CITY OF TAMPA, FLORIDA - RFQ
c/o Contract Administration Department
306 E. Jackson Street # 280A4N
Tampa, FL 33602

17-D-00026; Spruce Street Corridor Improvements – Design

Public Announcement In Compliance With Requirements Of Chapter 287.055, Laws Of Florida, Consultants Competitive Negotiation Act, As Amended, The City Of Tampa's Equal Business Opportunity Program, City of Tampa Code Chapter 2, Article V, Division 3, Section 2-282, and Applicable Federal Law. Submitters will be Notified of Intent To Award by E-mail.

RFQ - 17-D-00026 - The City of Tampa desires to obtain **Professional Engineering** services for the design of the Spruce Street Corridor Improvements project. Services may include but not be limited to: public involvement, inter-agency coordination, surveying, subsurface utilities exploration, traffic analysis, roadway and drainage design, utilities coordination, environmental permitting, miscellaneous structures, signing and pavement markings, signalization, lighting analysis, landscaping and irrigation, geotechnical, cost estimating, specifications, and post-design services.

Estimated fee is $350,000.

A pre-submittal conference will be held at 3 PM Monday March 6, 2017, in the 3rd Floor City Council Chambers, Old City Hall 315 E. Kennedy Blvd., Tampa, Florida 33602. Attendance is not mandatory.

A link to additional material may be provided at demandstar.com and at: http://www.tampagov.net/contract-administration/programs/architectural-engineering-construction-and-related-rfqs . Unless otherwise posted, no further data or site visits will be available before the deadline established for the submission of Letters-Of-Interest.

Questions may be directed to Jim Greiner, P.E., Contract Administration, City of Tampa, (813) 274-8598, or E-Mail Jim.Greiner@tampagov.net.

Firms must provide evidence of any required licenses or registrations with its submission or within ten days thereof in order to be considered.

Firms desiring to provide these services to the City must submit A Single Electronic File in Searchable PDF format, Smaller than 3MB, that includes a Letter of Interest referring to RFQ 17-D- 00026, Statement of Qualifications and any supplemental material allowing evaluation for further consideration(short-listing) based upon the following criteria/point system: Successful comparable project experience (40); Successful comparable experience with projects on FDOT State Highway System (40); Past performance/Low amount of City work (5); Standard Form #330 (5); Planned WMBE/SLBE Solicitation & Utilization, Form MBD 10 & 20 (10 pts). The PDF file must be addressed to:
Brad L. Baird, P. E., Chairman, Consultants' Competitive Negotiation Committee, City of Tampa – c/o CAD - 4th Floor North, 306 E. Jackson Street, Tampa, Florida 33602.

The PDF must be **E-Mailed to** ContractAdministration@tampagov.net
BEFORE 2 P.M., **Thursday, March 30, 2017.**
Submissions received on the day of the deadline may not be acknowledged by return-e-mail before the deadline.

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

City of Tampa – Schedule of All Solicited Sub-(Contractors/Consultants/Suppliers)

(FORM MBD-10)

Contract No.:_____ Contract Name:_____
Company Name:_____ Address:_____
Federal ID:_____ Phone:_____ Fax:_____ Email:_____

Check applicable box(es). Detailed Instructions for completing this form are on page 2 of 4.
[ ] No Firms were contacted or solicited for this contract.
[ ] No Firms were contacted because:_____
[ ] See attached list of additional Firms solicited and all supplemental information (List must comply to this form)
Note: Form MBD-10 must list ALL subcontractors solicited including Non-minority/small businesses

NIGP Code Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

S = SLBE W=WMBE O = Neither Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade or Services NIGP Code (listed above)	Contact Method L=Letter F=Fax E=Email P=Phone	Quote or Response Received Y/N

Failure to Complete, Sign and Submit this form with your Bid or Proposal Shall render the Bid Non-Responsive (Do Not Modify This Form)

It is hereby certified that the information provided is an accurate and true account of contacts and solicitations for sub–contracting opportunities on this contract.

Signed:_____ Name/Title:_____ Date:_____

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal

Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) Solicited Form (Form MBD-10)

This form must be submitted with all bids or proposals. **All** subcontractors (regardless of ownership or size) solicited and subcontractors from whom unsolicited quotations were received must be included on this form. The instructions that follow correspond to the headings on the form required to be completed. Note: Ability or desire to self-perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

- **Contract No.** This is the number assigned by the City of Tampa for the bid or proposal.
- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID.** FIN. A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Firms were contacted or solicited for this contract.** Checking the box indicates that a pre-determined Subcontract Goal or Participation Plan Requirement was not set by the City resulting in your business not using subcontractors and will self-perform all work. If during the performance of the contract you employ subcontractors, the City must pre-approve subcontractors. Use of the "Sub-(Contractors/Consultants/Suppliers) Payments" form (MBD Form-30) must be submitted with every pay application and invoice. Note: Certified SLBE or WMBE firms bidding as Primes are not exempt from outreach and solicitation of subcontractors.
- **No Firms were contacted because.** Provide brief explanation why no firms were contacted or solicited.
- **See attached documents.** Check box, if after you have completed the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the form. All DMI data not submitted on the MBD Form-10 must be in the same format and have all requested data from MBD Form-10 included.

The following instructions are for information of any and all subcontractors solicited.

- **"S" = SLBE, "W" = WMBE.** Enter "**S**" for firms Certified by the City as Small Local Business Enterprises and/or "**W**" for firms Certified by the City as either Women/Minority Business Enterprise; **"O" = Non-certified others**.
- **Federal ID.** FIN. A number assigned to a business for tax reporting purposes. This information is critical in proper identification and payment of the contractor/subcontractor.
- **Company Name, Address, Phone & Fax**. Provide company information for verification of payments.
- **Type of Ownership.** Indicate the Ethnicity and Gender of the owner of the subcontracting business.
- **Trade, Services, or Materials** indicate the trade, service, or materials provided by the subcontractor. NIGP codes aka "National Institute of Governmental Purchasing" are listed at top section of document.
- **Contact Method L=letter, F=fax, E=Email, P=Phone.** Indicate with letter the method(s) of soliciting for bid.
- **Quote or Resp. (response) Rec'd (received) Y/N**. Indicate "Y" Yes if you received a quotation or if you received a response to your solicitation. Indicate "N" No if you received no response to your solicitation from the subcontractor. Must keep records: log, ledger, documentation, etc. that can validate/verify.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Minority and Small Business Development Office at (813) 274-5522.

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

City of Tampa – Schedule of All To-Be-Utilized Sub-(Contractors/Consultants/Suppliers)

(FORM MBD-20)

Contract No.:_____ Contract Name:_____
Company Name:_____Address:_____
Federal ID:_____ Phone:_____ Fax:_____ Email:_____

Check applicable box(es). Detailed Instructions for completing this form are on page 4 of 4.

[ ] See attached list of additional Firms Utilized and all supplemental information (List must comply to this form)
Note: Form MBD-20 must list ALL subcontractors To-Be-Utilized including Non-minority/small businesses

[ ] No Subcontracting/consulting (of any kind) will be performed on this contract.

