85		0.54	0.99		0.89	0.86	0.34

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 6 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 64.6

Intersection LOS: E

Intersection Capacity Utilization 98.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

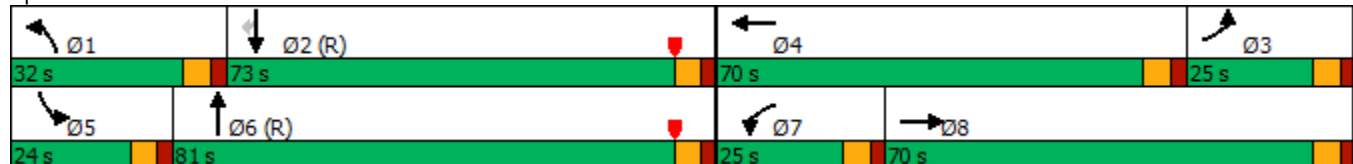
Queue shown is maximum after two cycles.

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.

Splits and Phases: 2: Orlando Ave & W Fairbanks Ave



Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Future Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	0		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		0.99	0.97			1.00			1.00	
Frt		0.896			0.883			0.990			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1663	0	1787	1617	0	1787	3533	0	1787	3570	0
Flt Permitted	0.351			0.648			0.139			0.087		
Satd. Flow (perm)	653	1663	0	1211	1617	0	261	3533	0	164	3570	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			83			6			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		262			1308			1662			1539	
Travel Time (s)		6.0			29.7			32.4			30.0	
Confl. Peds. (#/hr)	9		3	3		9	1		4	4		1
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	63	29	65	196	49	171	83	1502	105	126	1406	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	94	0	196	220	0	83	1607	0	126	1416	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	34.4	34.4		34.4	34.4		10.0	35.0		10.1	27.1	
Total Split (s)	55.0	55.0		55.0	55.0		26.0	119.0		26.0	119.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		13.0%	59.5%		13.0%	59.5%	
Maximum Green (s)	48.6	48.6		48.6	48.6		20.0	113.0		19.9	112.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	37.4	37.4		37.4	37.4		139.5	131.4		148.1	136.1	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.70	0.66		0.74	0.68	
v/c Ratio	0.52	0.27		0.87	0.60		0.34	0.69		0.56	0.58	
Control Delay	86.4	31.3		111.5	51.0		4.3	5.5		24.6	21.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	86.4	31.3		111.5	51.0		4.3	5.5		24.6	21.8	
LOS	F	C		F	D		A	A		C	C	
Approach Delay		53.4			79.5			5.4			22.0	
Approach LOS		D			E			A			C	
Queue Length 50th (ft)	76	46		254	168		6	146		35	680	
Queue Length 95th (ft)	128	101		343	253		m10	m269		m135	681	
Internal Link Dist (ft)		182			1228			1582			1459	
Turn Bay Length (ft)	125						200			200		
Base Capacity (vph)	158	444		294	455		347	2323		284	2429	
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	0.21		0.67	0.48		0.24	0.69		0.44	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 44 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
26 s	119 s	55 s
 Ø5	 Ø6 (R)	
26 s	119 s	

Lanes, Volumes, Timings
4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	32	106	97	21	114	83	1263	111	134	1153	23
Future Volume (vph)	34	32	106	97	21	114	83	1263	111	134	1153	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	200		270	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98		0.99	0.99				0.94		1.00	
Frt		0.885			0.874				0.850		0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1651	0	1805	1641	0	1805	3610	1615	1805	3597	0
Flt Permitted	0.950			0.950			0.153			0.114		
Satd. Flow (perm)	1802	1651	0	1790	1641	0	291	3610	1516	217	3597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			116				109			2
Link Speed (mph)		25			15			35				35
Link Distance (ft)		538			813			1539				751
Travel Time (s)		14.7			37.0			30.0				14.6
Confl. Peds. (#/hr)	1		5	5		1	2		7	7		2
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	39	36	120	110	24	129	94	1432	126	152	1308	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	156	0	110	153	0	94	1432	126	152	1334	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	8.0		4.0	8.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	10.4	35.7		12.3	36.5		10.0	23.0	23.0	10.2	23.2	
Total Split (s)	24.0	41.0		24.0	41.0		20.0	115.0	115.0	20.0	115.0	
Total Split (%)	12.0%	20.5%		12.0%	20.5%		10.0%	57.5%	57.5%	10.0%	57.5%	
Maximum Green (s)	17.6	34.3		15.7	32.5		14.0	109.0	109.0	13.8	108.8	
Yellow Time (s)	3.5	3.5		3.4	3.4		4.0	4.0	4.0	4.1	4.1	
All-Red Time (s)	2.9	3.2		4.9	5.1		2.0	2.0	2.0	2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.7		8.3	8.5		6.0	6.0	6.0	6.2	6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		22.0			21.0			10.0	10.0		10.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	9.7	16.1		15.0	23.9		137.2	128.7	128.7	145.7	133.3	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
4: Orlando Ave & Gay Rd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.05	0.08		0.08	0.12		0.69	0.64	0.64	0.73	0.67	
v/c Ratio	0.45	0.78		0.82	0.51		0.36	0.62	0.12	0.58	0.56	
Control Delay	107.5	73.4		130.0	28.9		5.0	9.4	2.1	33.4	19.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.2	
Total Delay	107.5	73.4		130.0	28.9		5.0	9.4	2.1	33.4	19.6	
LOS	F	E		F	C		A	A	A	C	B	
Approach Delay		80.2			71.1			8.6			21.0	
Approach LOS		F			E			A			C	
Queue Length 50th (ft)	51	111		145	45		11	228	15	93	323	
Queue Length 95th (ft)	98	196		#256	127		m15	581	m28	m187	499	
Internal Link Dist (ft)		458			733			1459			671	
Turn Bay Length (ft)	150						200		270	300		
Base Capacity (vph)	158	342		141	363		313	2323	1014	281	2397	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	326	
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	0.25	0.46		0.78	0.42		0.30	0.62	0.12	0.54	0.64	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 102 (51%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

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.

Splits and Phases: 4: Orlando Ave & Gay Rd

							
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)
20 s	115 s		24 s	41 s		20 s	115 s
							
Ø5	Ø6 (R)		Ø7	Ø8			
20 s	115 s		24 s	41 s			

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	103	83	56	104	115	142	1206	64	0	1198	72
Future Volume (vph)	150	103	83	56	104	115	142	1206	64	0	1198	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	240		0	0		0
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00		0.98		1.00			1.00	
Frt		0.933				0.850		0.992			0.992	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1741	0	1787	1881	1599	1787	3542	0	0	3540	0
Flt Permitted	0.378			0.338			0.092					
Satd. Flow (perm)	710	1741	0	635	1881	1567	173	3542	0	0	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				87		6			4	
Link Speed (mph)		15			30			35			35	
Link Distance (ft)		341			717			751			749	
Travel Time (s)		15.5			16.3			14.6			14.6	
Confl. Peds. (#/hr)	1		1	1		1	1		3	3		1
Confl. Bikes (#/hr)			3			4						6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	174	119	96	65	120	133	164	1396	74	0	1387	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	215	0	65	120	133	164	1470	0	0	1470	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA			NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		3	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0			15.0	
Minimum Split (s)	12.2	36.7		11.4	37.8	37.8	13.0	29.5			27.0	
Total Split (s)	25.0	38.0		25.0	38.0	38.0	30.0	137.0			107.0	
Total Split (%)	12.5%	19.0%		12.5%	19.0%	19.0%	15.0%	68.5%			53.5%	
Maximum Green (s)	18.6	31.6		18.6	31.5	31.5	24.2	131.2			101.3	
Yellow Time (s)	3.4	3.4		3.8	3.8	3.8	3.7	3.7			3.7	
All-Red Time (s)	3.0	3.0		2.6	2.7	2.7	2.1	2.1			2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.5	6.5	5.8	5.8			5.7	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead				Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0			4.0	
Recall Mode	None	None		None	None	None	None	C-Max			C-Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		13.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effect Green (s)	45.8	28.8		33.2	21.9	21.9	141.4	141.4			119.5	

Lanes, Volumes, Timings
5: Orlando Ave & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.23	0.14		0.17	0.11	0.11	0.71	0.71			0.60	
v/c Ratio	0.67	0.81		0.38	0.58	0.53	0.65	0.59			0.69	
Control Delay	77.6	98.9		68.9	98.2	40.7	45.5	3.0			12.2	
Queue Delay	0.0	0.0		0.0	0.0	0.1	0.0	0.1			0.4	
Total Delay	77.6	98.9		68.9	98.2	40.8	45.5	3.2			12.5	
LOS	E	F		E	F	D	D	A			B	
Approach Delay		89.4			68.2			7.4			12.5	
Approach LOS		F			E			A			B	
Queue Length 50th (ft)	197	258		75	155	60	54	44			161	
Queue Length 95th (ft)	263	352		122	228	139	138	78			235	
Internal Link Dist (ft)		261			637			671			669	
Turn Bay Length (ft)				150			240					
Base Capacity (vph)	262	298		235	296	320	317	2506			2116	
Starvation Cap Reductn	0	0		0	0	0	0	217			206	
Spillback Cap Reductn	0	0		0	0	5	0	257			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.66	0.72		0.28	0.41	0.42	0.52	0.65			0.77	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 127 (64%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 83.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: Orlando Ave & Webster Ave



Lanes, Volumes, Timings
6: Orlando Ave & Lee Rd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 				 		 	 			 	
Traffic Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Future Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		390	230		0	450		100	240		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00	1.00		1.00	1.00		1.00		0.98
Frt			0.850		0.975			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1599	1787	3476	0	3467	3558	0	1787	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3455	1881	1571	1782	3476	0	3451	3558	0	1786	3574	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			401		10			2				178
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		505			534			749			734	
Travel Time (s)		9.8			10.4			14.6			14.3	
Confl. Peds. (#/hr)	2		3	3		2	5		2	2		5
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	824	420	451	64	291	59	439	1286	37	78	982	346
Shared Lane Traffic (%)												
Lane Group Flow (vph)	824	420	451	64	350	0	439	1323	0	78	982	346
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.9	39.1	39.1	11.7	41.9		12.0	32.6		11.8	33.5	33.5
Total Split (s)	56.0	76.0	76.0	22.0	42.0		44.0	86.0		16.0	58.0	58.0
Total Split (%)	28.0%	38.0%	38.0%	11.0%	21.0%		22.0%	43.0%		8.0%	29.0%	29.0%
Maximum Green (s)	49.1	68.9	68.9	15.3	35.1		37.0	79.4		9.2	51.5	51.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1		4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5		2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6		6.8	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	3.0	3.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0			20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0			0	0
Act Effect Green (s)	49.1	62.2	62.2	12.8	26.0		31.4	82.9		14.9	66.3	66.3

Lanes, Volumes, Timings
6: Orlando Ave & Lee Rd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.25	0.31	0.31	0.06	0.13		0.16	0.41		0.07	0.33	0.33
v/c Ratio	0.97	0.72	0.59	0.56	0.76		0.81	0.90		0.59	0.83	0.54
Control Delay	97.5	68.9	10.6	119.3	90.1		103.3	42.7		105.5	68.3	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	6.8		0.0	0.0	0.0
Total Delay	97.5	68.9	10.6	119.3	90.1		103.3	49.5		105.5	68.3	30.2
LOS	F	E	B	F	F		F	D		F	E	C
Approach Delay	67.3			94.6			62.9			60.9		
Approach LOS	E			F			E			E		
Queue Length 50th (ft)	560	498	48	86	240		264	788		100	631	182
Queue Length 95th (ft)	#696	616	161	146	299		328	#914		#198	#864	326
Internal Link Dist (ft)	425			454			669			654		
Turn Bay Length (ft)	390		390	230			450			240		
Base Capacity (vph)	851	648	804	136	618		643	1475		132	1184	635
Starvation Cap Reductn	0	0	0	0	0		0	127		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.97	0.65	0.56	0.47	0.57		0.68	0.98		0.59	0.83	0.54

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 93 (47%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 66.3

Intersection LOS: E

Intersection Capacity Utilization 96.3%

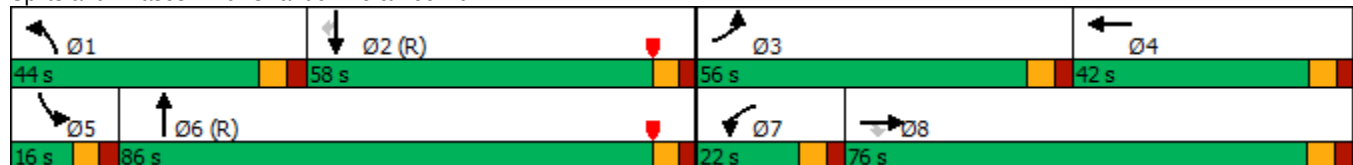
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

						
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑		↙	↑↑↑		
Traffic Volume (vph)	1916	0	191	1372	0	0
Future Volume (vph)	1916	0	191	1372	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	10	10	12	12
Storage Length (ft)		0	230		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	1.00
Friction						
Flt Protected			0.950			
Satd. Flow (prot)	3693	0	1668	4793	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3693	0	1668	4793	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	40			40	25	
Link Distance (ft)	1911			380	497	
Travel Time (s)	32.6			6.5	13.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2195	0	219	1572	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2195	0	219	1572	0	0
Turn Type	NA		Prot	NA		
Protected Phases	2		4	2 4		
Permitted Phases						
Detector Phase	2		4	2 4		
Switch Phase						
Minimum Initial (s)	40.0		7.0			
Minimum Split (s)	46.7		13.5			
Total Split (s)	152.0		48.0			
Total Split (%)	76.0%		24.0%			
Maximum Green (s)	145.6		41.5			
Yellow Time (s)	4.4		4.5			
All-Red Time (s)	2.0		2.0			
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.4		6.5			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			
Recall Mode	C-Min		None			
Walk Time (s)	7.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	148.7		38.4	200.0		
Actuated g/C Ratio	0.74		0.19	1.00		
v/c Ratio	0.80		0.68	0.33		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
7: Orlando Ave & Park Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

	↑	↖	↙	↓	↘	↗
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Control Delay	2.2		86.3	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	2.2		86.3	0.2		
LOS	A		F	A		
Approach Delay	2.2			10.7		
Approach LOS	A			B		
Queue Length 50th (ft)	47		267	0		
Queue Length 95th (ft)	m49		372	0		
Internal Link Dist (ft)	1831			300	417	
Turn Bay Length (ft)			230			
Base Capacity (vph)	2745		346	4782		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.80		0.63	0.33		

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 50 (25%), Referenced to phase 2:NBSB, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 6.0
 Intersection LOS: A
 Intersection Capacity Utilization 100.1%
 ICU Level of Service G
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Orlando Ave & Park Ave



HCM 6th TWSC
8: Executive Dr & Lee Rd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1743	61	0	1150	0	49
Future Vol, veh/h	1743	61	0	1150	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	1997	70	0	1318	0	56

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 1034
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.92
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.31
Pot Cap-1 Maneuver	-	-	0 - 0 231
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 231
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	231	-	-	-
HCM Lane V/C Ratio	0.243	-	-	-
HCM Control Delay (s)	25.5	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	0.9	-	-	-

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	351	198	246	253	100	383
Future Volume (vph)	351	198	246	253	100	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.893	
Flt Protected	0.950			0.976		
Satd. Flow (prot)	1787	1599	0	1836	1680	0
Flt Permitted	0.950			0.000		
Satd. Flow (perm)	1787	1599	0	0	1680	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		242			262	
Link Speed (mph)	30			30	30	
Link Distance (ft)	489			1028	2627	
Travel Time (s)	11.1			23.4	59.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	429	242	301	309	122	468
Shared Lane Traffic (%)						
Lane Group Flow (vph)	429	242	0	610	590	0
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	4	4	1	6	2	
Permitted Phases			6	1		
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	8.0	8.0	
Minimum Split (s)	11.7	11.7	9.7	13.7	22.8	
Total Split (s)	23.0	23.0	24.0	47.0	23.0	
Total Split (%)	32.9%	32.9%	34.3%	67.1%	32.9%	
Maximum Green (s)	17.3	17.3	18.3	41.3	17.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.8	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)					7.0	
Flash Dont Walk (s)					10.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	17.5	17.5		24.8	24.7	
Actuated g/C Ratio	0.32	0.32		0.46	0.46	
v/c Ratio	0.74	0.36		0.72	0.65	
Control Delay	29.2	4.8		16.8	9.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.2	4.8		16.8	9.1	
LOS	C	A		B	A	