[ ] No Firms are listed to be utilized because:_____

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

Enter "S" for firms Certified as Small Local Business Enterprises, "W" for firms Certified as Women/Minority Business Enterprise, "O" for Other Non-Certified

S = SLBE W=WMBE O =Neither Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade, Services, or Materials NIGP Code Listed above	$ Amount of Quote. Letter of Intent (LOI) if available	Percent of Scope or Contract %

Failure to Complete, Sign and Submit this form with your Bid or Proposal Shall render the Bid Non-Responsive. (Do Not Modify This Form)

Total ALL Subcontract / Supplier Utilization $_____
Total SLBE Utilization $ _____
Total WMBE Utilization $ _____
Percent SLBE Utilization of Total Bid/Proposal Amt. _____% Percent WMBE Utilization of Total Bid/Proposal Amt. _____%

It is hereby certified that the following information is a true and accurate account of utilization for sub-contracting opportunities on this Contract.

Signed:_____ Name/Title:_____ Date:_____

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal

Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) to be Utilized Form

(Form MBD-20)

This form must be submitted with all bids or proposals. All subcontractors (regardless of ownership or size) projected to be utilized must be included on this form. Note: Ability or desire to self-perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

Contract No. This is the number assigned by the City of Tampa for the bid or proposal.

- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID.** FIN. A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Subcontracting/consulting (of any kind) will be performed on this contract.** Checking box indicates your business will not use subcontractors when no Subcontract Goal or Participation Plan Requirement was set by the City, but will self-perform all work. When subcontractors are utilized during the performance of the contract, the "Sub-(Contractors/Consultants/Suppliers) Payments" form (MBD Form-30) must be submitted with every pay application and invoice. Note: certified SLBE or WMBE firms bidding as Primes are not exempt from outreach and solicitation of subcontractors, including completion and submitting Form-10 and Form-20.
- **No Firms listed To-Be-Utilized.** Check box; provide brief explanation why no firms were retained when a goal or participation plan requirement was set on the contract. Note: mandatory compliance with Good Faith Effort outreach (GFECP) requirements applies (MBD Form-50) and supporting documentation must accompany the bid.
- **See attached documents.** Check box, if after completing the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the scope/value/percent utilization of subcontractors. Reproduce copies of MBD-20 and attach. All data not submitted on duplicate forms must be in the same format and content as specified in these instructions.

The following instructions are for information of Any and All subcontractors To Be Utilized.

- **Federal ID.** FIN. A number assigned to a business for tax reporting purposes. This information is critical in proper identification of the subcontractor.
- **"S" = SLBE, "W" = WMBE.** Enter "**S**" for firms Certified by the City as Small Local Business Enterprises and/or "**W**" for firms Certified by the City as Women/Minority Business Enterprise; **"O" = Non-certified others**.
- **Company Name, Address, Phone & Fax**. Provide company information for verification of payments.
- **Type of Ownership.** Indicate the Ethnicity and Gender of the owner of the subcontracting business.
- **Trade, Services, or Materials (NIGP code if Known)** Indicate the trade, service, or material provided by the subcontractor. Abbreviated list of NIGP is available at http:/www.tampagov.net/mbd "Information Resources".
- **Amount of Quote, Letters of Intent** (required for both SLBEs and WMBEs).
- **Percent of Work/Contract.** Indicate the percent of the total contract price the subcontract(s) represent. For CCNA only (i.e. Consultant A/E Services) you must indicate subcontracts as percent of total scope/contract.
- **Total Subcontract/Supplier Utilization.** – Provide total dollar amount of all subcontractors/suppliers projected to be used for the contract. (Dollar amounts may be optional in CCNA depending on solicitation format).
- **Total SLBE Utilization.** Provide total dollar amount for all projected SLBE subcontractors/Suppliers used for this contract. (Dollar amounts may be optional in CCNA proposals depending on the solicitation format).
- **Total WMBE Utilization.** Provide total dollar amount for all projected WMBE subcontractors/Suppliers used for this contract. (Dollar amounts may be optional in CCNA proposals depending on the solicitation format).
- **Percent SLBE Utilization.** Total amount allocated to SLBEs divided by the total bid/proposal amount.
- **Percent WMBE Utilization.** Total amount allocated to WMBEs divided by the total bid/proposal amount.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Minority and Small Business Development Office at (813) 274-5522.

FINAL
PRELIMINARY ENGINEERING REPORT

SPRUCE STREET IMPROVEMENTS
From Hesperides Street to Himes Avenue
CITY Project No: 114210879

Prepared for:

306 E. Jackson Street
Tampa, Florida 33602

Prepared by:

1715 North Westshore Blvd.
Tampa, Florida 33607

January 2017

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All appendices provided separately in electronic format.

1 EXECUTIVE SUMMARY

The purpose of this project is to identify operational and safety needs and develop improvement recommendations for the Spruce Street corridor between Hesperides Street and Himes Avenue, and at the Dale Mabry Highway entrance to the Home Depot/Target shopping plaza. This study focuses on providing improvements between Hesperides Street and Dale Mabry Highway. This objectives of this study are to: 1) evaluate the existing traffic operations along the project limits, 2) develop improvement alternatives and compare alternatives in terms of engineering design features and environmental and social impacts; 3) present the alternatives to the public for comment; and 4) prepare a report to document the study's findings.

This study evaluates the feasibility of providing sidewalks and bicycle lanes for the Spruce Street corridor; the addition of a third, two-way left-turn lane from N. Manhattan Avenue to Lois Avenue was also considered. However, after taking into account the existing drainage system and utilities (overhead electric in particular), it became apparent that the envelope for these improvements is very narrow. The three-lane typical section between N. Manhattan Avenue and Lois Avenue is not possible without significantly impacting the drainage ditch along the north side of Spruce Street. A proposed sidewalk on the north side is possible between N. Manhattan Avenue and Lois Avenue, as well as between N. Grady Avenue and Dale Mabry Highway, but not between Lois Avenue and N. Grady Avenue. Bicycle lanes are not viable for the corridor, but "sharrows" are recommended for further consideration. Guardrail is recommended throughout the corridor to increase driver safety.

Finally, operational and safety improvements were evaluated at the intersection of Spruce Street and Dale Mabry Highway. Each of the improvement alternatives would extend the eastbound left turn queue storage and prohibit the existing westbound left turn into the Home Depot driveway just west of Dale Mabry Highway. The recommended improvements (Alternative 2) would reconfigure the eastbound approach to consist of one left turn lane, one through lane, and one right turn lane. This alternative is expected to provide improved overall intersection safety and operations while improving right turn access for eastbound-to-southbound movements.

Cost estimates have been developed for the recommended improvements and public input was obtained throughout the study.

2 INTRODUCTION

2.1 Project Description

The segment of Spruce Street evaluated for this project is located in the Carver City/Lincoln Gardens area of the City of Tampa, Florida (**Figure 2-1**). This segment of Spruce Street and all intersecting roadways are under the jurisdiction of the City of Tampa.

2.2 Purpose of Study

The purpose of this study is to identify potential safety and operational improvement recommendations for the Spruce Street corridor and the intersections at N. Manhattan Avenue, Lois Avenue, the Home Depot driveway, and Dale Mabry Highway, as well as the main entrance to the Home Depot/Target shopping center at Dale Mabry Highway.

This objectives of this study are to: 1) evaluate the existing traffic operations along the project limits, 2) develop improvement alternatives and compare alternatives in terms of engineering design features and environmental and social impacts; 3) present the alternatives to the public for comment; and 4) prepare a report to document the study's findings.

RS&H

Spruce Street Improvements - from Hesperides Street to Himes Ave

Figure 2-1 Project Location Map

3 EXISTING FACILITIES

3.1 Roadway Characteristics

Spruce Street is a two-lane undivided facility oriented in an east-west direction. The posted speed limit varies from segment to segment, from 20 mph to 35 mph. It is an urban collector. The following major intersections were evaluated along the corridor: N. Manhattan Avenue, Lois Avenue, the Home Depot driveway, and Dale Mabry Highway. Existing Typical Section (E.T.S.) #1 - Spruce Street from N. Manhattan Avenue to Lois Avenue (**Figure 3-1**) consists of one 11-foot lane in each direction with a 5-foot sidewalk located along the existing southern right-of-way line (posted speed limit 25 mph). E.T.S. #2 - Spruce Street from Lois Avenue to Grady Avenue (**Figure 3-2**) consists of one 12-foot lane in each direction with one 11-foot two-way left turn lane and a 5-foot sidewalk located along the existing southern right-of-way line (posted speed limit 30 mph). E.T.S. #3 - Spruce Street from Grady Avenue to Dale Mabry Highway (**Figure 3-3**) consists of one 12-foot lane in each direction with one 11-foot two-way left turn lane and a 6-foot sidewalk behind curb & gutter located along the existing southern right-of-way line (posted speed limit 30 mph). No bicycle lanes exist on Spruce Street. **Figure 3-4** shows the existing lane configurations and existing peak hour traffic volumes at each of the study intersections.

N. Manhattan Avenue is a two-lane undivided facility oriented in a north-south direction. It is an urban minor collector. The posted speed limit nearest to the intersection is 15 mph for N. Manhattan Avenue. At the intersection, the posted speed limit of the eastbound Spruce Street approach is 10 mph. The existing right-of-way width varies in the vicinity of the intersection with Spruce Street. The typical section for this section of N. Manhattan Avenue consists of one 11-foot lane in each direction with a five-foot sidewalk along the eastern right-of-way line. The intersection at N. Manhattan Avenue acts as a two-way stop (eastbound and westbound traffic is stop-controlled). There are no dedicated turn lanes for any approach. Curb and gutter is present at all four corners of the intersection.

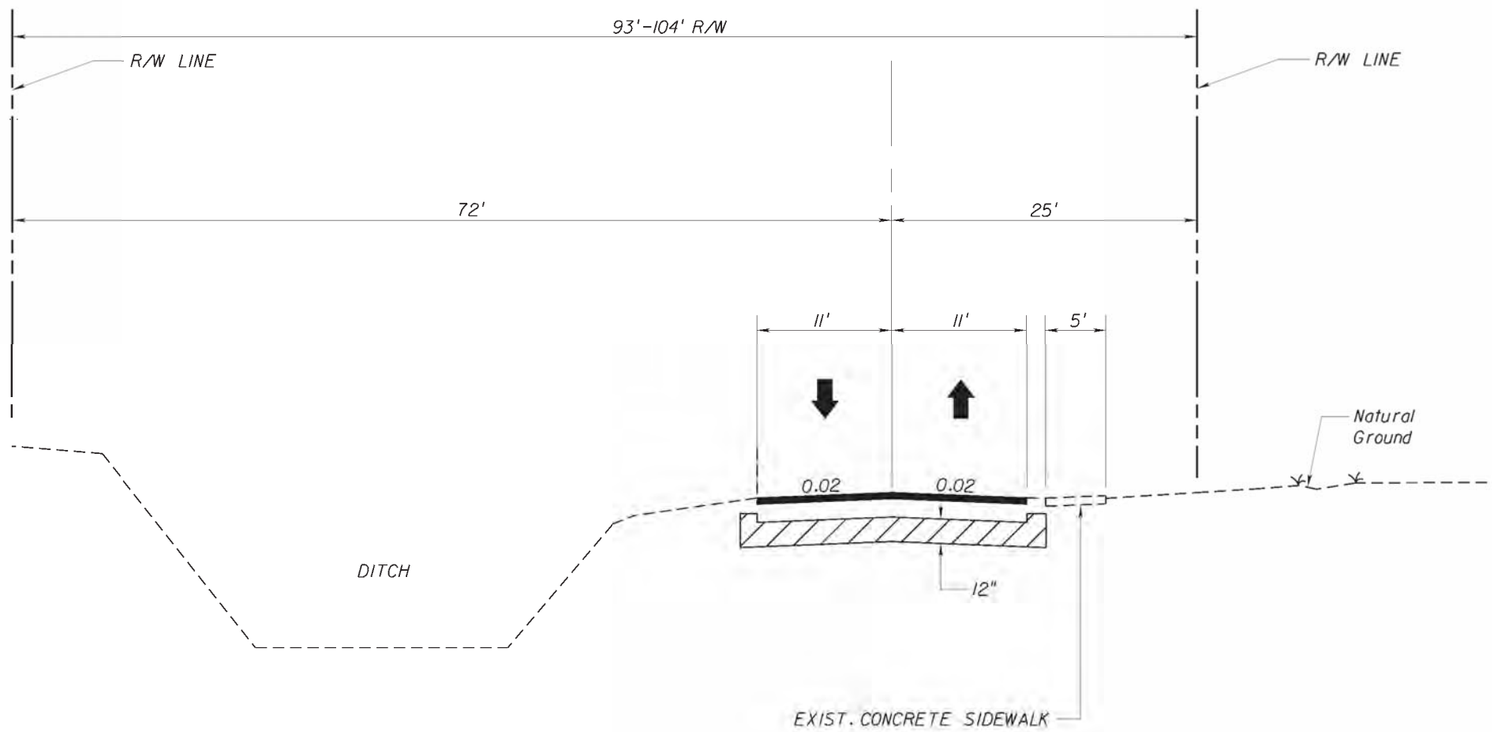
Lois Avenue is a four-lane undivided facility oriented in a north-south direction. The posted speed limit is 35 mph. It is an urban minor arterial. The existing right-of-way width varies in the vicinity of the intersection with Spruce Street. The typical section for this section of Lois Avenue consists of two 12-foot lanes and five-foot sidewalks in each direction. Curb and gutter is present. At the intersection, Spruce Street eastbound has one left turn lane and one shared through/right turn lane. Spruce Street westbound also has one left turn and one shared through/right turn lane. Lois Avenue southbound has one left turn lane, one through lane, and one shared through/right lane. Lois Avenue northbound has one left turn lane, one through lane, and one shared through/right lane.