Lanes, Volumes, Timings
9: Clay St & Par St

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	20.4			16.8	9.1	
Approach LOS	C			B	A	
Queue Length 50th (ft)	115	0		144	65	
Queue Length 95th (ft)	#328	48		233	140	
Internal Link Dist (ft)	409			948	2547	
Turn Bay Length (ft)						
Base Capacity (vph)	583	685		1431	916	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.74	0.35		0.43	0.64	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 53.9

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 97.1%

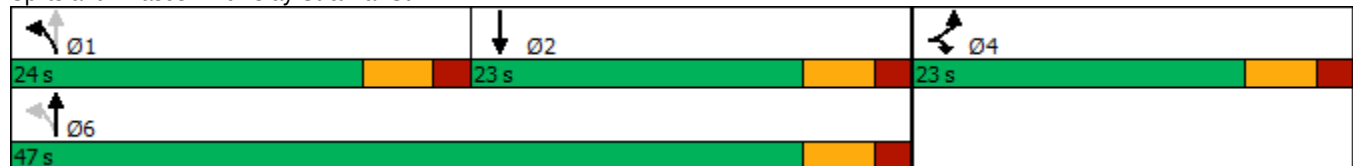
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Clay St & Par St



Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	138	36	259	166	133	19	266	296	41	186	6
Future Volume (vph)	6	138	36	259	166	133	19	266	296	41	186	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.968				0.850		0.996	
Flt Protected		0.998			0.977			0.997			0.991	
Satd. Flow (prot)	0	1827	0	0	1779	0	0	1876	1599	0	1857	0
Flt Permitted		0.979			0.751			0.964			0.811	
Satd. Flow (perm)	0	1792	0	0	1368	0	0	1813	1599	0	1520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			41				343		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1258			2643			2627			1361	
Travel Time (s)		28.6			60.1			59.7			30.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	7	160	42	300	192	154	22	308	343	47	215	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	646	0	0	330	343	0	269	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		
Detector Phase	4	4		4	4		2	2	2	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.7	22.7		22.7	22.7		22.7	22.7	22.7	22.7	22.7	
Total Split (s)	33.0	33.0		33.0	33.0		22.0	22.0	22.0	22.0	22.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%	40.0%	40.0%	40.0%	
Maximum Green (s)	27.3	27.3		27.3	27.3		16.3	16.3	16.3	16.3	16.3	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.7			5.7			5.7	5.7		5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.6			25.6			14.1	14.1		14.1	
Actuated g/C Ratio		0.50			0.50			0.27	0.27		0.27	
v/c Ratio		0.23			0.92			0.66	0.50		0.64	
Control Delay		7.3			34.4			24.1	5.1		24.6	

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Growth Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	20.7	23.7
Total Split (s)	20.7	23.7
Total Split (%)	38%	43%
Maximum Green (s)	17.0	20.0
Yellow Time (s)	3.7	3.7
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Min	None
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	10.0	13.0
Pedestrian Calls (#/hr)	0	0
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		

Lanes, Volumes, Timings
10: Clay St & Minnesota Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		7.3			34.4			24.1	5.1		24.6	
LOS		A			C			C	A		C	
Approach Delay		7.3			34.4			14.4			24.6	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		29			170			92	0		74	
Queue Length 95th (ft)		60			#377			164	48		139	
Internal Link Dist (ft)		1178			2563			2547			1281	
Turn Bay Length (ft)									100			
Base Capacity (vph)		985			759			586	749		492	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.21			0.85			0.56	0.46		0.55	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 51.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 22.3

Intersection LOS: C

Intersection Capacity Utilization 94.3%

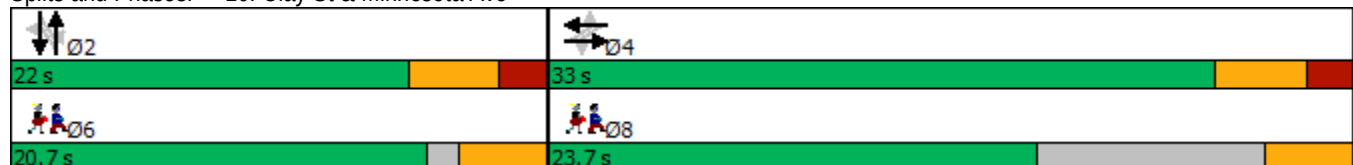
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: Clay St & Minnesota Ave



Lane Group	Ø6	Ø8
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1124	166	130	1323	21	320	14	114	8	7	7
Future Volume (vph)	2	1124	166	130	1323	21	320	14	114	8	7	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	250		0	90		0	50		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00	0.99		1.00	0.99	
Frt		0.981			0.998			0.866			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3497	0	1787	3566	0	1787	1608	0	1787	1726	0
Flt Permitted	0.087			0.074			0.747			0.667		
Satd. Flow (perm)	164	3497	0	139	3566	0	1399	1608	0	1252	1726	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			1			132			8	
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1582			1050			1361			483	
Travel Time (s)		30.8			20.5			30.9			13.2	
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	1301	192	151	1532	24	371	16	132	9	8	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1493	0	151	1556	0	371	148	0	9	16	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		7	4			8	
Permitted Phases	6			2			4			8		
Detector Phase	6	6		5	2		7	4		8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		6.0	12.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	27.4	27.4		12.4	25.4		11.7	30.1		32.3	32.3	
Total Split (s)	100.0	100.0		25.0	125.0		55.0	75.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		12.5%	62.5%		27.5%	37.5%		10.0%	10.0%	
Maximum Green (s)	93.6	93.6		18.6	118.6		49.3	68.9		13.7	13.7	
Yellow Time (s)	4.1	4.1		4.0	4.0		3.7	3.7		3.4	3.4	
All-Red Time (s)	2.3	2.3		2.4	2.4		2.0	2.4		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		5.7	6.1		6.3	6.3	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0			12.0			17.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	109.7	109.7		134.7	134.7		53.2	52.8		8.4	8.4	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
11: Clay St & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.55	0.55		0.67	0.67		0.27	0.26		0.04	0.04	
v/c Ratio	0.02	0.78		0.61	0.65		0.81	0.28		0.17	0.20	
Control Delay	27.5	40.7		43.0	13.5		83.2	10.5		98.2	63.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	40.7		43.0	13.5		83.2	10.5		98.2	63.6	
LOS	C	D		D	B		F	B		F	E	
Approach Delay		40.7			16.1			62.5			76.1	
Approach LOS		D			B			E			E	
Queue Length 50th (ft)	1	836		58	316		444	15		12	10	
Queue Length 95th (ft)	8	1040		m139	497		536	73		35	41	
Internal Link Dist (ft)		1502			970			1281			403	
Turn Bay Length (ft)	200			250			90			50		
Base Capacity (vph)	90	1923		246	2402		508	640		85	125	
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	0.02	0.78		0.61	0.65		0.73	0.23		0.11	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 116 (58%), Referenced to phase 2:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 32.7

Intersection LOS: C

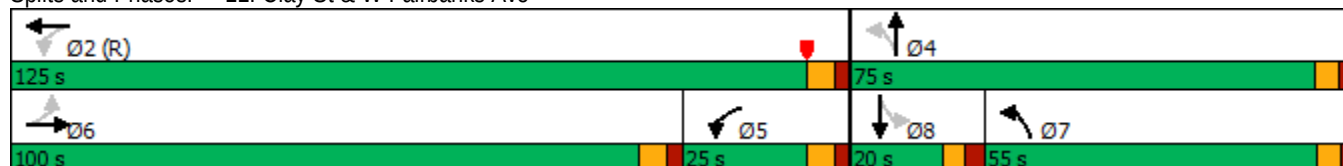
Intersection Capacity Utilization 92.9%

ICU Level of Service F

Analysis Period (min) 15

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

Splits and Phases: 11: Clay St & W Fairbanks Ave



Lanes, Volumes, Timings
12: Lee Rd & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	158	5	21	201	264	9	26	14	364	43	36
Future Volume (vph)	11	158	5	21	201	264	9	26	14	364	43	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.919			0.947			0.932	
Flt Protected		0.997			0.998		0.950			0.950		
Satd. Flow (prot)	0	3511	0	0	3246	0	1770	1764	0	1770	1736	0
Flt Permitted		0.789			0.929		0.348			0.950		
Satd. Flow (perm)	0	2778	0	0	3022	0	648	1764	0	1770	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			286			16			41	
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		717			560			318			826	
Travel Time (s)		16.3			12.7			7.2			16.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	12	179	6	24	228	299	10	29	16	413	49	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	551	0	10	45	0	413	90	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8					
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		15.0	15.0		1.0	10.0		10.0	10.0	
Minimum Split (s)	30.4	30.4		30.3	30.3		9.5	15.7		16.3	23.2	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	16.0		53.0	58.0	
Total Split (%)	31.0%	31.0%		31.0%	31.0%		11.0%	16.0%		53.0%	58.0%	
Maximum Green (s)	24.6	24.6		24.7	24.7		4.9	10.3		46.7	51.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.8	3.8	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.0		2.5	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.4			6.3		6.1	5.7		6.3	6.2	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0						10.0	
Pedestrian Calls (#/hr)	0	0		0	0						0	
Act Effect Green (s)		17.3			17.4		17.2	17.6		46.7	67.5	
Actuated g/C Ratio		0.17			0.17		0.17	0.18		0.47	0.68	
v/c Ratio		0.41			0.72		0.06	0.14		0.50	0.08	
Control Delay		33.8			23.9		38.0	28.0		12.3	2.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		33.8			23.9		38.0	28.0		12.3	2.6	
LOS		C			C		D	C		B	A	
Approach Delay		33.8			23.9			29.8			10.5	

Lanes, Volumes, Timings
12: Lee Rd & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			C			B	
Queue Length 50th (ft)		90			85		5	15		115	5	
Queue Length 95th (ft)		117			133		22	50		m177	m23	
Internal Link Dist (ft)		637			480			238			746	
Turn Bay Length (ft)												
Base Capacity (vph)		685			961		178	322		826	1185	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.29			0.57		0.06	0.14		0.50	0.08	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 4:SBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 20.5

Intersection LOS: C

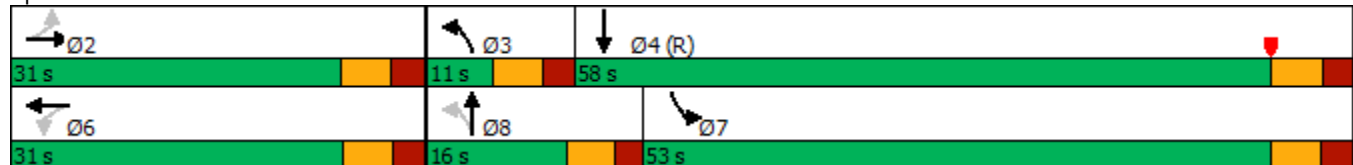
Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

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

Splits and Phases: 12: Lee Rd & Webster Ave



Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Future Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	170		0	180		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.965			0.981			0.976	
Flt Protected		0.997			0.996		0.950			0.950		
Satd. Flow (prot)	0	3384	0	0	3402	0	1770	1827	0	1770	1818	0
Flt Permitted		0.904			0.880		0.512			0.405		
Satd. Flow (perm)	0	3068	0	0	3006	0	954	1827	0	754	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			56			11			15	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			708			993			972	
Travel Time (s)		29.7			16.1			27.1			26.5	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	28	314	128	29	268	90	74	382	55	56	278	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	470	0	0	387	0	74	437	0	56	332	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	25.0	25.0		25.0	25.0		15.0	30.0		15.0	30.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		21.4%	42.9%		21.4%	42.9%	
Maximum Green (s)	19.1	19.1		18.9	18.9		8.4	23.4		8.5	23.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		14.4			14.2		30.1	25.8		30.0	25.8	
Actuated g/C Ratio		0.24			0.23		0.50	0.43		0.49	0.43	
v/c Ratio		0.60			0.52		0.13	0.56		0.11	0.43	
Control Delay		21.5			20.8		7.5	19.1		7.5	16.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
13: S Denning Dr/N Denning Dr & Morse Blvd

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.5			20.8		7.5	19.1		7.5	16.6	
LOS		C			C		A	B		A	B	
Approach Delay		21.5			20.8			17.4			15.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		76			62		11	138		8	95	
Queue Length 95th (ft)		121			103		31	252		25	183	
Internal Link Dist (ft)		1228			628			913			892	
Turn Bay Length (ft)							170			180		
Base Capacity (vph)		1045			1002		591	782		522	780	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.45			0.39		0.13	0.56		0.11	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 60.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 18.8

Intersection LOS: B

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

 Ø1	 Ø2	 Ø4
15 s	30 s	25 s
 Ø5	 Ø6	 Ø8
15 s	30 s	25 s

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	130	94	11	101	43	90	365	21	38	233	53
Future Volume (vph)	51	130	94	11	101	43	90	365	21	38	233	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	50		0	90		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937			0.955			0.992			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1745	0	1770	1779	0	1770	1848	0	1770	1811	0
Flt Permitted	0.426			0.600			0.432			0.388		
Satd. Flow (perm)	794	1745	0	1118	1779	0	805	1848	0	723	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			23			3			14	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		708			657			972			1315	
Travel Time (s)		19.3			17.9			26.5			35.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	58	149	108	13	116	49	103	418	24	44	267	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	257	0	13	165	0	103	442	0	44	328	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	15.0		8.0	15.0	
Minimum Split (s)	14.1	23.1		26.0	26.0		13.8	22.8		13.7	23.7	
Total Split (s)	14.0	40.0		26.0	26.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.5%	47.1%		30.6%	30.6%		17.6%	35.3%		17.6%	35.3%	
Maximum Green (s)	7.9	33.9		20.0	20.0		9.2	24.2		9.3	24.3	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.7	2.7		2.6	2.6		2.4	2.4		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.0	6.0		5.8	5.8		5.7	5.7	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		13.0	13.0			10.0			11.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	19.2	19.2		12.0	12.0		33.5	29.0		31.6	25.6	
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.49	0.43		0.47	0.38	
v/c Ratio	0.17	0.48		0.07	0.49		0.20	0.56		0.09	0.47	
Control Delay	18.6	18.9		27.8	30.0		11.3	23.5		10.9	22.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
14: N Denning Dr & Canton Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	18.6	18.9		27.8	30.0		11.3	23.5		10.9	22.4	
LOS	B	B		C	C		B	C		B	C	
Approach Delay		18.8			29.8			21.2			21.0	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	18	71		5	62		24	179		10	119	
Queue Length 95th (ft)	43	134		20	121		55	#340		28	221	
Internal Link Dist (ft)		628			577			892			1235	
Turn Bay Length (ft)	100			50			90			150		
Base Capacity (vph)	344	942		347	568		538	790		497	691	
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	0.17	0.27		0.04	0.29		0.19	0.56		0.09	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 67.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 69.4%

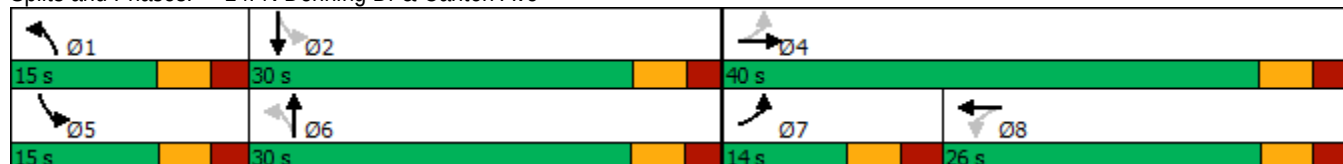
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 14: N Denning Dr & Canton Ave



Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	365	139	49	269	4	160	240	49	8	128	61
Future Volume (vph)	24	365	139	49	269	4	160	240	49	8	128	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	180		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.998			0.974			0.952	
Flt Protected	0.950				0.992		0.950			0.950		
Satd. Flow (prot)	1770	1786	0	0	1844	0	1770	1814	0	1770	1773	0
Flt Permitted	0.476				0.540		0.498			0.562		
Satd. Flow (perm)	887	1786	0	0	1004	0	928	1814	0	1047	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			1			16			29	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		560			679			1315			1264	
Travel Time (s)		12.7			15.4			35.9			34.5	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	27	414	158	56	305	5	181	272	56	9	145	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	572	0	0	366	0	181	328	0	9	214	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		10.0	10.0	
Minimum Split (s)	22.7	22.7		22.7	22.7		9.5	23.6		24.2	24.2	
Total Split (s)	41.0	41.0		41.0	41.0		12.0	39.0		27.0	27.0	
Total Split (%)	51.3%	51.3%		51.3%	51.3%		15.0%	48.8%		33.8%	33.8%	
Maximum Green (s)	35.3	35.3		35.3	35.3		7.5	32.4		20.8	20.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.5	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	3.2		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7			5.7		4.5	6.6		6.2	6.2	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			10.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	26.8	26.8			26.8		34.6	32.5		21.0	21.0	
Actuated g/C Ratio	0.37	0.37			0.37		0.48	0.45		0.29	0.29	
v/c Ratio	0.08	0.83			0.98		0.34	0.39		0.03	0.40	
Control Delay	14.2	30.7			64.4		14.5	15.7		21.9	21.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
15: N Denning Dr & Webster Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	14.2	30.7			64.4		14.5	15.7		21.9	21.9	
LOS	B	C			E		B	B		C	C	
Approach Delay		29.9			64.4			15.3			21.9	
Approach LOS		C			E			B			C	
Queue Length 50th (ft)	8	212			154		44	89		3	65	
Queue Length 95th (ft)	22	333			#316		98	179		15	140	
Internal Link Dist (ft)		480			599			1235			1184	
Turn Bay Length (ft)							200			180		
Base Capacity (vph)	441	904			500		537	837		307	540	
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	0.06	0.63			0.73		0.34	0.39		0.03	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 71.7

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 31.9

Intersection LOS: C

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 15: N Denning Dr & Webster Ave

 Ø1	 Ø2	 Ø4
12 s	27 s	41 s
 Ø6		 Ø8
39 s		41 s

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Future Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	190		100	170		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.989			0.993			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3546	0	1787	3535	0	1787	1868	0	1787	1815	0
Flt Permitted	0.165			0.251			0.242			0.185		
Satd. Flow (perm)	310	3546	0	472	3535	0	455	1868	0	348	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7			1			7	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1337			1345			1308			713	
Travel Time (s)		26.0			26.2			35.7			19.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	101	977	53	50	1039	86	46	315	15	59	244	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1030	0	50	1125	0	46	330	0	59	319	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	9.5	23.7		24.1	24.1		10.2	25.2		9.9	24.9	
Total Split (s)	20.0	135.0		115.0	115.0		20.0	45.0		20.0	45.0	
Total Split (%)	10.0%	67.5%		57.5%	57.5%		10.0%	22.5%		10.0%	22.5%	
Maximum Green (s)	15.5	128.9		108.9	108.9		13.8	38.8		14.1	39.1	
Yellow Time (s)	3.5	4.1		4.1	4.1		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.8	2.8		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.1		6.1	6.1		6.2	6.2		5.9	5.9	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		None	None	
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		10.0		10.0	10.0			10.0			12.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effect Green (s)	130.5	128.9		114.7	114.7		51.7	42.5		55.2	46.2	
Actuated g/C Ratio	0.65	0.64		0.57	0.57		0.26	0.21		0.28	0.23	
v/c Ratio	0.37	0.45		0.19	0.55		0.26	0.83		0.35	0.75	
Control Delay	20.7	17.8		23.0	27.9		55.2	92.8		57.3	82.6	

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.7	17.8		23.0	27.9		55.2	92.8		57.3	82.6	
LOS	C	B		C	C		E	F		E	F	
Approach Delay		18.0			27.7			88.2			78.7	
Approach LOS		B			C			F			E	
Queue Length 50th (ft)	47	284		31	474		44	420		57	395	
Queue Length 95th (ft)	m70	m303		62	555		83	#622		101	#573	
Internal Link Dist (ft)		1257			1265			1228			633	
Turn Bay Length (ft)	150			200			190			170		
Base Capacity (vph)	316	2287		270	2030		219	397		201	424	
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	0.45		0.19	0.55		0.21	0.83		0.29	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 37.9

Intersection LOS: D

Intersection Capacity Utilization 77.6%

ICU Level of Service D

Analysis Period (min) 15

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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Lanes, Volumes, Timings

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Orlando Ave Analysis

Improved Conditions, PM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL	NET	NER	SWL
Lane Configurations												
Traffic Volume (vph)	20	5	700	219	48	934	193	2	309	382	7	220
Future Volume (vph)	20	5	700	219	48	934	193	2	309	382	7	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2200	2200	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)		50		0	150		0		240		0	300
Storage Lanes		1		0	1		0		1		0	1
Taper Length (ft)		25			25				25			130
Lane Util. Factor	0.95	1.00	*1.00	*1.00	1.00	*1.00	*1.00	0.95	0.97	1.00	1.00	1.00
Ped Bike Factor		1.00	0.99		1.00	0.99			1.00	1.00		1.00
Frt			0.964							0.997		
Flt Protected		0.950			0.950				0.950			0.950
Satd. Flow (prot)	0	1787	3605	0	1787	4333	0	0	3467	1875	0	1787
Flt Permitted		0.950			0.950				0.950			0.950
Satd. Flow (perm)	0	1784	3605	0	1786	4333	0	0	3462	1875	0	1781
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)			25									
Link Speed (mph)			35			35				30		
Link Distance (ft)			1129			1335				911		
Travel Time (s)			22.0			26.0				20.7		
Confl. Peds. (#/hr)	1	2		3	1		1	2	1		1	3
Confl. Bikes (#/hr)				4			1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	22	6	786	246	54	1048	217	2	347	429	8	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	1032	0	54	1267	0	0	347	437	0	247
Turn Type	Prot	Prot	NA		Prot	NA			Prot	NA		Prot
Protected Phases	5	5	2		1	6			7	4		3
Permitted Phases												
Detector Phase	5	5	2		1	6			7	4		3
Switch Phase												
Minimum Initial (s)	5.0	5.0	15.0		5.0	15.0			5.0	7.0		7.0
Minimum Split (s)	11.2	11.2	24.7		12.0	38.4			11.2	36.2		41.2
Total Split (s)	13.0	13.0	75.0		20.0	82.0			34.0	63.0		42.0
Total Split (%)	6.5%	6.5%	37.5%		10.0%	41.0%			17.0%	31.5%		21.0%
Maximum Green (s)	6.8	6.8	67.3		13.0	74.6			27.8	55.8		34.8
Yellow Time (s)	4.1	4.1	4.1		4.0	4.0			4.1	3.7		3.7
All-Red Time (s)	2.1	2.1	3.6		3.0	3.4			2.1	3.5		3.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.2	7.7		7.0	7.4			6.2	7.2		7.2
Lead/Lag	Lead	Lead	Lead		Lag	Lag			Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	4.0		3.0	4.0			3.0	3.0		3.0
Recall Mode	None	None	C-Max		None	Max			None	None		None
Walk Time (s)			7.0			7.0				7.0		7.0
Flash Dont Walk (s)			10.0			24.0				22.0		27.0
Pedestrian Calls (#/hr)			0			0				0		0

Kimley-Horn
May 2021

Synchro 10 Report



Lane Group	SWT	SWR	SWR2
Lane Configurations	↑↑		
Traffic Volume (vph)	369	16	44
Future Volume (vph)	369	16	44
Ideal Flow (vphpl)	1900	1900	1900
Lane Width (ft)	12	12	12
Storage Length (ft)		300	
Storage Lanes		1	
Taper Length (ft)			
Lane Util. Factor	*1.00	*1.00	0.95
Ped Bike Factor	1.00		
Frt	0.979		
Flt Protected			
Satd. Flow (prot)	3672	0	0
Flt Permitted			
Satd. Flow (perm)	3672	0	0
Right Turn on Red			Yes
Satd. Flow (RTOR)	7		
Link Speed (mph)	30		
Link Distance (ft)	491		
Travel Time (s)	11.2		
Confl. Peds. (#/hr)		3	3
Confl. Bikes (#/hr)			
Peak Hour Factor	0.98	0.98	0.98
Growth Factor	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%
Adj. Flow (vph)	414	18	49
Shared Lane Traffic (%)			
Lane Group Flow (vph)	481	0	0
Turn Type	NA		
Protected Phases	8		
Permitted Phases			
Detector Phase	8		
Switch Phase			
Minimum Initial (s)	7.0		
Minimum Split (s)	41.2		
Total Split (s)	71.0		
Total Split (%)	35.5%		
Maximum Green (s)	63.8		
Yellow Time (s)	3.7		
All-Red Time (s)	3.5		
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	7.2		
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	3.0		
Recall Mode	None		
Walk Time (s)	7.0		
Flash Dont Walk (s)	27.0		
Pedestrian Calls (#/hr)	0		

Lanes, Volumes, Timings

17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave

Orlando Ave Analysis

Improved Conditions, PM Peak Hour

												
Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL	NET	NER	SWL
Act Effect Green (s)		7.0	76.1		13.0	85.6			50.7	50.5		31.3
Actuated g/C Ratio		0.04	0.38		0.06	0.43			0.25	0.25		0.16
v/c Ratio		0.45	0.74		0.47	0.68			0.40	0.92		0.89
Control Delay		117.5	57.7		68.4	20.5			62.9	98.1		112.9
Queue Delay		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Delay		117.5	57.7		68.4	20.5			62.9	98.1		112.9
LOS		F	E		E	C			E	F		F
Approach Delay			59.3			22.4				82.5		
Approach LOS			E			C				F		
Queue Length 50th (ft)		37	596		69	717			192	560		320
Queue Length 95th (ft)		79	707		m97	626			247	#703		#451
Internal Link Dist (ft)			1049			1255				831		
Turn Bay Length (ft)		50			150				240			300
Base Capacity (vph)		64	1386		116	1853			878	523		310
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		0.44	0.74		0.47	0.68			0.40	0.84		0.80

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 57 (29%), Referenced to phase 2:NBT, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 58.7

Intersection LOS: E

Intersection Capacity Utilization 101.6%

ICU Level of Service G

Analysis Period (min) 15

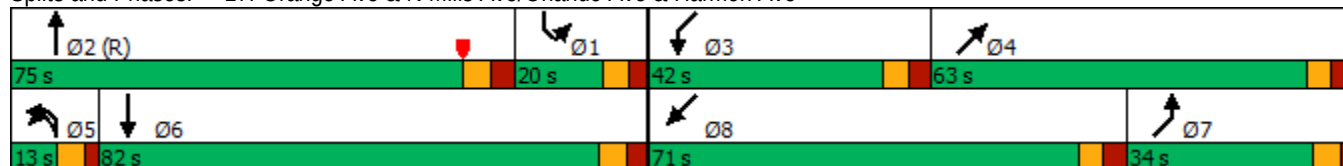
* User Entered Value

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.

Splits and Phases: 17: Orange Ave & N Mills Ave/Orlando Ave & Harmon Ave





Lane Group	SWT	SWR	SWR2
Act Effect Green (s)	32.1		
Actuated g/C Ratio	0.16		
v/c Ratio	0.81		
Control Delay	90.5		
Queue Delay	0.0		
Total Delay	90.5		
LOS	F		
Approach Delay	98.1		
Approach LOS	F		
Queue Length 50th (ft)	305		
Queue Length 95th (ft)	359		
Internal Link Dist (ft)	411		
Turn Bay Length (ft)			
Base Capacity (vph)	1176		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.41		
Intersection Summary			

MOVEMENT SUMMARY

 Site: 18 [Orange at Minnesota / Denning_ImprovedPM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: NB Denning														
3b	L3	3	3.0	3	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	26.4
3	L2	7	3.0	7	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	27.2
8	T1	89	3.0	92	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	27.2
18a	R1	73	3.0	75	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	28.1
18	R2	1	3.0	1	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	27.6
Approach		173	3.0	178	3.0	0.491	21.6	LOS C	2.3	58.6	0.84	0.96	1.28	27.6
East: WB Minnesota														
1	L2	1	3.0	1	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	26.6
1a	L1	61	3.0	63	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	23.7
6	T1	127	3.0	131	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	25.3
16	R2	66	3.0	68	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	24.6
16b	R3	14	3.0	14	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	25.5
Approach		269	3.0	277	3.0	0.650	26.1	LOS C	4.0	103.2	0.85	1.07	1.61	24.8
NorthEast: Orange Ave														
1bx	L3	11	3.0	11	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	31.4
1ax	L1	4	3.0	4	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	30.6
6x	T1	480	3.0	495	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	28.7
16ax	R1	47	3.0	48	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	29.6
16bx	R3	4	3.0	4	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	28.4
Approach		546	3.0	563	3.0	0.657	15.2	LOS B	7.4	189.5	0.80	1.01	1.37	28.8
North: SB Denning														
7b	L3	9	3.0	9	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	30.6
7	L2	79	3.0	81	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	30.1
4	T1	40	3.0	41	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	30.0
14a	R1	116	3.0	120	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	27.0
14	R2	20	3.0	21	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	27.8
Approach		264	3.0	272	3.0	0.454	13.2	LOS B	2.5	64.3	0.74	0.84	1.04	28.7
West: EB Minnesota														
5	L2	29	3.0	30	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	24.7
5a	L1	152	3.0	157	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	25.9
2	T1	197	3.0	203	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	26.1
12	R2	2	3.0	2	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	25.3
12b	R3	4	3.0	4	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	21.9
Approach		384	3.0	396	3.0	0.695	23.0	LOS C	5.7	146.2	0.85	1.12	1.70	25.8
SouthWest: Orange Ave														
5bx	L3	2	3.0	2	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	16.1
5ax	L1	29	3.0	30	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	15.8
2x	T1	672	3.0	693	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	17.6
12ax	R1	46	3.0	47	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	17.5
12bx	R3	1	3.0	1	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	17.1
Approach		750	3.0	773	3.0	0.993	53.5	LOS E	31.5	805.8	1.00	2.14	4.14	17.5
All Vehicles		2386	3.0	2460	3.0	0.993	30.0	LOS C	31.5	805.8	0.87	1.37	2.28	23.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: K:\ORL_TPTO\049106004_Orlando Ave Analysis\11_Synchro\02_Improved\04_ImprovedPM.sip9

Lanes, Volumes, Timings

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	630	25	10	424	747	32	8	30	152	29	19
Future Volume (vph)	2	630	25	10	424	747	32	8	30	152	29	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0		150		150		0		0	0
Storage Lanes	0		0		1		1		0		0	0
Taper Length (ft)	25				100				25			25
Lane Util. Factor	0.95	0.95	0.95	0.95	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00	1.00				1.00		
Frt		0.992				0.994				0.982		
Flt Protected					*0.975					0.991		
Satd. Flow (prot)	0	3540	0	0	3558	3548	0	0	0	1825	0	0
Flt Permitted		0.953			0.975					0.698		
Satd. Flow (perm)	0	3374	0	0	3551	3548	0	0	0	1285	0	0
Right Turn on Red				Yes			Yes				Yes	
Satd. Flow (RTOR)		1				6				4		
Link Speed (mph)		35				35				30		
Link Distance (ft)		1345				1310				1141		
Travel Time (s)		26.2				25.5				25.9		
Confl. Peds. (#/hr)	3		2		2		3				9	9
Confl. Bikes (#/hr)			1									
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
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	753	30	12	507	893	38	10	36	182	35	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	797	0	0	507	931	0	0	0	263	0	0
Turn Type	Perm	NA			Prot	NA		Perm	Perm	NA		Perm
Protected Phases		2			1	6				4		
Permitted Phases	2							4	4			8
Detector Phase	2	2			1	6		4	4	4		8
Switch Phase												
Minimum Initial (s)	8.0	8.0			8.0	8.0		8.0	8.0	8.0		8.0
Minimum Split (s)	32.7	32.7			26.5	24.0		16.5	16.5	16.5		26.6
Total Split (s)	48.0	48.0			67.0	115.0		45.0	45.0	45.0		45.0
Total Split (%)	30.0%	30.0%			41.9%	71.9%		28.1%	28.1%	28.1%		28.1%
Maximum Green (s)	40.3	40.3			58.5	109.0		36.5	36.5	36.5		36.4
Yellow Time (s)	4.1	4.1			4.0	4.0		3.7	3.7	3.7		3.7
All-Red Time (s)	3.6	3.6			4.5	2.0		4.8	4.8	4.8		4.9
Lost Time Adjust (s)		0.0			0.0	0.0				0.0		
Total Lost Time (s)		7.7			8.5	6.0				8.5		
Lead/Lag	Lead	Lead			Lag							
Lead-Lag Optimize?	Yes	Yes			Yes							
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0		3.0
Recall Mode	Max	Max			None	Max		None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0						7.0
Flash Dont Walk (s)	18.0	18.0			10.0	10.0						10.0
Pedestrian Calls (#/hr)	0	0			0	0						0
Act Effct Green (s)		40.3			58.6	109.1				33.2		