The Home Depot driveway is a two-lane divided driveway oriented in a north-south direction. At the intersection, Spruce Street eastbound has one shared through/right lane. Spruce Street westbound has one through lane and one left turn lane. The Home Depot driveway northbound has one right turn lane (left turns are prohibited).

Dale Mabry Highway is a six-lane semi-divided facility oriented in a north-south direction. The posted speed limit is 45 mph. It is an urban major arterial. The existing right-of-way width varies in the vicinity of the intersection with Spruce Street. The typical section for this section of Dale Mabry Highway consists of three 12-foot lanes and 5-foot sidewalk in each direction. At the intersection, Spruce Street eastbound has two left turn lanes and one shared through/right turn lane. Spruce Street westbound has one left turn lane and one shared through/right turn lane. Dale Mabry Highway northbound has one left turn lane, three through lanes, and one right turn lane. Dale Mabry Highway southbound has one left turn lane, three through lanes, and one right turn lane.

The intersection of Dale Mabry Highway and the entrance road to the Target/Home Depot shopping center is also being evaluated for improvements. At the intersection, northbound Dale Mabry Highway includes two left-turn lanes, four through lanes, and one right-turn lane, while southbound Dale Mabry Highway includes two left-turn lanes, three through lanes, and one right-turn lane. The eastbound intersection approach has two left-turn lanes and one shared through/right-turn lane, while the westbound intersection approach has two left-turn lanes, one through lane, and one right turn lane. A separate technical memorandum was prepared for the evaluation of this intersection (see Appendix D). The recommended alternative selected for this intersection modifies the eastbound approach to include two left-turn lanes, one through lane, and one right-turn lane.

N. Himes Avenue is a four-lane semi-divided facility oriented in a north-south direction. The posted speed limit is 40 mph. It is an urban collector. The existing right of way width varies in the vicinity of the intersection with Spruce Street. The typical section for this section of Himes Avenue consists of two 12-foot lanes and 5-foot sidewalk in each direction. At the intersection, Spruce Street eastbound and westbound both have one left-turn lane and one shared through/right-turn lane. N. Himes Avenue northbound and southbound each have one left-turn lane, one through and one shared through-right lane. Although included in the project limits, no improvements are planned east of Dale Mabry Highway.



EXISTING TYPICAL SECTION #1
SPRUCE STREET FROM
MANHATTAN AVENUE TO LOIS AVENUE
CITY OF TAMPA
DESIGN SPEED = 30 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

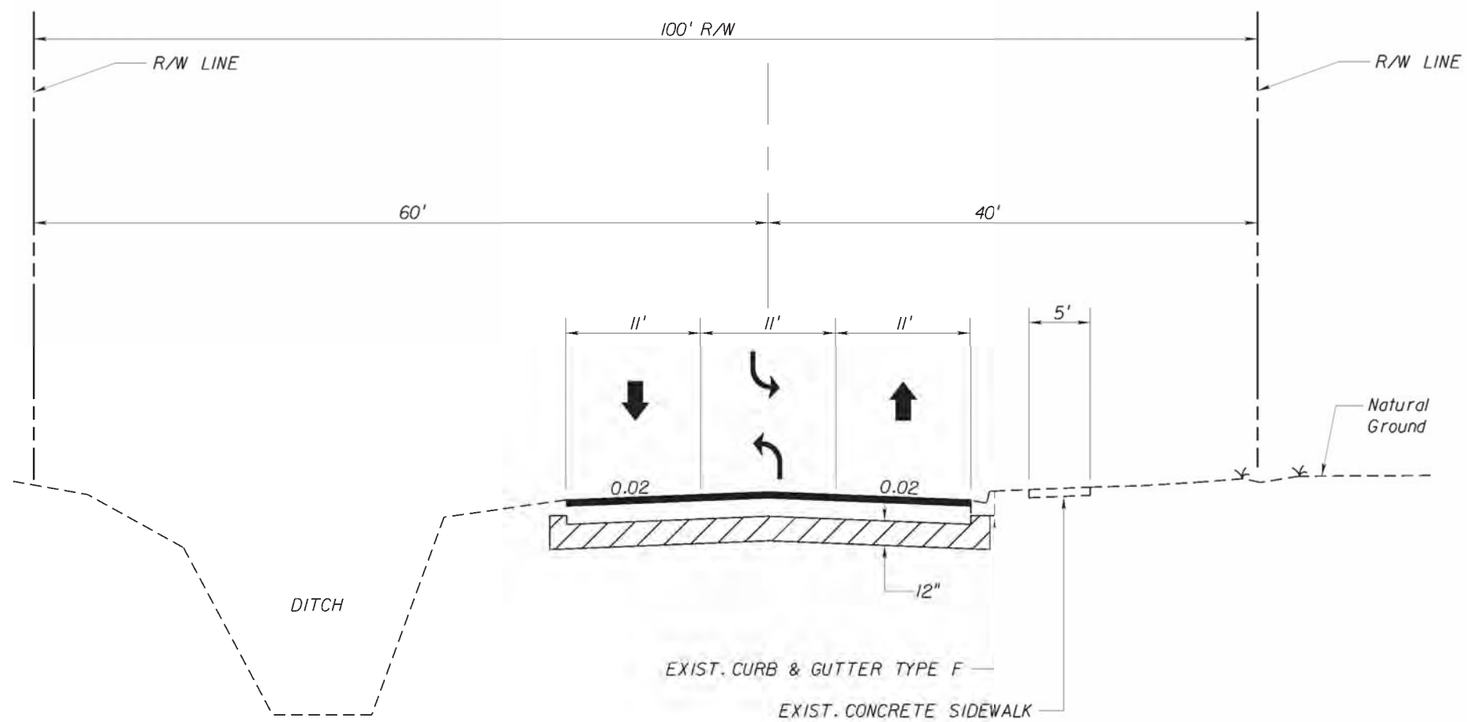
RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3992
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 3-1

SHEET NO. 3-3



EXISTING TYPICAL SECTION #2
SPRUCE STREET FROM
LOIS AVENUE TO N. GRADY AVENUE
CITY OF TAMPA
DESIGN SPEED = 35 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

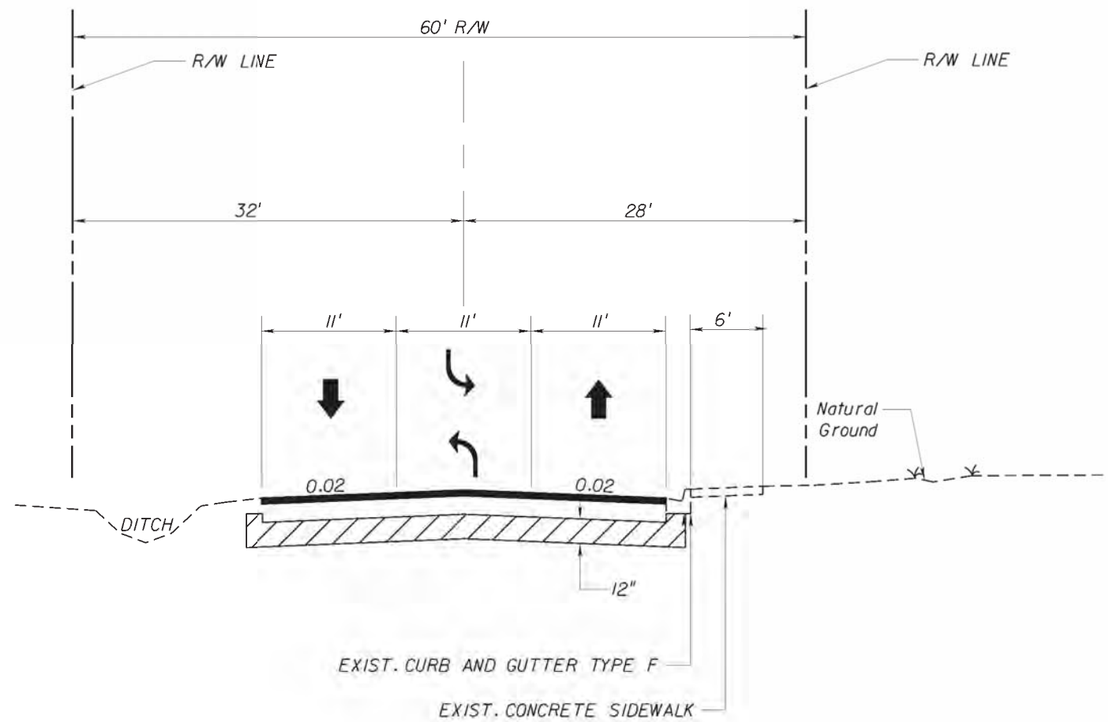
RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3985
813-289-3350
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 3-2

SHEET NO.
3-4



EXISTING TYPICAL SECTION #3
SPRUCE STREET FROM
N. GRADY AVENUE TO DALE MABRY HIGHWAY
CITY OF TAMPA
DESIGN SPEED = 35 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3989
813-289-3550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 3-3

SHEET NO.
3-5

3.2 Existing Roadway Network and Operating Conditions

As part of this study, five (5) intersections were evaluated for the purposes of improving traffic operations and increasing safety and mobility along the project corridor including three (3) existing signalized intersections (at Lois Avenue, Dale Mabry Highway, and at the shopping center entrance). The following sections describe the existing traffic conditions within the project limits.

3.2.1 Existing Traffic Conditions

Manual turning movement counts were conducted as part of a previous corridor study by Albeck Gerken from 7 a.m. to 10 a.m., 11 a.m. to 1 p.m., and from 3 p.m. to 6 p.m. on February 19, 2013. In addition to the traffic counts, bicycle and pedestrian counts were performed at the intersections. Copies of this count data are included in **Appendix A**.

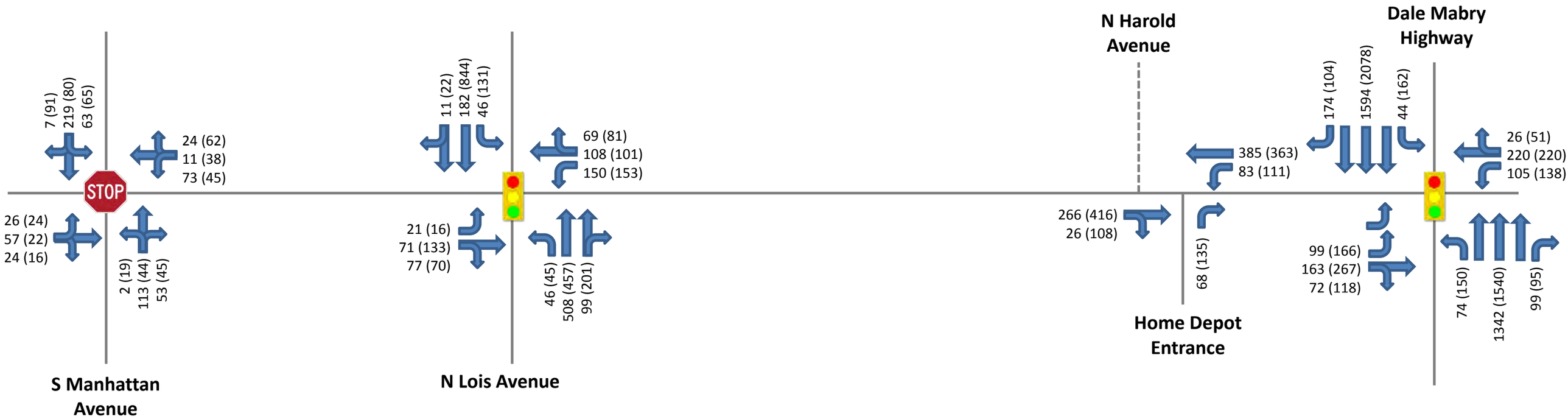
Traffic counts were also conducted by RS&H in August of 2014 as part of this study. Copies of the raw count data are included in Appendix A. The 2014 count data was compared to the data collected by Albeck Gerken for a reasonableness check. It was determined that the 2014 peak hour volumes were significantly higher in some locations when compared to the 2013 count data. For example, the eastbound approach volume at the Lois Avenue intersection was 17% higher during the AM peak hour in the 2014 count. An investigation into the potential causes of this discrepancy revealed the most likely cause to be a change in travel patterns due to closures of multiple I-275 ramps associated with the ongoing construction along I-275. Since the ramps have been closed at the I-275/Lois Avenue interchange, some road users appear to be utilizing Spruce Street to access I-275 via Dale Mabry Highway, increasing peak hour volumes and influencing the traffic count data.

The following ramp closures likely influenced the traffic counts conducted in 2014:

- SB I-275 OFF at Dale Mabry (Closed 5/28/14; Reopened 9/26/14)
- SB I-275 ON at Lois Avenue (Closed 1/7/14; Reopened 12/18/15)
- SB I-275 OFF at Lois Avenue (Closed Permanently 2/5/13)
- NB I-275 ON at Lois Avenue (Closed 4/9/13; Reopened 2/10/16)

Due to the effects of the I-275 construction, a decision was made to primarily utilize the traffic count data from 2013 in the analysis of existing conditions, since the 2013 volumes are more representative of typical travel patterns in the area.

FIGURE 3-4 EXISTING LANE CONFIGURATIONS AND PEAK HOUR INTERSECTION VOLUMES



LEGEND

XXX **Peak Hour Traffic Volume: AM (PM)**

Signalized Intersection

Stop Controlled Intersection

Figure Not to Scale

NOTE: Counts taken from Albeck Gerken February 2013 (all but Manhattan Ave intersection) scaled to 2014. Manhattan Ave intersection counts taken August 2014.

N.T.S.

3.2.2 Existing Conditions Traffic Analysis Summary

An analysis of existing traffic operations along the study corridor was conducted using peak hour traffic volumes shown in **Figure 3-4**. This analysis was conducted using *Trafficware's Synchro Version 8*. A summary of the operations at each of the study intersections is presented below in **Tables 3-1 and 3-2**. As shown in **Table 3-1**, the Dale Mabry intersection is currently operating at LOS F in the PM peak hour.