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions, PM Peak Hour



Lane Group	SBT	SBR	SBR2	NER	NER2
Lane Configurations					
Traffic Volume (vph)	139	51	22	750	3
Future Volume (vph)	139	51	22	750	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	
Storage Lanes		0		2	
Taper Length (ft)					
Lane Util. Factor	1.00	1.00	1.00	0.88	1.00
Ped Bike Factor	1.00			0.97	
Frt	0.957			0.850	
Flt Protected	0.996				
Satd. Flow (prot)	1793	0	0	2814	0
Flt Permitted	0.908				
Satd. Flow (perm)	1633	0	0	2729	0
Right Turn on Red			Yes		Yes
Satd. Flow (RTOR)	3			91	
Link Speed (mph)	30				
Link Distance (ft)	859				
Travel Time (s)	19.5				
Confl. Peds. (#/hr)					2
Confl. Bikes (#/hr)					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Growth Factor	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%
Adj. Flow (vph)	166	61	26	897	4
Shared Lane Traffic (%)					
Lane Group Flow (vph)	276	0	0	901	0
Turn Type	NA			Perm	
Protected Phases	8				
Permitted Phases				1	
Detector Phase	8			1	
Switch Phase					
Minimum Initial (s)	8.0			8.0	
Minimum Split (s)	26.6			26.5	
Total Split (s)	45.0			67.0	
Total Split (%)	28.1%			41.9%	
Maximum Green (s)	36.4			58.5	
Yellow Time (s)	3.7			4.0	
All-Red Time (s)	4.9			4.5	
Lost Time Adjust (s)	0.0			0.0	
Total Lost Time (s)	8.6			8.5	
Lead/Lag				Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	3.0			3.0	
Recall Mode	None			None	
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	10.0			10.0	
Pedestrian Calls (#/hr)	0			0	
Act Effect Green (s)	33.1			58.6	

Lanes, Volumes, Timings

19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions, PM Peak Hour

												
Lane Group	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL
Actuated g/C Ratio		0.26			0.37	0.70				0.21		
v/c Ratio		0.92			0.38	0.38				0.96		
Control Delay		72.9			37.4	10.6				103.8		
Queue Delay		0.0			0.0	0.0				0.0		
Total Delay		72.9			37.4	10.6				103.8		
LOS		E			D	B				F		
Approach Delay		72.9				20.1				103.8		
Approach LOS		E				C				F		
Queue Length 50th (ft)		433			202	206				266		
Queue Length 95th (ft)		#558			254	244				#438		
Internal Link Dist (ft)		1265				1230				1061		
Turn Bay Length (ft)					150							
Base Capacity (vph)		868			1328	2470				302		
Starvation Cap Reductn		0			0	0				0		
Spillback Cap Reductn		0			0	0				0		
Storage Cap Reductn		0			0	0				0		
Reduced v/c Ratio		0.92			0.38	0.38				0.87		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 156.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 48.7

Intersection LOS: D

Intersection Capacity Utilization 93.2%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

Splits and Phases: 19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

 Ø2	 Ø1	 Ø4
48 s	67 s	45 s
 Ø6		 Ø8
115 s		45 s

Lanes, Volumes, Timings
 19: Orange Ave & S Pennsylvania Ave & W Fairbanks Ave

Orlando Ave Analysis
 Improved Conditions, PM Peak Hour

					
Lane Group	SBT	SBR	SBR2	NER	NER2
Actuated g/C Ratio	0.21			0.37	
v/c Ratio	0.80			0.84	
Control Delay	75.5			48.7	
Queue Delay	0.0			0.0	
Total Delay	75.5			48.7	
LOS	E			D	
Approach Delay	75.5				
Approach LOS	E				
Queue Length 50th (ft)	268			452	
Queue Length 95th (ft)	381			557	
Internal Link Dist (ft)	779				
Turn Bay Length (ft)					
Base Capacity (vph)	381			1076	
Starvation Cap Reductn	0			0	
Spillback Cap Reductn	0			0	
Storage Cap Reductn	0			0	
Reduced v/c Ratio	0.72			0.84	
Intersection Summary					

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Lane Configurations							
Traffic Volume (vph)	53	25	655	17	20	597	
Future Volume (vph)	53	25	655	17	20	597	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0	0		0	150		
Storage Lanes	1	0		0	1		
Taper Length (ft)	25				25		
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	*1.00	
Ped Bike Factor	0.99		1.00		1.00		
Frt	0.956		0.997				
Flt Protected	0.967				0.950		
Satd. Flow (prot)	1724	0	1874	0	1787	1881	
Flt Permitted	0.967				0.305		
Satd. Flow (perm)	1724	0	1874	0	573	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	15		3				
Link Speed (mph)	25		30			30	
Link Distance (ft)	398		437			944	
Travel Time (s)	10.9		9.9			21.5	
Confl. Peds. (#/hr)		1		4	1		
Confl. Bikes (#/hr)		1					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	110%	110%	110%	110%	110%	110%	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	61	29	758	20	23	691	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	90	0	778	0	23	691	
Turn Type	Prot		NA		Perm	NA	
Protected Phases	4		6			2	8
Permitted Phases					2		
Detector Phase	4		6		2	2	
Switch Phase							
Minimum Initial (s)	5.0		45.0		45.0	45.0	5.0
Minimum Split (s)	10.8		50.9		50.7	50.7	22.5
Total Split (s)	23.0		112.0		112.0	112.0	23.0
Total Split (%)	17.0%		83.0%		83.0%	83.0%	17%
Maximum Green (s)	17.2		106.1		106.3	106.3	19.6
Yellow Time (s)	3.4		3.7		3.7	3.7	3.4
All-Red Time (s)	2.4		2.2		2.0	2.0	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	
Total Lost Time (s)	5.8		5.9		5.7	5.7	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0
Recall Mode	None		None		None	None	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			10.0				11.0
Pedestrian Calls (#/hr)			0				0
Act Effect Green (s)	8.2		46.9		47.1	47.1	

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings
20: Orange Ave & Cypress Ave

Orlando Ave Analysis
Improved Conditions, PM Peak Hour

							
Lane Group	NWL	NWR	NET	NER	SWL	SWT	Ø8
Actuated g/C Ratio	0.13		0.75		0.75	0.75	
v/c Ratio	0.38		0.55		0.05	0.49	
Control Delay	27.2		7.1		4.0	6.1	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	27.2		7.1		4.0	6.1	
LOS	C		A		A	A	
Approach Delay	27.2		7.1			6.1	
Approach LOS	C		A			A	
Queue Length 50th (ft)	28		128		2	104	
Queue Length 95th (ft)	66		245		9	197	
Internal Link Dist (ft)	318		357			864	
Turn Bay Length (ft)					150		
Base Capacity (vph)	489		1874		573	1881	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.18		0.42		0.04	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 62.6

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 53.8%

ICU Level of Service A

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 20: Orange Ave & Cypress Ave

 Ø2	
112 s	23 s
 Ø6	 Ø8
112 s	23 s

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	88	1804	5	1115	30	19	68
Future Vol, veh/h	88	1804	5	1115	30	19	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	150	-	80	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	1	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1	1
Mvmt Flow	101	2067	6	1278	34	22	78
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	1312	0	2067	-	0	2543	656
Stage 1	-	-	-	-	-	1307	-
Stage 2	-	-	-	-	-	1236	-
Critical Hdwy	4.12	-	6.42	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	-	5.82	-
Follow-up Hdwy	2.21	-	2.51	-	-	3.51	3.31
Pot Cap-1 Maneuver	528	-	68	-	-	22	410
Stage 1	-	-	-	-	-	219	-
Stage 2	-	-	-	-	-	239	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	528	-	68	-	-	~ 16	410
Mov Cap-2 Maneuver	-	-	-	-	-	95	-
Stage 1	-	-	-	-	-	177	-
Stage 2	-	-	-	-	-	218	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.6	0.3		30.6			
HCM LOS				D			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	
Capacity (veh/h)	528	-	68	-	-	238	
HCM Lane V/C Ratio	0.191	-	0.084	-	-	0.419	
HCM Control Delay (s)	13.4	-	62.8	-	-	30.6	
HCM Lane LOS	B	-	F	-	-	D	
HCM 95th %tile Q(veh)	0.7	-	0.3	-	-	1.9	
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

Arterial Level of Service: EB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Denning Dr	III	30	31.5	21.5	53.0	0.25	16.8	D
Total	III		31.5	21.5	53.0	0.25	16.8	D

Arterial Level of Service: WB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Denning Dr	III	30	18.0	20.8	38.8	0.13	12.4	E
Orlando Ave	III	30	31.5	51.0	82.5	0.25	10.8	E
Total	III		49.5	71.8	121.3	0.38	11.3	E

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - EBL), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Future Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		275	230		0	450		100	240		0
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00	1.00		1.00		0.98	1.00		0.98
Frt			0.850		0.975				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	5040	1881	1599	1787	3476	0	3467	3574	1599	1787	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	5022	1881	1571	1782	3476	0	3451	3574	1571	1786	3574	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			354		10				134			178
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		505			534			749			734	
Travel Time (s)		9.8			10.4			14.6			14.3	
Confl. Peds. (#/hr)	2		3	3		2	5		2	2		5
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	824	420	451	64	291	59	439	1286	37	78	982	346
Shared Lane Traffic (%)												
Lane Group Flow (vph)	824	420	451	64	350	0	439	1286	37	78	982	346
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Detector Phase	3	8	8	7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	39.1	39.1	11.7	41.9		12.0	32.6	32.6	11.8	33.5	33.5
Total Split (s)	56.0	76.0	76.0	22.0	42.0		44.0	86.0	86.0	16.0	58.0	58.0
Total Split (%)	28.0%	38.0%	38.0%	11.0%	21.0%		22.0%	43.0%	43.0%	8.0%	29.0%	29.0%
Maximum Green (s)	49.1	68.9	68.9	15.3	35.1		37.0	79.4	79.4	9.2	51.5	51.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1	4.1	4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5	2.5	2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6	6.6	6.8	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	3.0	3.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0	19.0		20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	40.3	54.0	54.0	12.8	26.5		31.4	90.5	90.5	15.5	74.5	74.5

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - EBL), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.20	0.27	0.27	0.06	0.13		0.16	0.45	0.45	0.08	0.37	0.37
v/c Ratio	0.81	0.83	0.66	0.56	0.75		0.81	0.80	0.05	0.57	0.74	0.50
Control Delay	83.0	82.5	17.7	110.4	79.7		110.9	33.1	0.1	103.5	59.1	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	1.6	0.0	0.0	0.0	0.0
Total Delay	83.0	82.5	17.7	110.4	79.7		110.9	34.7	0.1	103.5	59.1	27.3
LOS	F	F	B	F	E		F	C	A	F	E	C
Approach Delay	65.5			84.5			52.9			53.7		
Approach LOS	E			F			D			D		
Queue Length 50th (ft)	372	530	113	84	207		285	625	0	100	588	169
Queue Length 95th (ft)	408	621	229	146	293		327	827	m0	#187	#852	324
Internal Link Dist (ft)	425			454			669			654		
Turn Bay Length (ft)	390		275	230			450		100	240		
Base Capacity (vph)	1237	648	773	136	618		643	1616	783	138	1331	692
Starvation Cap Reductn	0	0	0	0	0		0	170	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.65	0.58	0.47	0.57		0.68	0.89	0.05	0.57	0.74	0.50

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 92 (46%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 59.7

Intersection LOS: E

Intersection Capacity Utilization 87.5%

ICU Level of Service E

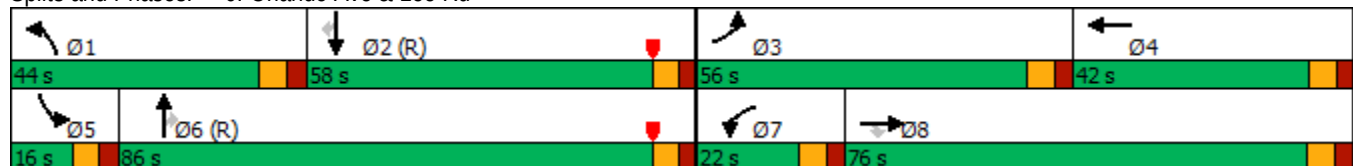
Analysis Period (min) 15

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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - NBR), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Future Volume (vph)	727	370	398	56	257	52	387	1134	33	69	866	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	390		390	230		0	450		100	240		0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00	1.00		1.00		0.98	1.00		0.98
Frt			0.850		0.975				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1599	1787	3476	0	3467	3574	1599	1787	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3455	1881	1571	1782	3476	0	3451	3574	1571	1786	3574	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			401		10				134			178
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		505			534			749			734	
Travel Time (s)		9.8			10.4			14.6			14.3	
Confl. Peds. (#/hr)	2		3	3		2	5		2	2		5
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	824	420	451	64	291	59	439	1286	37	78	982	346
Shared Lane Traffic (%)												
Lane Group Flow (vph)	824	420	451	64	350	0	439	1286	37	78	982	346
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Detector Phase	3	8	8	7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	39.1	39.1	11.7	41.9		12.0	32.6	32.6	11.8	33.5	33.5
Total Split (s)	56.0	76.0	76.0	22.0	42.0		44.0	86.0	86.0	16.0	58.0	58.0
Total Split (%)	28.0%	38.0%	38.0%	11.0%	21.0%		22.0%	43.0%	43.0%	8.0%	29.0%	29.0%
Maximum Green (s)	49.1	68.9	68.9	15.3	35.1		37.0	79.4	79.4	9.2	51.5	51.5
Yellow Time (s)	4.2	4.2	4.2	4.1	4.1		4.1	4.1	4.1	4.0	4.0	4.0
All-Red Time (s)	2.7	2.9	2.9	2.6	2.8		2.9	2.5	2.5	2.8	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	7.1	7.1	6.7	6.9		7.0	6.6	6.6	6.8	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	4.0	3.0	3.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		25.0	25.0		28.0			19.0	19.0		20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	49.1	62.2	62.2	12.8	26.0		31.4	82.9	82.9	14.9	66.3	66.3

Kimley-Horn
May 2021

Synchro 10 Report

Lanes, Volumes, Timings

6: Orlando Ave & Lee Rd

Orlando Ave Analysis

Improved Conditions (Lee Road Alternative - NBR), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.25	0.31	0.31	0.06	0.13		0.16	0.41	0.41	0.07	0.33	0.33
v/c Ratio	0.97	0.72	0.59	0.56	0.76		0.81	0.87	0.05	0.59	0.83	0.54
Control Delay	97.5	68.9	10.6	119.3	90.1		103.3	40.4	0.1	105.5	68.3	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	4.5	0.0	0.0	0.0	0.0
Total Delay	97.5	68.9	10.6	119.3	90.1		103.3	45.0	0.1	105.5	68.3	30.2
LOS	F	E	B	F	F		F	D	A	F	E	C
Approach Delay	67.3			94.6			58.6			60.9		
Approach LOS	E			F			E			E		
Queue Length 50th (ft)	560	498	48	86	240		264	742	0	100	631	182
Queue Length 95th (ft)	#696	616	161	146	299		328	826	m0	#198	#864	326
Internal Link Dist (ft)	425			454			669			654		
Turn Bay Length (ft)	390		390	230			450		100	240		
Base Capacity (vph)	851	648	804	136	618		643	1481	729	132	1184	635
Starvation Cap Reductn	0	0	0	0	0		0	140	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.65	0.56	0.47	0.57		0.68	0.96	0.05	0.59	0.83	0.54

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 93 (47%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 64.8

Intersection LOS: E

Intersection Capacity Utilization 95.1%

ICU Level of Service F

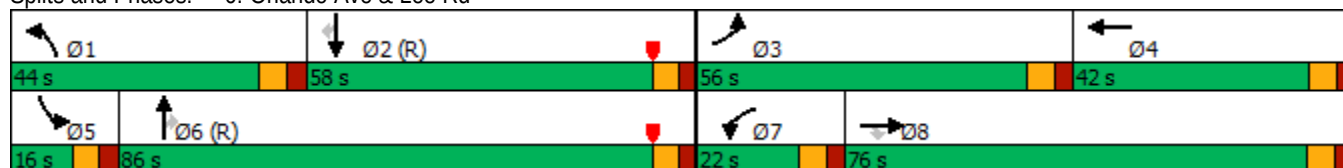
Analysis Period (min) 15

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.