Table 3-1 – Existing (2014) Signalized Intersection Analysis

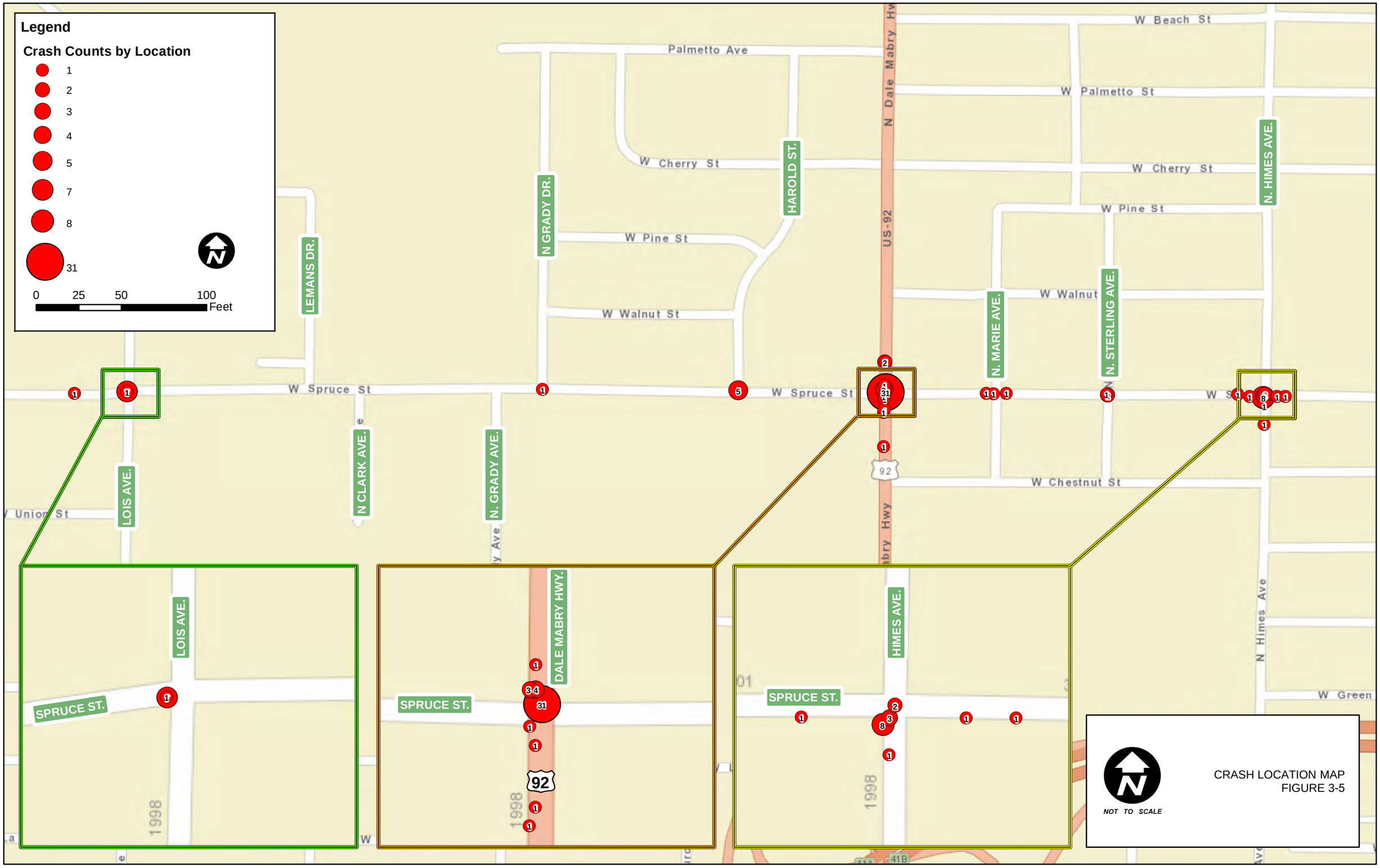
Intersection	Intersection Approach	A.M. Peak Hour		P.M. Peak Hour	
		Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
Lois Avenue	Eastbound	12.1	B	17.7	B
	Westbound	16.6	B	19.6	B
	Northbound	14.4	B	17.0	B
	Southbound	6.3	A	8.8	A
	OVERALL	**13.2**	**B**	**13.8**	**B**
Dale Mabry Highway	Eastbound	91.4	F	133.7	F
	Westbound	83.6	F	123.3	F
	Northbound	26.6	C	51.8	D
	Southbound	40.5	D	97.0	F
	OVERALL	**45.0**	**D**	**88.4**	**F**
Shopping Complex Entrance at Dale Mabry Highway	Eastbound	30.2	C	82.7	F
	Westbound	63.1	E	58.1	E
	Northbound	23.0	C	44.6	D
	Southbound	9.4	A	19.3	B
	OVERALL	**18.1**	**B**	**37.6**	**D**

Table 3-2 – Existing (2014) Unsignalized Intersection Analysis

Intersection	Intersection Approach	A.M. Peak Hour		P.M. Peak Hour	
		Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
N. Manhattan Avenue	Eastbound	21.4	C	13.4	B
	Westbound	29.0	D	13.2	B
Home Depot Driveway	Northbound	10.6	B	13.3	B

3.3 Crash History

Crash records for Spruce Street were provided by the City for the period from February 9, 2010 to July 21, 2014. Crashes thought to be caused by operational and/or road safety issues were identified and investigated further. During the study period of approximately 53 months, a total of 88 accidents occurred within or near the Spruce Street corridor and its respective intersections. The crashes included in this data set occurred either on Spruce Street within the study limits or on intersecting roadways in the vicinity of Spruce Street. The crash locations are displayed in **Figure 3-5**. The highest frequency crash location is the intersection of Spruce Street and Dale Mabry Highway. The most frequent crash type was front-to-back (rear-end) collisions. Excessive queueing at the Dale Mabry intersection is likely contributing to the occurrence of rear-end crashes. No other high crash frequency locations were identified along the corridor. The detailed crash data can be found in **Appendix B**.



CRASH LOCATION MAP
FIGURE 3-5

3.4 Pedestrian & Bicycle Facilities

Currently, there are no bicycle lanes along Spruce Street or any of the intersecting roadways. Paved concrete sidewalks are on one or both sides of Spruce Street and Lois Avenue within the right-of-way or just outside the right-of-way. Sidewalk exists on the south side of Spruce Street from N. Manhattan Avenue to N. Harold Avenue, and on both sides of Spruce Street from N. Harold Avenue to Dale Mabry Highway. Dale Mabry Highway has concrete sidewalks on both sides within the right-of-way. Crosswalks and pedestrian signals are also provided at the Lois Avenue and Dale Mabry Highway intersections. All but one of the crosswalk ramps at the N. Manhattan Avenue and Dale Mabry Highway intersections have pedestrian detectable warning pads.

Pedestrian counts for Spruce Street at N. Manhattan Avenue were conducted on August 26, 2014. Within the 8 hours observed, 87 pedestrians crossed the intersection.

Pedestrian counts for Spruce Street at Lois Avenue were conducted on February 19, 2013 by Albeck Gerken, Inc. Within the 8 hours observed, 120 pedestrians crossed the intersection.

Pedestrian counts for Spruce Street at the Home Depot driveway were conducted on February 19, 2013 by Albeck Gerken, Inc. Within the 8 hours observed, 140 pedestrians crossed the intersection.

Pedestrian counts for Spruce Street at Dale Mabry Highway were conducted on February 19, 2013 by Albeck Gerken, Inc. Within the 8 hours observed, 174 pedestrians crossed the intersection.

There are three schools south of the N. Manhattan Avenue intersection: Lavoy Exceptional Center, Roland Park K-8 School, and Jefferson High School.

3.5 Traffic Signalization

Traffic signals exist at the intersections of Spruce Street and Lois Avenue, Spruce Street and Dale Mabry Highway, and Dale Mabry Highway at the entrance of the shopping center. The traffic signals at Lois Avenue are supported on mast arms. The traffic signals at both Dale Mabry Highway intersections are supported by strain poles diagonally across the intersection. The existing signal phasing and timing records have been provided by the City of Tampa and were used in the existing conditions analysis and the development of improvement alternatives.

3.6 Street Lighting

The Spruce Street corridor has existing roadway lighting on the south (eastbound) side. There is existing roadway lighting in the vicinity of all major intersections (N. Manhattan Avenue, Lois Avenue, Home Depot driveway, Dale Mabry Highway, and the shopping center entrance).

3.7 Utilities

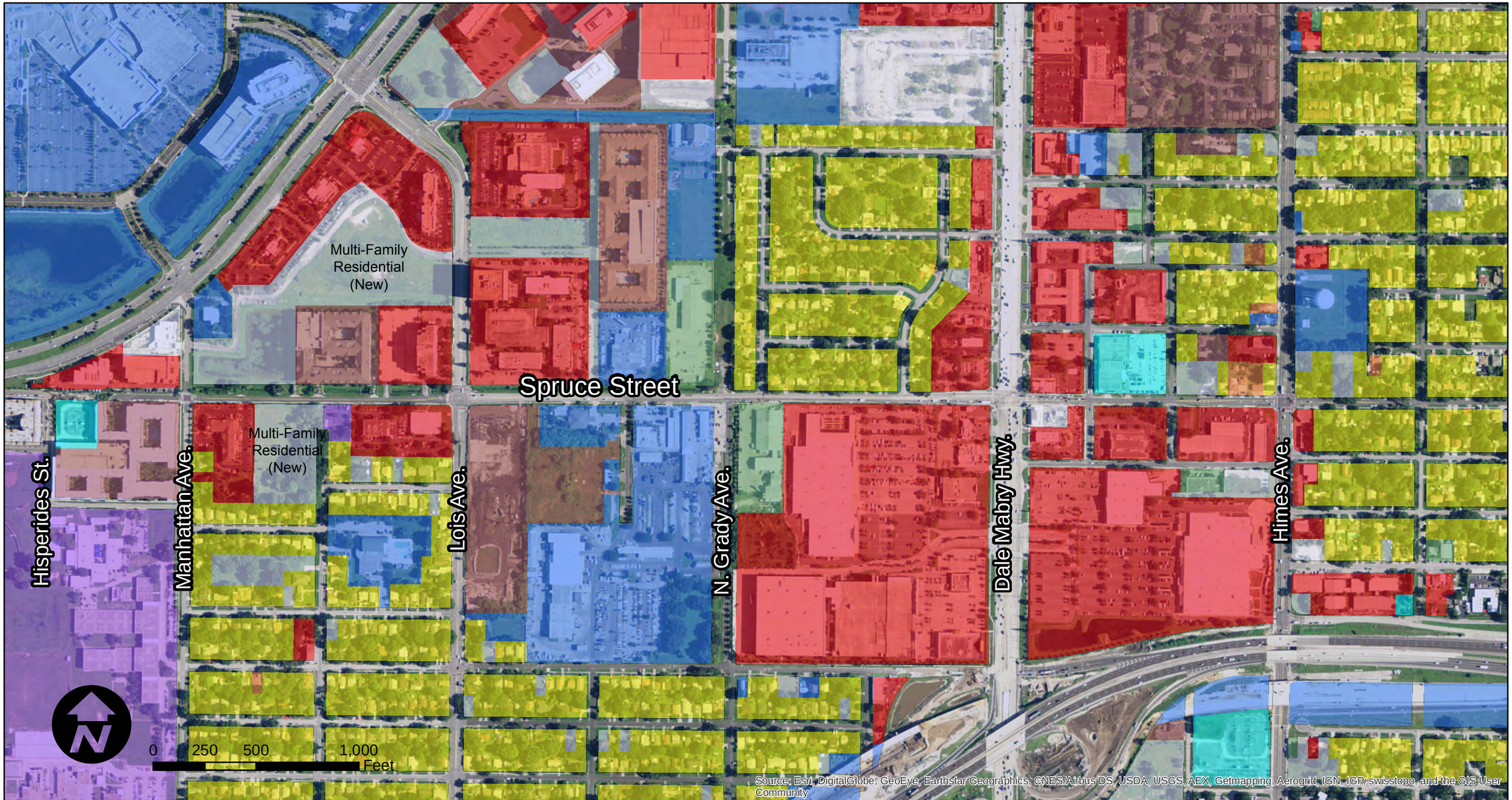
The following utility owners/agencies have facilities in the project area. Further coordination with any potentially impacted utility owners/agencies will be conducted during the design phase of the project.

Table 3-3 – Potential Utility Owners/Agencies in Project Area

Company	Contact Number
ATT/T	770-918-5424
Bright House Networks, LLC	813-684-6100
Fiberlight LLC.	954-596-2559
FPL Fibernet LLC	305-552-2931
Hillsborough County Aviation - Tampa International Airport	813-870-8700
Level 3 Communications LLC	877-366-8344
MCI	972-729-6322
Tampa Electric Company	813-275-3037
Tampa Pipeline Corporation	813-839-0426
Tampa Water Department	813-274-8105
Teco Peoples Gas - Tampa	813-275-3743
TW Telecom - Tampa	813-316-7763
Verizon Florida Inc.	813-978-2164
Windstream Communications	800-289-1901
XO Communications	813-301-4047

3.8 Land Use

The land use within the project limits is diverse. The majority of land is commercial, particularly in the southeast section of the project, where there is a large shopping center. There are many single family and multi-family residences along the Spruce Street corridor. The remaining land is divided between public, industrial, and public communications / utilities. The existing land use is depicted in **Figure 3-6**.