Splits and Phases: 6: Orlando Ave & Lee Rd



Lanes, Volumes, Timings

16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis

Improved Conditions (Denning Drive Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Future Volume (vph)	83	799	43	41	850	70	38	258	12	48	200	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	190		100	170		100
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3546	0	1787	3535	0	1787	1881	1599	1787	1881	1599
Flt Permitted	0.165			0.251			0.386			0.207		
Satd. Flow (perm)	310	3546	0	472	3535	0	726	1881	1599	389	1881	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				75			75
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1337			1345			1308			713	
Travel Time (s)		26.0			26.2			35.7			19.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	101	977	53	50	1039	86	46	315	15	59	244	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1030	0	50	1125	0	46	315	15	59	244	75
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		4.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	9.5	23.7		24.1	24.1		10.2	25.2	25.2	9.9	24.9	24.9
Total Split (s)	20.0	135.0		115.0	115.0		20.0	45.0	45.0	20.0	45.0	45.0
Total Split (%)	10.0%	67.5%		57.5%	57.5%		10.0%	22.5%	22.5%	10.0%	22.5%	22.5%
Maximum Green (s)	15.5	128.9		108.9	108.9		13.8	38.8	38.8	14.1	39.1	39.1
Yellow Time (s)	3.5	4.1		4.1	4.1		3.4	3.4	3.4	3.4	3.4	3.4
All-Red Time (s)	1.0	2.0		2.0	2.0		2.8	2.8	2.8	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.1		6.1	6.1		6.2	6.2	6.2	5.9	5.9	5.9
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	Max	Max	None	None	None
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		10.0		10.0	10.0			10.0	10.0		12.0	12.0
Pedestrian Calls (#/hr)		0		0	0			0	0		0	0
Act Effect Green (s)	130.5	128.9		114.7	114.7		51.4	42.2	42.2	55.4	46.2	46.2
Actuated g/C Ratio	0.65	0.64		0.57	0.57		0.26	0.21	0.21	0.28	0.23	0.23
v/c Ratio	0.37	0.45		0.19	0.55		0.20	0.79	0.04	0.32	0.56	0.18
Control Delay	20.7	17.8		23.0	27.9		53.6	89.9	0.1	56.5	75.3	12.3

Lanes, Volumes, Timings
16: S Denning Dr & W Fairbanks Ave

Orlando Ave Analysis
Improved Conditions (Denning Drive Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	17.8		23.0	27.9		53.6	89.9	0.1	56.5	75.3	12.3
LOS	C	B		C	C		D	F	A	E	E	B
Approach Delay		18.0			27.7			81.9			59.8	
Approach LOS		B			C			F			E	
Queue Length 50th (ft)	47	284		31	474		44	399	0	57	293	0
Queue Length 95th (ft)	m70	m303		62	555		83	#576	0	101	408	52
Internal Link Dist (ft)		1257			1265			1228			633	
Turn Bay Length (ft)	150			200			190		100	170		100
Base Capacity (vph)	316	2287		270	2030		276	397	396	210	434	426
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.45		0.19	0.55		0.17	0.79	0.04	0.28	0.56	0.18

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 34.8

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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.

Splits and Phases: 16: S Denning Dr & W Fairbanks Ave



Arterial Level of Service: EB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Denning Dr	III	30	31.5	29.6	61.1	0.25	14.6	D
Total	III		31.5	29.6	61.1	0.25	14.6	D

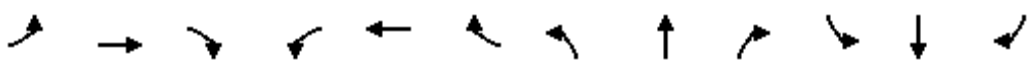
Arterial Level of Service: WB Morse Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Denning Dr	III	30	18.0	27.1	45.1	0.13	10.7	E
Orlando Ave	III	30	31.5	51.0	82.5	0.25	10.8	E
Total	III		49.5	78.1	127.6	0.38	10.8	E

Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions (Morse Blvd Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Future Volume (vph)	54	25	56	169	42	148	72	1297	91	109	1214	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		0.99	0.97			1.00			1.00	
Frt		0.896			0.883			0.990			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1663	0	1787	1617	0	1787	3529	0	1787	3570	0
Flt Permitted	0.351			0.648			0.139			0.087		
Satd. Flow (perm)	653	1663	0	1211	1617	0	261	3529	0	164	3570	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			83			6			1	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		262			1308			1662			1539	
Travel Time (s)		6.0			29.7			32.4			30.0	
Confl. Peds. (#/hr)	9		3	3		9	1		4	4		1
Confl. Bikes (#/hr)									5			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	63	29	65	196	49	171	83	1502	105	126	1406	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	94	0	196	220	0	83	1607	0	126	1416	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		4.0	15.0		4.0	15.0	
Minimum Split (s)	34.4	34.4		34.4	34.4		10.0	35.0		10.1	27.1	
Total Split (s)	55.0	55.0		55.0	55.0		26.0	119.0		26.0	119.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		13.0%	59.5%		13.0%	59.5%	
Maximum Green (s)	48.6	48.6		48.6	48.6		20.0	113.0		19.9	112.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.1	2.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0		6.1	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0			17.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	37.4	37.4		37.4	37.4		139.5	131.4		148.1	136.1	

Lanes, Volumes, Timings

3: Orlando Ave & Morse Blvd

Orlando Ave Analysis
Improved Conditions (Morse Blvd Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.70	0.66		0.74	0.68	
v/c Ratio	0.52	0.27		0.87	0.60		0.34	0.69		0.56	0.58	
Control Delay	86.4	31.3		111.5	51.0		4.3	5.5		24.4	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	86.4	31.3		111.5	51.0		4.3	5.5		24.4	22.2	
LOS	F	C		F	D		A	A		C	C	
Approach Delay		53.4			79.5			5.5			22.4	
Approach LOS		D			E			A			C	
Queue Length 50th (ft)	76	46		254	168		6	146		36	688	
Queue Length 95th (ft)	128	101		343	253		m10	m269		m135	682	
Internal Link Dist (ft)		182			1228			1582			1459	
Turn Bay Length (ft)	125			200			200			200		
Base Capacity (vph)	158	444		294	455		347	2320		284	2429	
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	0.21		0.67	0.48		0.24	0.69		0.44	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 44 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 22.4

Intersection LOS: C

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Orlando Ave & Morse Blvd

 Ø1	 Ø2 (R)	 Ø4
26 s	119 s	55 s
 Ø5	 Ø6 (R)	
26 s	119 s	

Lanes, Volumes, Timings

Orlando Ave Analysis

13: S Denning Dr/N Denning Dr & Morse Blvd

Improved Conditions (Morse Blvd Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Future Volume (vph)	25	280	114	26	239	80	66	340	49	50	248	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	170		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957			0.962			0.981			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1783	0	1770	1792	0	1770	1827	0	1770	1818	0
Flt Permitted	0.339			0.226			0.463			0.414		
Satd. Flow (perm)	631	1783	0	421	1792	0	862	1827	0	771	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			24			11			15	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1308			708			993			972	
Travel Time (s)		29.7			16.1			27.1			26.5	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	28	314	128	29	268	90	74	382	55	56	278	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	442	0	29	358	0	74	437	0	56	332	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	24.9	24.9		24.1	24.1		14.6	29.6		14.5	31.5	
Total Split (s)	25.0	25.0		25.0	25.0		15.0	30.0		15.0	30.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		21.4%	42.9%		21.4%	42.9%	
Maximum Green (s)	19.1	19.1		18.9	18.9		8.4	23.4		8.5	23.5	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.2	2.2		2.4	2.4		3.2	3.2		3.1	3.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		6.1	6.1		6.6	6.6		6.5	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		11.0	11.0			16.0			18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.9	17.9		17.7	17.7		32.8	28.3		31.5	25.5	
Actuated g/C Ratio	0.27	0.27		0.26	0.26		0.49	0.42		0.47	0.38	
v/c Ratio	0.17	0.89		0.26	0.73		0.14	0.56		0.12	0.47	
Control Delay	23.1	45.8		28.0	32.3		8.3	20.2		8.2	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings

Orlando Ave Analysis

13: S Denning Dr/N Denning Dr & Morse Blvd

Improved Conditions (Morse Blvd Alternative), PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	23.1	45.8		28.0	32.3		8.3	20.2		8.2	19.6	
LOS	C	D		C	C		A	C		A	B	
Approach Delay		44.4			31.9			18.5			18.0	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	9	174		10	133		14	155		10	107	
Queue Length 95th (ft)	30	#339		34	#250		31	252		25	183	
Internal Link Dist (ft)		1228			628			913			892	
Turn Bay Length (ft)	200			200			170			180		
Base Capacity (vph)	182	537		120	531		539	775		495	699	
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	0.15	0.82		0.24	0.67		0.14	0.56		0.11	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 67.1

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 13: S Denning Dr/N Denning Dr & Morse Blvd

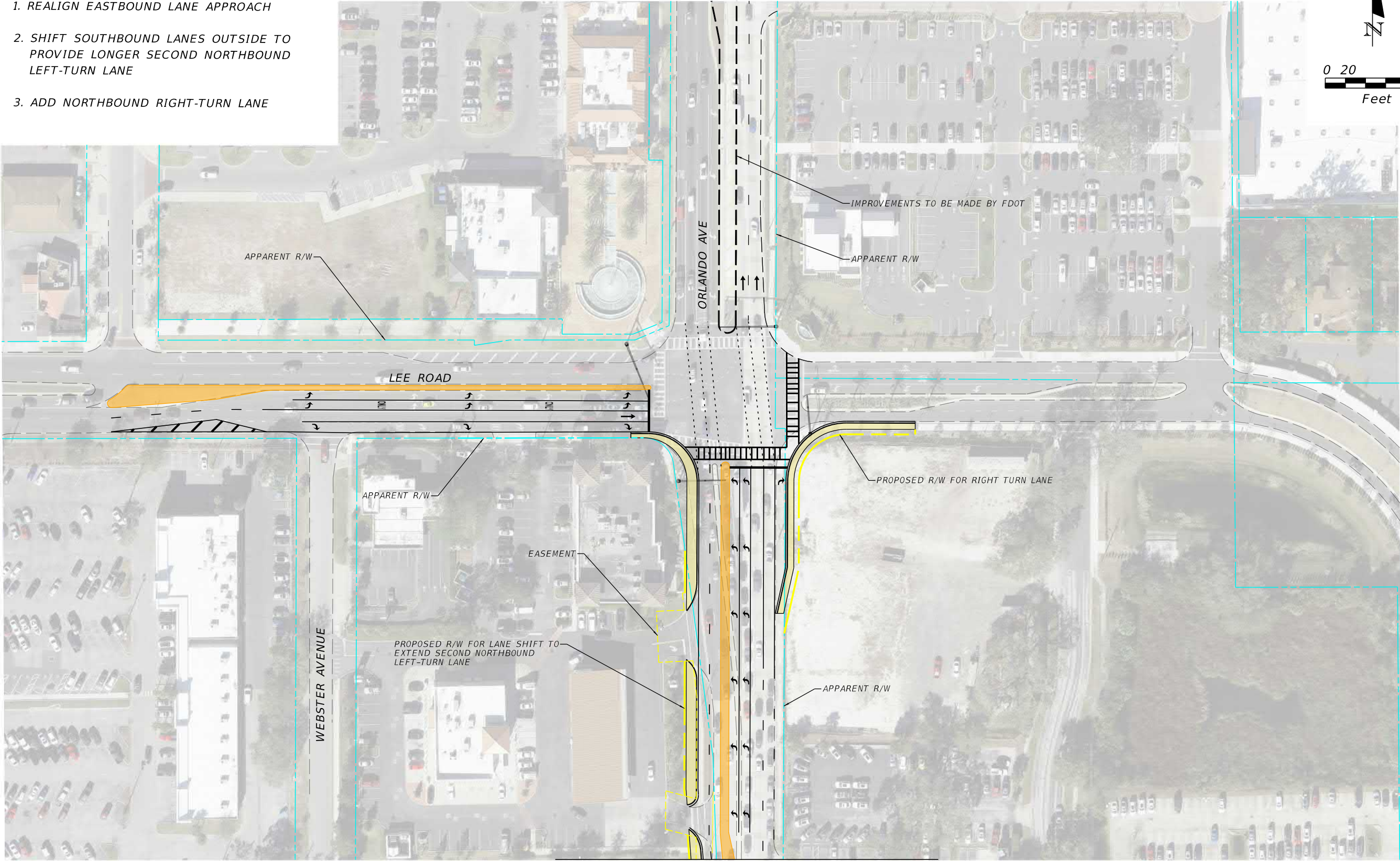
 Ø1	 Ø2	 Ø4
15 s	30 s	25 s
 Ø5	 Ø6	 Ø8
15 s	30 s	25 s



Appendix H

Improvements Concept Plans

- POTENTIAL IMPROVEMENTS:
- 1. REALIGN EASTBOUND LANE APPROACH
 - 2. SHIFT SOUTHBOUND LANES OUTSIDE TO PROVIDE LONGER SECOND NORTHBOUND LEFT-TURN LANE
 - 3. ADD NORTHBOUND RIGHT-TURN LANE



MATCHLINE A

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Orlando, Florida 32801



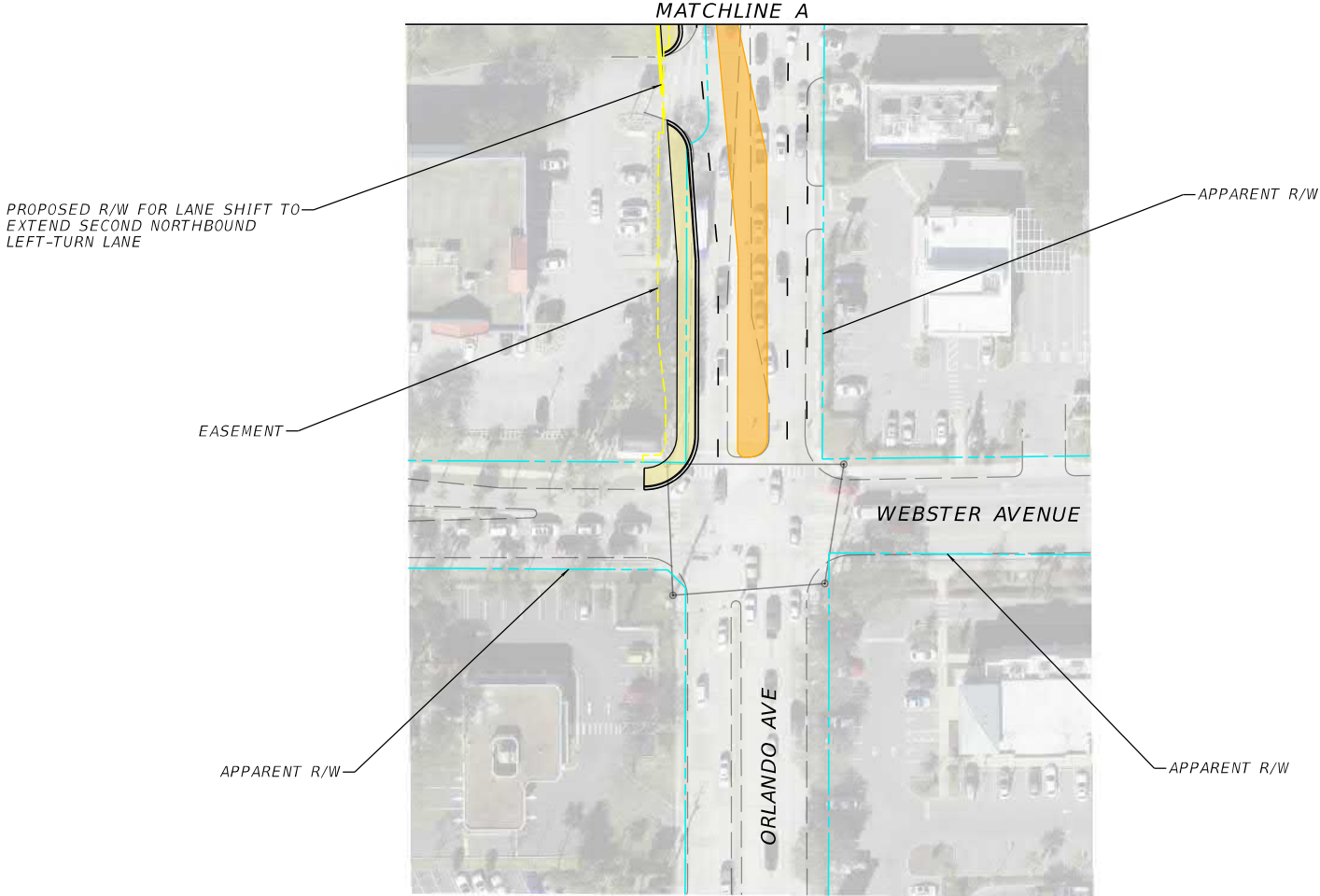
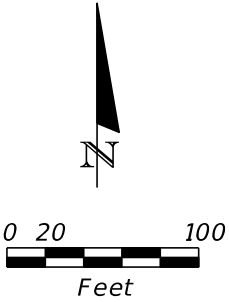
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POTENTIAL
IMPROVEMENTS

SHEET NO.
2

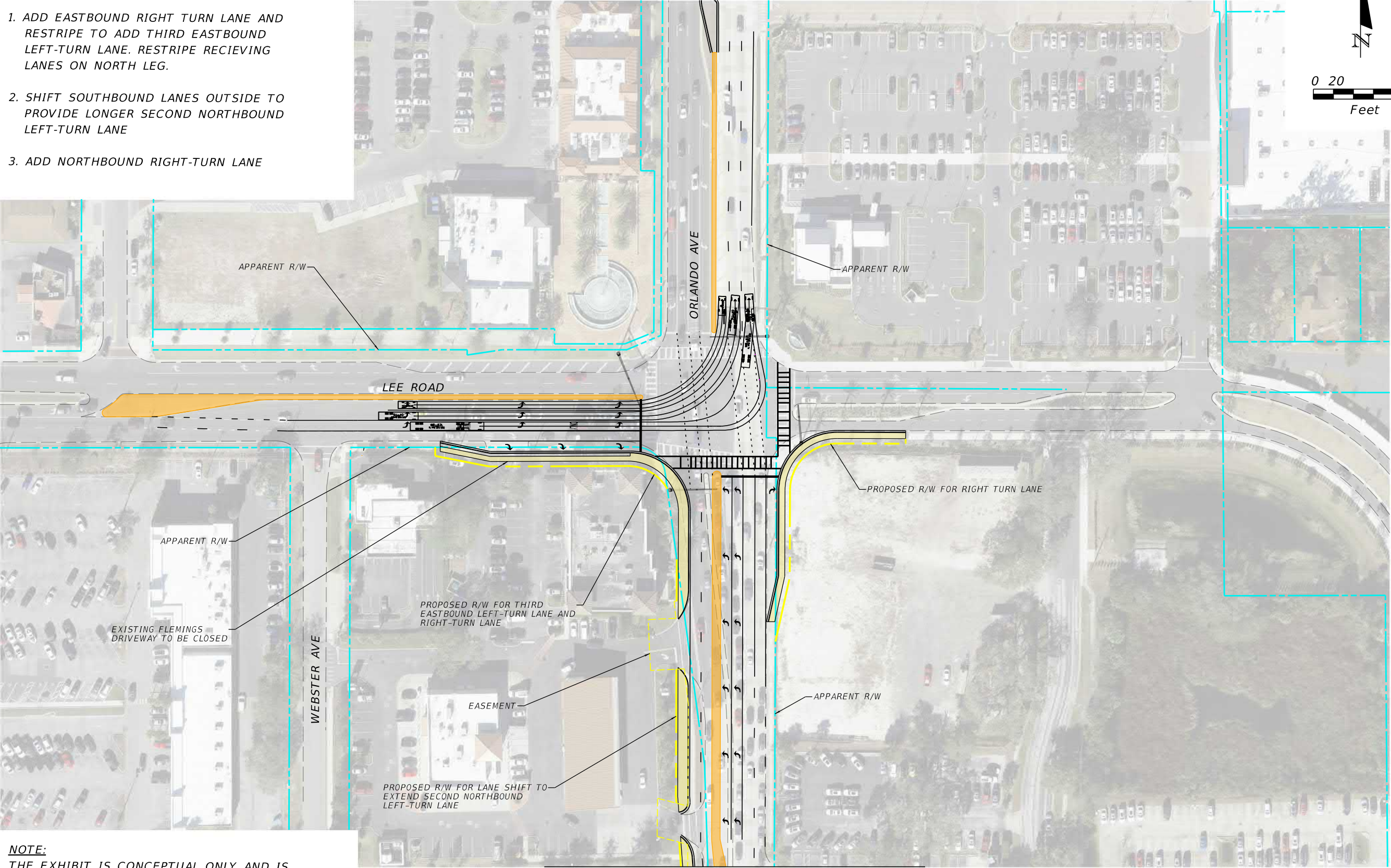
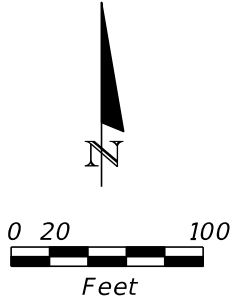
POTENTIAL IMPROVEMENTS:

- 1. SHIFT SOUTHBOUND LANES OUTSIDE TO PROVIDE LONGER SECOND NORTHBOUND LEFT-TURN LANE



REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	 CITY OF WINTER PARK	POTENTIAL IMPROVEMENTS	SHEET NO.	487
DATE	DESCRIPTION	DATE	DESCRIPTION				3	

- POTENTIAL IMPROVEMENTS:
- 1. ADD EASTBOUND RIGHT TURN LANE AND RESTRIPE TO ADD THIRD EASTBOUND LEFT-TURN LANE. RESTRIPE RECIEVING LANES ON NORTH LEG.
 - 2. SHIFT SOUTHBOUND LANES OUTSIDE TO PROVIDE LONGER SECOND NORTHBOUND LEFT-TURN LANE
 - 3. ADD NORTHBOUND RIGHT-TURN LANE



NOTE:
THE EXHIBIT IS CONCEPTUAL ONLY AND IS USED TO DETERMINE POSSIBLE ALTERNATIVES.

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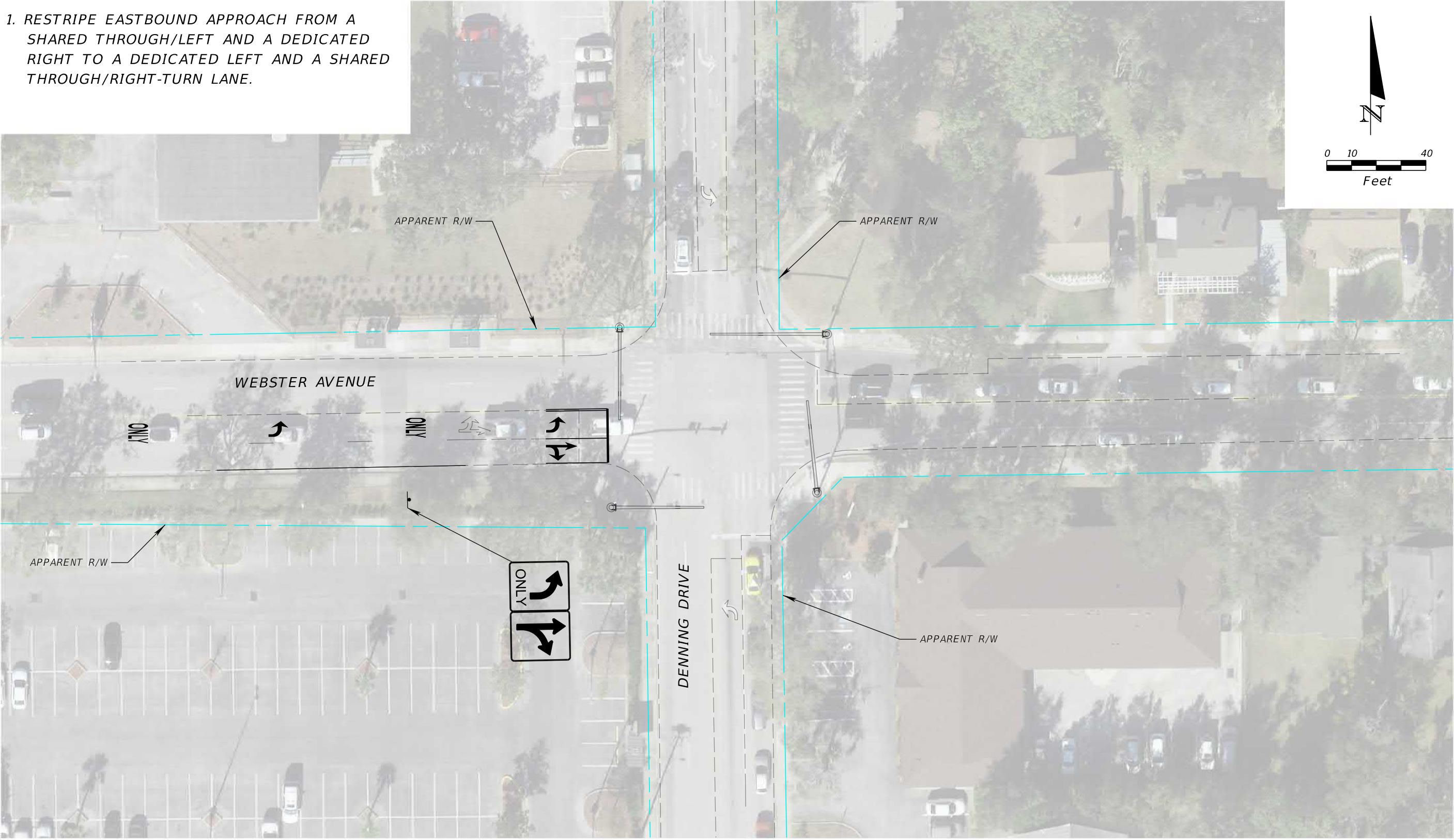
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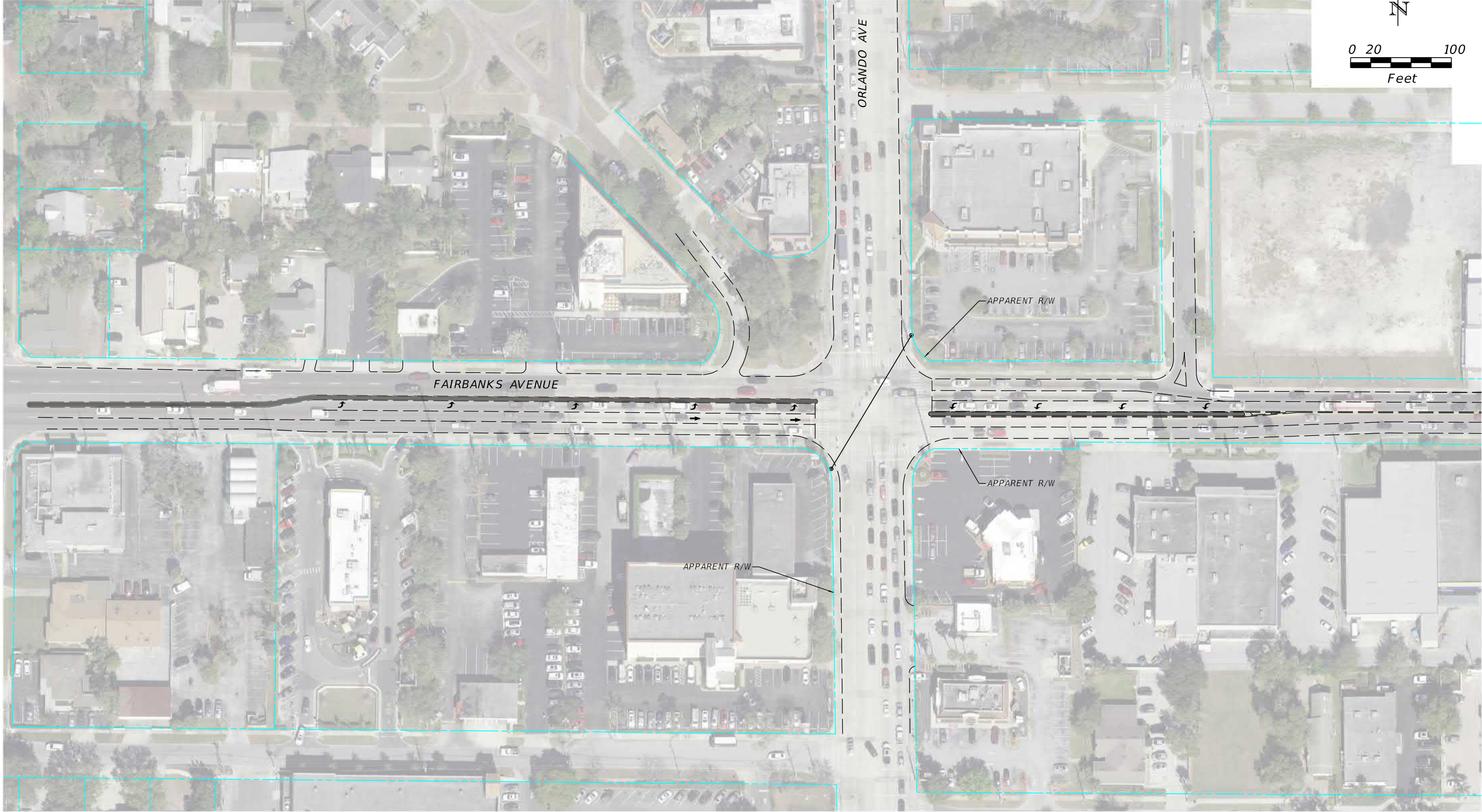
POTENTIAL
IMPROVEMENTS

SHEET NO.
4

POTENTIAL IMPROVEMENTS:

1. RESTRIPE EASTBOUND APPROACH FROM A SHARED THROUGH/LEFT AND A DEDICATED RIGHT TO A DEDICATED LEFT AND A SHARED THROUGH/RIGHT-TURN LANE.





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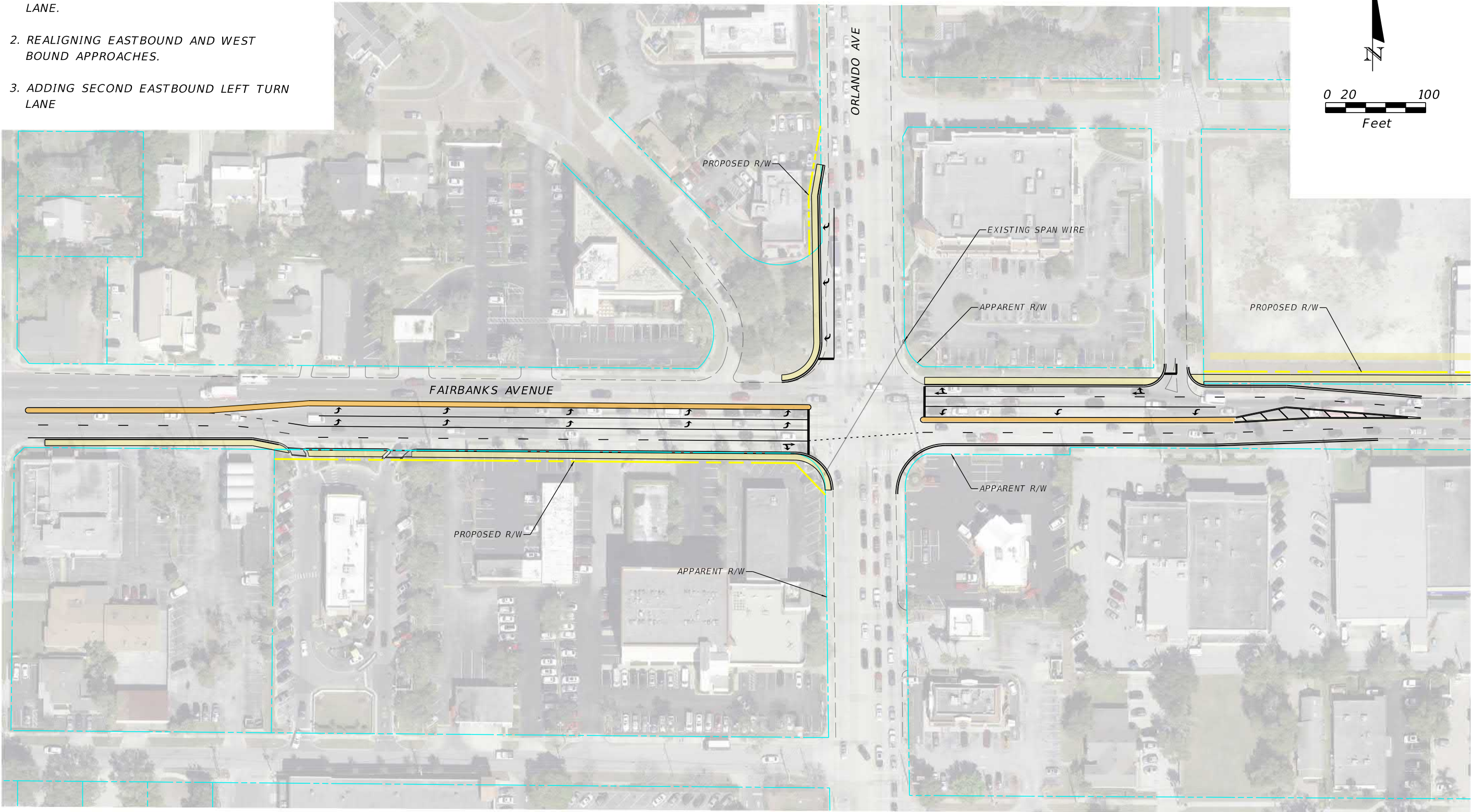
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SHEET
NO.

6

- POTENTIAL IMPROVEMENTS:
- 1. EXTENDING SOUTHBOUND RIGHT-TURN LANE.
 - 2. REALIGNING EASTBOUND AND WEST BOUND APPROACHES.
 - 3. ADDING SECOND EASTBOUND LEFT TURN LANE



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joshua.parker

5/27/2021

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**POTENTIAL
IMPROVEMENTS**

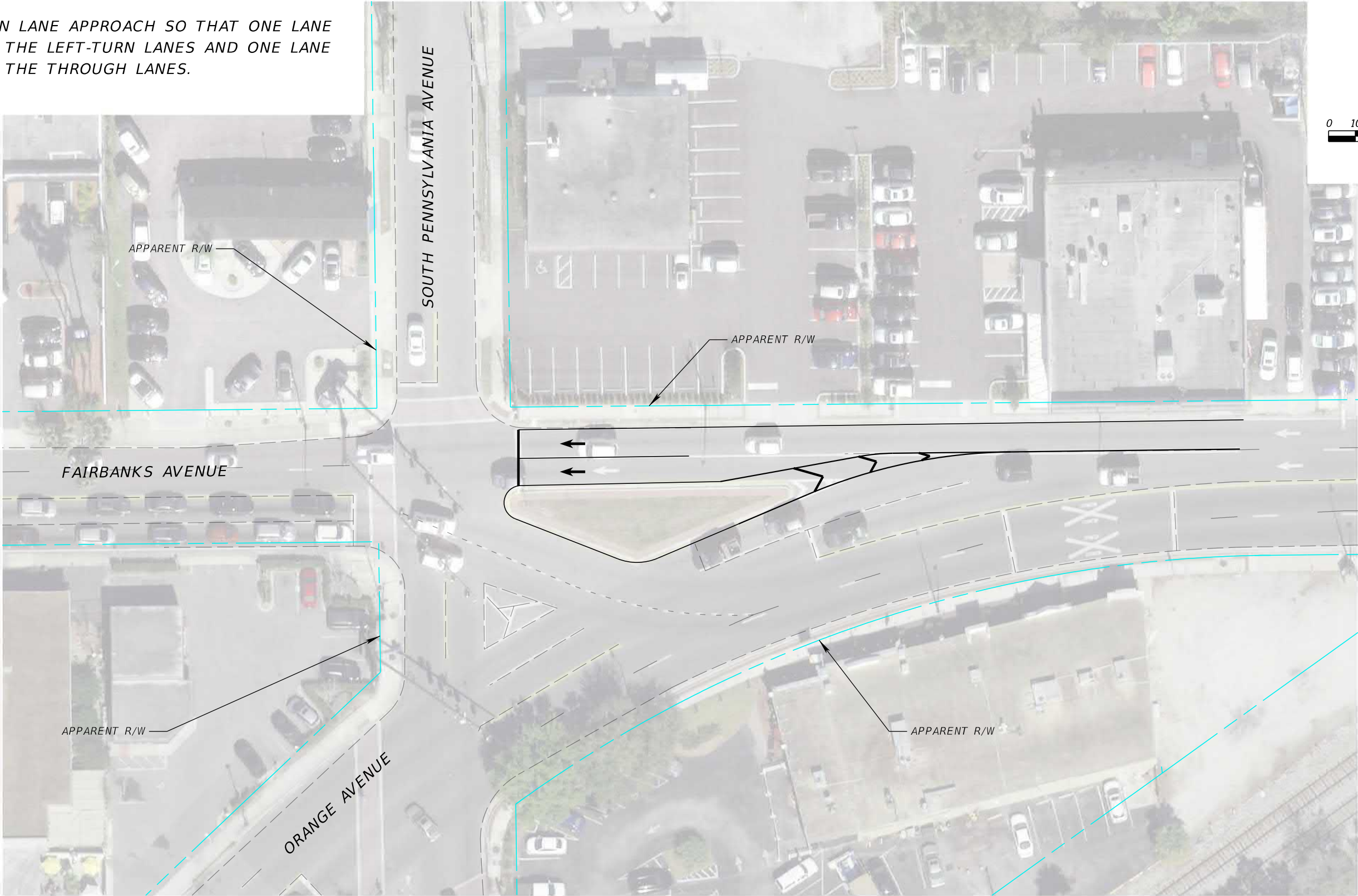
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491

SHEET NO.
7

POTENTIAL IMPROVEMENTS:

- 1. REALIGN LANE APPROACH SO THAT ONE LANE FEEDS THE LEFT-TURN LANES AND ONE LANE FEEDS THE THROUGH LANES.



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5/11/2021

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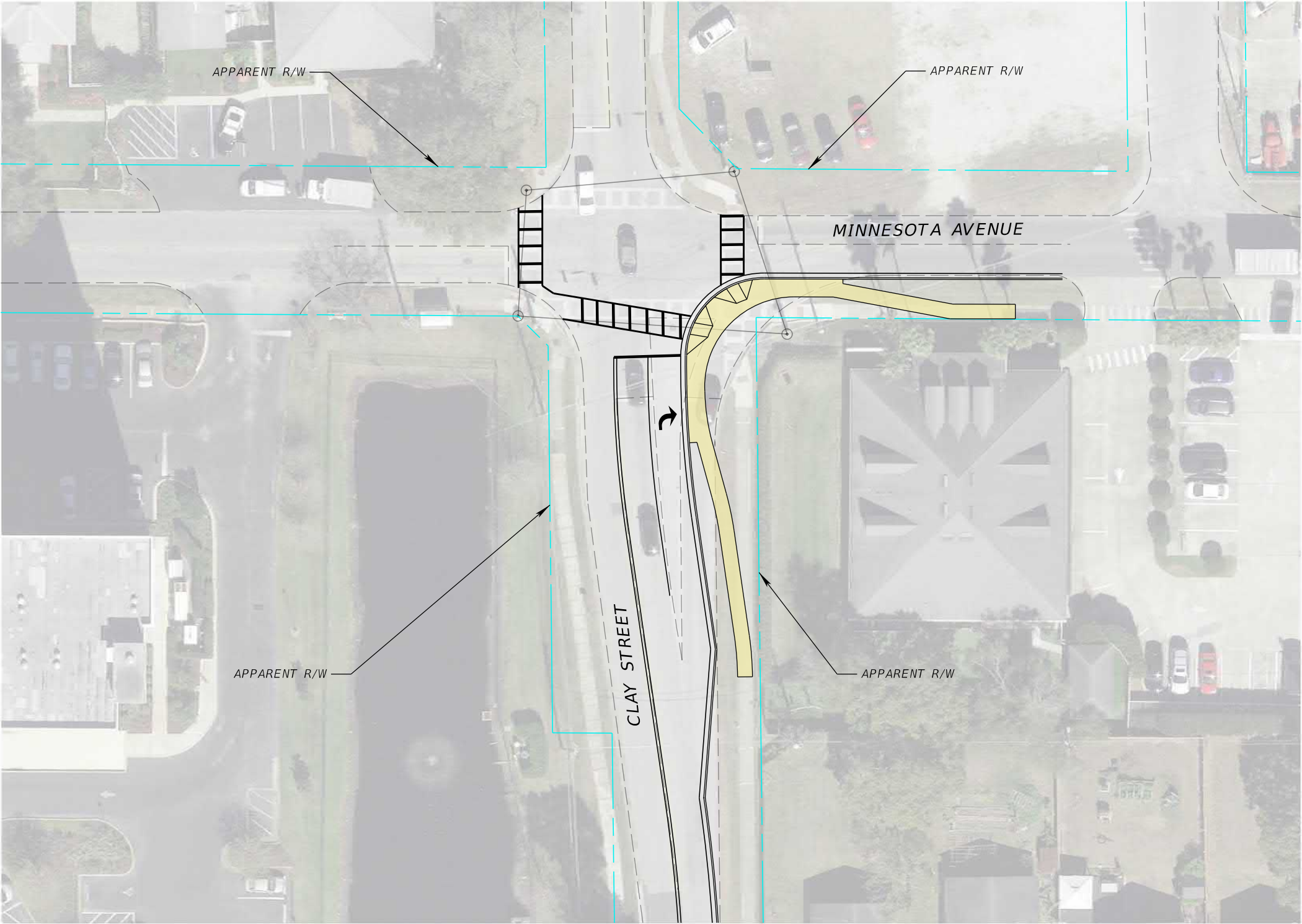
**POTENTIAL
IMPROVEMENTS**

8

492

POTENTIAL IMPROVEMENTS:

1. REMOVING GORE AREA AND DECREASING RADIUS IN SOUTHEAST CORNER.



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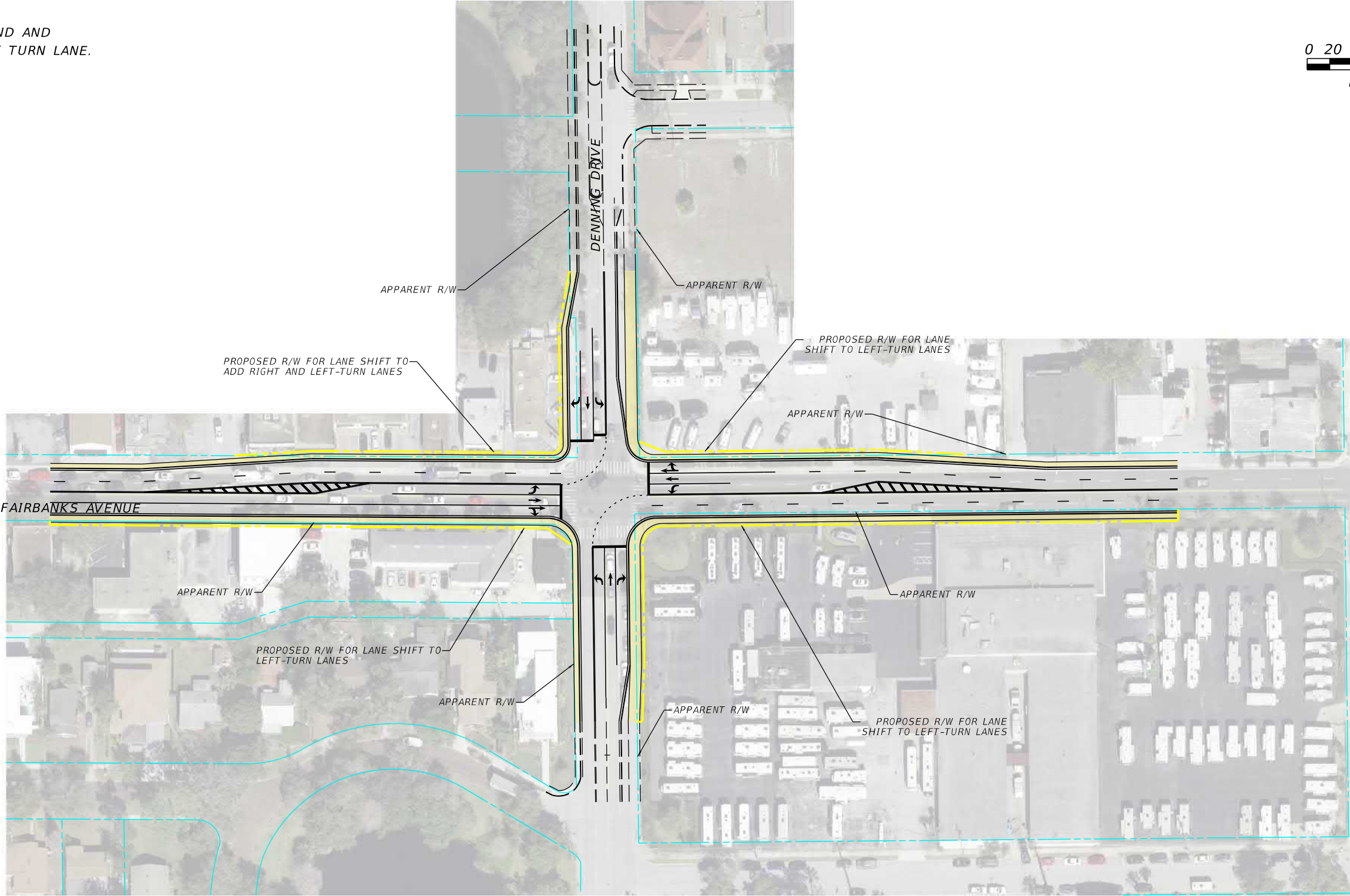
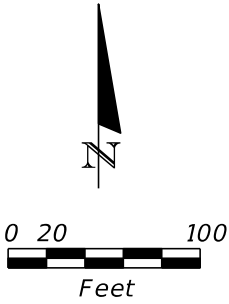
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IMPROVEMENTS**

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SHEET NO.
9

POTENTIAL IMPROVEMENTS:

- 1. ADDING EASTBOUND AND WESTBOUND LEFT TURN LANES.
- 2. ADDING NORTHBOUND AND SOUTHBOUND RIGHT TURN LANE.



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WINTER PARK**

Maile.Spang

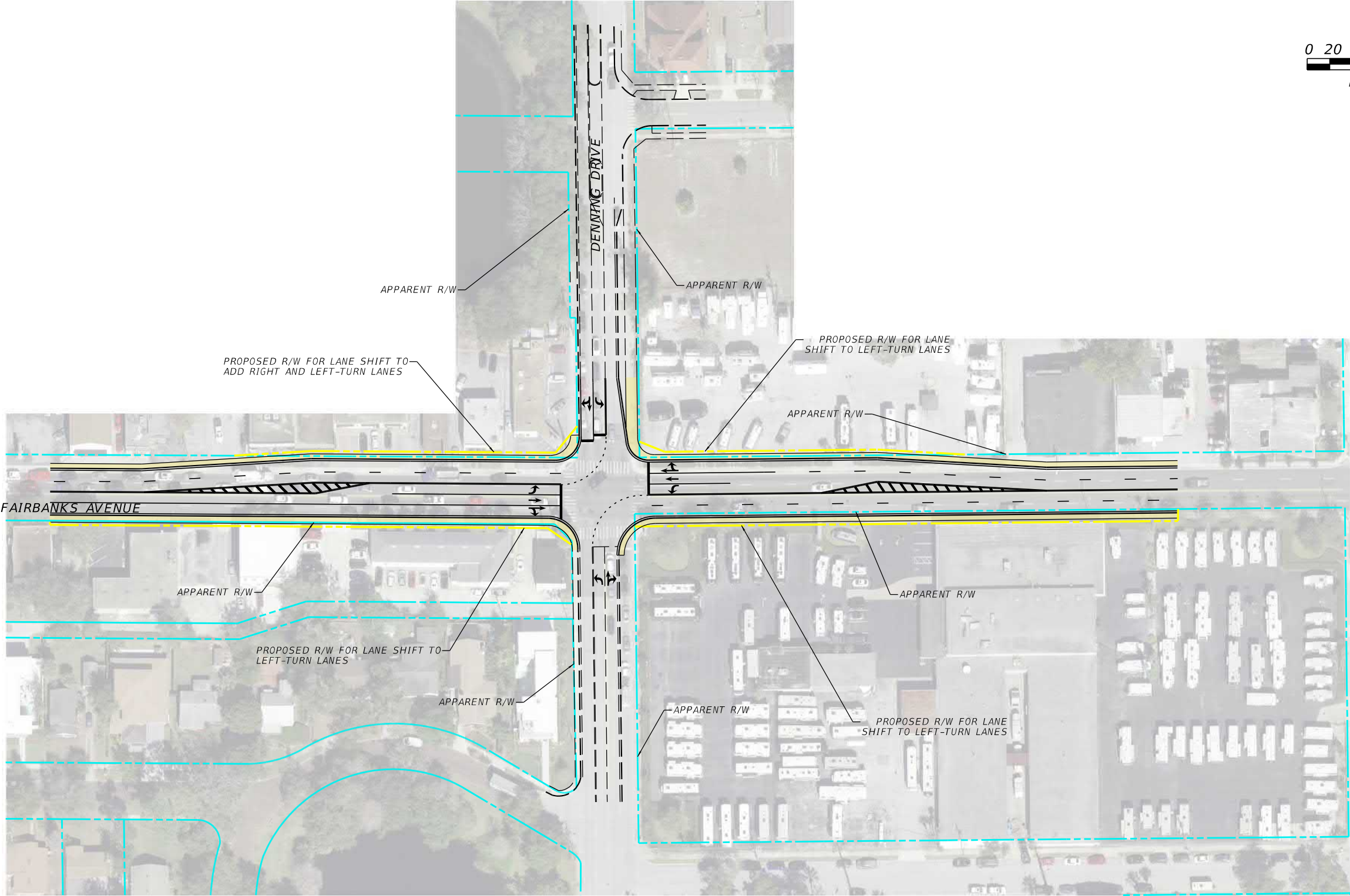
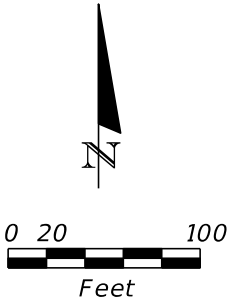
**POTENTIAL
IMPROVEMENTS**

5/24/2021 2:21:45 PM \\orlf01\FL_ORL\ORL_TPT\049106004_Orlando Ave Analysis\03_Roadway\049106004\

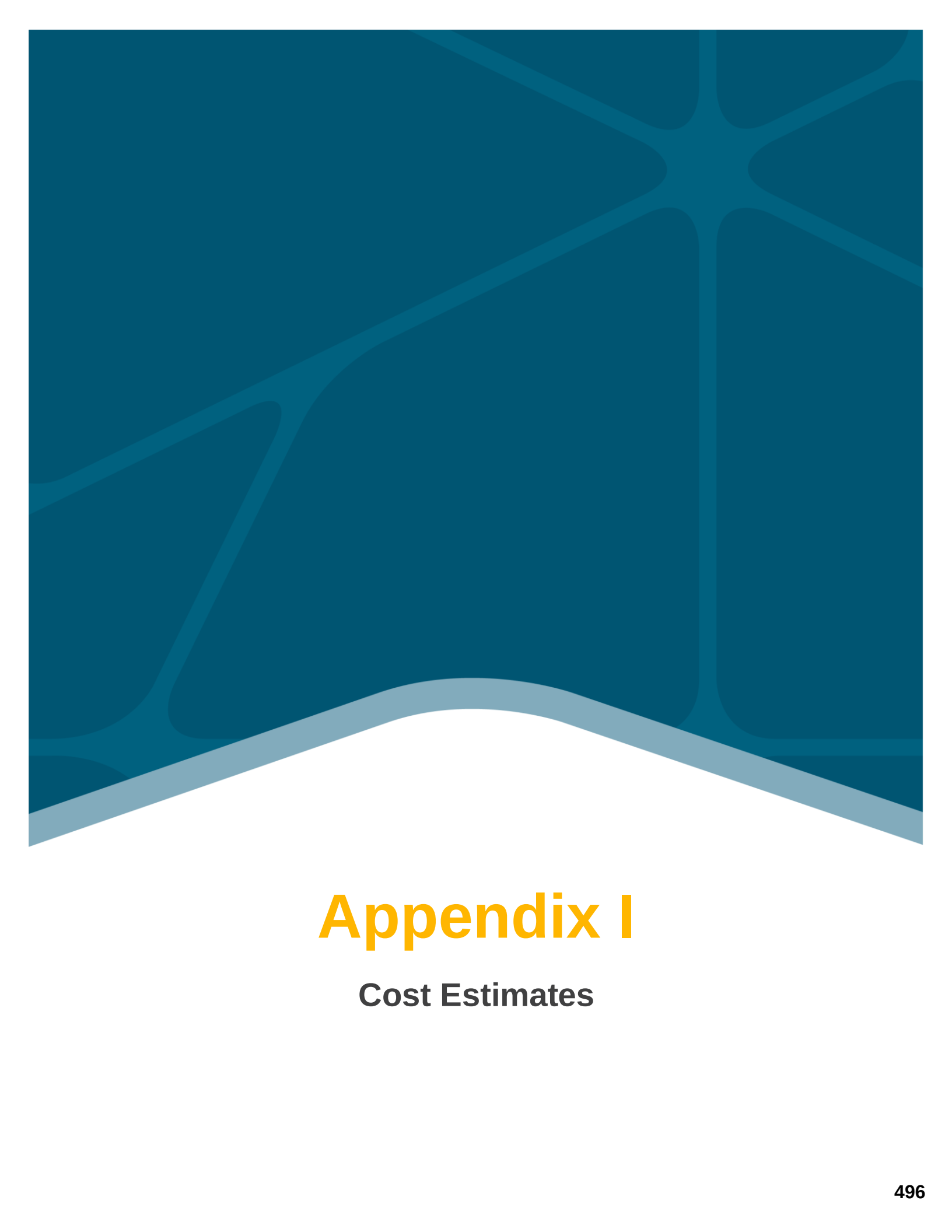
SHEET NO.
10

POTENTIAL IMPROVEMENTS:

1. ADDING EASTBOUND AND WESTBOUND LEFT TURN LANES.



REVISIONS				Kimley»Horn Certificate Of Authorization No. 696 Mike Woodward, P.E. P.E. License No. 70009 189 South Orange Avenue, Suite 1000 Orlando, Florida 32801	 CITY OF WINTER PARK	POTENTIAL IMPROVEMENTS	SHEET NO.	495
DATE	DESCRIPTION	DATE	DESCRIPTION				11	



Appendix I

Cost Estimates

Orlando Ave & Lee Road Opinion of Probable Cost
 Realign EB Lane Approach
 Adding NBR Turn Lane
 Shift SB Lanes

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	1.96	\$ 20,016.00	\$ 40,000.00
Regular Excavation	CY	1,209.26	\$ 7.00	\$ 9,000.00
Type B Stabilization	SY	439.33	\$ 7.00	\$ 4,000.00
Optional Base	SY	439.33	\$ 27.00	\$ 12,000.00
Friction Course FC - 12.5	TN	36.25	\$ 114.00	\$ 5,000.00
Milling (1.5" Avg Depth)	SY	8,325.89	\$ 2.00	\$ 17,000.00
Asphalt (1.5" Thick)	TN	686.89	\$ 116.00	\$ 80,000.00
Superpave Asphalt Traffic C	TN	48.33	\$ 97.00	\$ 5,000.00
Curb & Gutter, Type F	LF	951	\$ 26.00	\$ 25,000.00
Traffic Separator, Variable Width	SY	744	\$ 90.00	\$ 67,000.00
Traffic Separator, 4' Wide	LF	378	\$ 52.00	\$ 20,000.00
Traffic Separator, 8.5' Wide	LF	365	\$ 104.00	\$ 38,000.00
Sidewalk, 4"	SY	771	\$ 44.00	\$ 34,000.00
Signing and Pavement Markings	LS	1.0	\$ 11,000.00	\$ 11,000.00
Subtotal				367,000.00
MOT (20%)				73,400.00
Mobilization (15%)				55,050.00
Miscellaneous Construction Items (10%)				36,700.00
Contingency (20%)				73,400.00
Construction Total				605,550.00
Design (25%)				151,390.00
Post Design (4%)				24,230.00
CEI (12%)				72,666.00
Project Total				854,000.00

NOTE: UNIT RATES BASED ON FDOT ITEM AVERAGE UNIT COSTS FROM 2020/06/01 TO 2021/05/31

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Orlando Ave & Lee Road Opinion of Probable Cost

Add EBR Turn Lane & Add Third EBL Turn Lane

Shift SB Lanes

Add NBR Turn Lane

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	3.1	\$ 20,016.00	\$ 63,000.00
Regular Excavation	CY	1,368.4	\$ 7.00	\$ 10,000.00
Type B Stabilization	SY	903.6	\$ 7.00	\$ 7,000.00
Optional Base	SY	903.6	\$ 27.00	\$ 25,000.00
Friction Course FC - 12.5	TN	74.5	\$ 114.00	\$ 9,000.00
Milling (1.5" Avg Depth)	SY	9,269.8	\$ 2.00	\$ 19,000.00
Asphalt (1.5" Thick)	TN	764.8	\$ 116.00	\$ 89,000.00
Superpave Asphalt Traffic C	TN	109.2	\$ 97.00	\$ 11,000.00
Curb & Gutter, Type F	LF	1,276.0	\$ 26.00	\$ 34,000.00
Traffic Separator, Variable Width	SY	484.0	\$ 90.00	\$ 44,000.00
Traffic Separator, 8.5' Wide	LF	365.0	\$ 104.00	\$ 38,000.00
Sidewalk, 4"	SY	914.4	\$ 44.00	\$ 41,000.00
Signing and Pavement Markings	LS	1.0	\$ 12,000.00	\$ 12,000.00
Subtotal				402,000.00
MOT (20%)				80,400.00
Mobilization (15%)				60,300.00
Miscellaneous Construction Items (10%)				40,200.00
Contingency (20%)				80,400.00
Construction Total				663,300.00
Design (25%)				165,830.00
Post Design (4%)				26,540.00
CEI (12%)				79,596.00
Project Total				935,000.00

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Denning and Webster Opinion of Probable Cost

Modify Striping

Adding Sign

Item	Unit	Quantity	Unit Price	Cost
Signing and Pavement Markings	LS	1.0	\$ 1,000.00	\$ 1,000.00
Subtotal				1,000.00
MOT (20%)				200.00
Mobilization (15%)				150.00
Miscellaneous Construction Items (10%)				100.00
Contingency (30%)				300.00
Construction Total				1,750.00

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Orlando Ave & Fairbanks Opinion of Probable Cost

Modify EW Approaches

Adding SBR Turn Lane

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	1.97	\$ 20,016.00	\$40,000
Regular Excavation	CY	705.33	\$ 7.00	\$5,000
Type B Stabilization	SY	1,058.00	\$ 7.00	\$8,000
Optional Base	SY	1,058.00	\$ 27.00	\$29,000
Friction Course FC - 12.5	TN	87.29	\$ 114.00	\$10,000
Milling (1.5" Avg Depth)	SY	11,234.67	\$ 2.00	\$23,000
Asphalt (1.5" Thick)	TN	926.86	\$ 116.00	\$108,000
Superpave Asphalt Traffic C	TN	116.38	\$ 97.00	\$12,000
Curb & Gutter, Type F	LF	2,080	\$ 26.00	\$55,000
Traffic Separator, 4' Wide	LF	1,091	\$ 52.00	\$57,000
Sidewalk, 4"	SY	1,052	\$ 44.00	\$47,000
Signing and Pavement Markings	LS	1.0	\$ 11,500.00	\$12,000
Subtotal				\$406,000
MOT (20%)				\$81,200
Mobilization (15%)				\$60,900
Miscellaneous Construction Items (10%)				\$40,600
Contingency (20%)				\$81,200
Construction Total				\$669,900
Design (25%)				\$167,480
Post Design (4%)				\$26,800
CEI (12%)				\$80,388
Project Total				\$945,000

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Orange Ave & Fairbanks Ave Opinion of Probable Cost
Modifying Striping

Item	Unit	Quantity	Unit Price	Cost
Signing and Pavement Markings	LS	1.0	\$ 1,600.00	\$ 2,000.00
Subtotal				2,000.00
MOT (20%)				400.00
Mobilization (15%)				300.00
Miscellaneous Construction Items (10%)				200.00
Contingency (30%)				600.00
Construction Total				3,500.00

NOTE: UNIT RATES BASED ON FDOT ITEM AVERAGE UNIT COSTS FROM 2020/06/01 TO 2021/05/31
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Minnesota Ave & Clay St Opinion of Probable Cost
Tightening Right Turn Lane
Modifying Sidewalk

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	0.39	\$ 20,016.00	\$ 8,000.00
Embankment	CY	155.33	\$ 6.00	\$ 1,000.00
Milling (1.5" Avg Depth)	SY	273.69	\$ 2.00	\$ 1,000.00
Asphalt (1.5" Thick)	TN	117.30	\$ 116.00	\$ 14,000.00
Curb & Gutter, Type F	LF	353	\$ 26.00	\$ 10,000.00
Sidewalk, 4"	SY	151	\$ 44.00	\$ 7,000.00
Signing and Pavement Markings	LS	1.0	\$ 2,500.00	\$ 3,000.00
Subtotal				44,000.00
MOT (20%)				8,800.00
Mobilization (15%)				6,600.00
Miscellaneous Construction Items (20%)				8,800.00
Contingency (30%)				13,200.00
Construction Total				81,400.00
Design (35%)				28,490.00
Post Design (4%)				3,260.00
CEI (12%)				9,768.00
Project Total				123,000.00

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Denning Dr & Fairbanks Ave Opinion of Probable Cost

Adding SBR Turn Lane

Adding EBL Turn Lane

Shift Lanes

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	2.04	\$ 20,016.00	\$ 41,000.00
Regular Excavation	CY	570.96	\$ 7.00	\$ 4,000.00
Type B Stabilization	SY	856.44	\$ 7.00	\$ 6,000.00
Optional Base	SY	856.44	\$ 27.00	\$ 24,000.00
Friction Course FC - 12.5	TN	70.66	\$ 114.00	\$ 9,000.00
Milling (1.5" Avg Depth)	SY	5,057.78	\$ 2.00	\$ 11,000.00
Asphalt (1.5" Thick)	TN	417.27	\$ 116.00	\$ 49,000.00
Superpave Asphalt Traffic C	TN	94.21	\$ 97.00	\$ 10,000.00
Curb & Gutter, Type F	LF	2,607	\$ 26.00	\$ 68,000.00
Sidewalk, 4"	SY	1,524	\$ 44.00	\$ 68,000.00
Signing and Pavement Markings	LS	1.0	\$ 10,500.00	\$ 11,000.00
Subtotal				301,000.00
MOT (20%)				60,200.00
Mobilization (15%)				45,150.00
Miscellaneous Construction Items (10%)				30,100.00
Contingency (20%)				60,200.00
Construction Total				496,650.00
Design (25%)				124,170.00
Post Design (4%)				19,870.00
CEI (12%)				59,598.00
Project Total				700,000.00

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Denning Dr & Fairbanks Ave Opinion of Probable Cost
Adding EBL Turn Lane
Shift Lanes

Item	Unit	Quantity	Unit Price	Cost
Clearing and Grubbing	AC	1.59	\$ 20,016.00	\$ 32,000.00
Regular Excavation	CY	480.44	\$ 7.00	\$ 4,000.00
Type B Stabilization	SY	720.67	\$ 7.00	\$ 6,000.00
Optional Base	SY	720.67	\$ 27.00	\$ 20,000.00
Friction Course FC - 12.5	TN	59.46	\$ 114.00	\$ 7,000.00
Milling (1.5" Avg Depth)	SY	4,803.22	\$ 2.00	\$ 10,000.00
Asphalt (1.5" Thick)	TN	396.27	\$ 116.00	\$ 46,000.00
Superpave Asphalt Traffic C	TN	79.27	\$ 97.00	\$ 8,000.00
Curb & Gutter, Type F	LF	2,460	\$ 26.00	\$ 64,000.00
Sidewalk, 4"	SY	1,109	\$ 44.00	\$ 49,000.00
Signing and Pavement Markings	LS	1.0	\$ 9,500.00	\$ 10,000.00
Subtotal				256,000.00
MOT (20%)				51,200.00
Mobilization (15%)				38,400.00
Miscellaneous Construction Items (10%)				25,600.00
Contingency (20%)				51,200.00
Construction Total				422,400.00
Design (25%)				105,600.00
Post Design (4%)				16,900.00
CEI (12%)				50,688.00
Project Total				596,000.00

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Transportation Advisory Board

agenda item

item type Adjournment	meeting date January 24, 2022
prepared by Sarah Walter	approved by Bronce Stephenson
board approval Completed	
strategic objective	

subject

Next TAB Regular Meeting: Monday, February 21, 2022 @ 4:00 PM

motion / recommendation

background

alternatives / other considerations

fiscal impact