SPRUCE STREET FROM
HESPERIDES ST. TO HIMES AVE.
PID# 114210879

Legend

Existing Land Use

SINGLE FAMILY	PUBLIC / QUASIPUBLIC / INSTITUTIONS	COMMERCIAL
TWO FAMILY	PUBLIC COMMUNICATIONS / UTILITIES	INDUSTRIAL
MULTI-FAMILY	RIGHT OF WAY	NOT CLASSIFIED
VACANT	EDUCATIONAL	

EXISTING LAND USE MAP
FIGURE 3-6

3.9 Drainage

The Spruce Street corridor has a variety of drainage facilities. There is an open drainage ditch along the majority of the northern side of the roadway. From N. Manhattan Avenue to Lois Avenue, the ditch is approximately 20 feet wide at the base, with the edge of the ditch about 20 feet from edge-of-pavement. From Lois Avenue to N. Grady Avenue, the ditch is approximately 16 feet wide at the base, with the edge of the ditch about 20 feet from edge-of-pavement. Around N. Grady Avenue, the ditch becomes closed for a short segment as it travels beneath the HART bus stop. From just east of N. Grady Avenue to Dale Mabry Highway, the ditch is considerably shallower and narrower, with culverts running beneath residential driveways connecting each open section. The ditch along this segment is approximately 18 feet wide and ten feet from edge-of-pavement. There is also type F curb and gutter placed along the southern side of Spruce Street from Lois Avenue to Dale Mabry Highway.

4 FUTURE YEAR TRAFFIC PROJECTIONS

Future traffic forecasts were developed based on an approved traffic forecasting methodology that is based on the application of a recommended corridor-wide annual growth rate. The project growth rate was developed based on a review of historical traffic data, the TBRPM travel demand model, and future land use plans.

4.1 Future Traffic Growth

The future year (2034) traffic volumes were calculated by applying a linear yearly growth rate of 0.8% to the existing (2014) turning movement count data. Furthermore, the construction of two new apartment buildings was taken into consideration, with trip generation and distribution performed for each.

4.2 Future Traffic Volume Balancing

For the evaluation of the improvement alternatives at the Spruce Street and Dale Mabry Highway intersection, the existing westbound left turn movement into the Home Depot driveway on Spruce Street would be prohibited. Therefore, 100% of the volume for the westbound left-turn movement from Spruce Street into the Home Depot entrance was rerouted and added to the southbound right turn volume at the Dale Mabry Highway entrance to the Target/Home Depot shopping center. This volume was removed proportionally from the southbound right-turn and westbound through movements at Spruce Street and Dale Mabry Highway and added proportionally to the southbound through and westbound left-turn movements at Spruce Street and Dale Mabry Highway.

5 FORMATION OF IMPROVEMENT ALTERNATIVES

5.1 Description of the Proposed Action

The proposed action is to improve traffic operations along the Spruce Street corridor in an effort to improve safety, reduce crash occurrences, and reduce vehicle delay. Along with the development of recommended improvements, the goal of this study is to determine the costs associated with the improvements including construction costs, costs associated with modifications to existing utilities and drainage systems, and the permitting requirements for SWFWMD and other applicable permitting agencies.

5.2 HART

Existing HART bus route service in the project area has been reviewed. There are multiple HART bus stops along the project limits. During the detailed analysis of the build alternatives, consideration was given to the impacts each alternative may have on HART facilities and operations. Further coordination with HART will be performed during the final design phase of the project. At this time, the recommended improvements are not expected to adversely impact any HART operations.

5.3 No Improvement Alternative

The no improvement (no-build) alternative will allow the existing facilities along Spruce Street to remain unchanged. This alternative would not provide any improvement in traffic operations or safety. The no-build alternative will be used as a baseline for the formulation and comparison of the design alternatives. The results of overall intersection operations under the no-build alternative are shown below.

Table 5-1 – Future (2034) Signalized Intersection Analysis (No-Build)

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
Lois Avenue	18.2	B	18.6	B
Dale Mabry Highway	46.1	D	100.2	F
Shopping Center Entrance	11.1	B	28.1	C

Table 5-2 – Future (2034) Unsignalized Intersection Analysis (No-Build)

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
Manhattan Ave, WB approach	26.1	D	15.9	C
Home Depot, NB approach	11.2	B	15.2	C

5.4 Initial Improvement Alternatives

This study has evaluated improvements to various roadway segments and intersections along Spruce Street. Initially, the addition of both sidewalks and bicycle lanes were considered, but due to potential utility and drainage impacts it was determined that bicycle lanes would be too costly to provide. The use of "sharrows" (bicycle shared-lane pavement markings) are recommended for further consideration in lieu of bike lanes;, however, "sharrows" are not currently recommended for implementation along the study corridor. After evaluating various improvement alternatives for each segment, only one viable design is recommended as a result of this study. The concept designs and alternatives are presented below by segment and by intersection.

5.4.1 Segment 1: Spruce Street from Hesperides Street to Millennium Westshore Apartments / N. Manhattan Ave.

Currently, Spruce Street dead-ends into a roundabout that serves as the entrance to the Millennium Westshore apartments. This study has evaluated the option of providing a connection between Spruce Street and N. Hesperides Street. It is important to note the presence of many utilities in the grassy area where the connection would be made, including but not limited to buried fiber optic cable and overhead powerlines.

After considering various options, this study recommends an 8-foot multi-use path to bridge the existing gap between Hesperides and the Millennium Westshore Apartments. The proposed typical section is shown in **Figure 5-1**. If desired in the future, a two-lane roadway with a typical section consisting of two 10-foot travel lanes with curb and gutter on both sides and a 6-foot sidewalk at back-of-curb to the south may be accommodated in this area.

5.4.2 Intersection 1: Spruce Street at N. Manhattan Avenue

In the future condition, the intersection at Spruce Street at N. Manhattan Avenue still operates at an acceptable level of service. Therefore, no operational/capacity improvements are recommended for this intersection at this point in time.

5.4.3 Segment 2: Spruce Street from N. Manhattan Avenue to Lois Avenue

After evaluating multiple options, the recommended typical section (**Figure 5-2**) for this segment retains the existing two 11-foot lanes and 5-foot sidewalk to the south, and adds a 6-foot sidewalk to the north separated by a sod strip. Guardrail is also recommended behind the proposed sidewalk, with the slope behind the guardrail tying into the existing ground without affecting the existing drainage ditch system to the north.

5.4.4 Intersection 2: Spruce Street at Lois Avenue

In the future condition, the intersection at Spruce Street at Lois Avenue still operates at an acceptable level of service. Therefore, no operational/capacity improvements are recommended for this intersection at this point in time.

5.4.5 Segment 3: Spruce Street from Lois Avenue to N. Grady Avenue

The recommended typical section for this segment (**Figure 5-3**) retains the existing three 11-foot lanes, the center lane acting as a two-way left turn lane. Curb and gutter runs along the south side, with a 5-foot sidewalk separated by a sod strip. There is not enough room to the north to add an additional 6-foot sidewalk without significantly impacting the adjacent drainage ditch. Guardrail is recommended along the drainage ditch to increase driver safety, with the slope behind tying into existing ground (edge of ditch) without affecting the existing drainage ditch system.

It is recommended that a raised median (approximately 100-feet in length) be placed in the existing center lane in the vicinity of the existing HART bus stop just west of N. Grady Avenue. This median will function as a pedestrian refuge area for a mid-block crosswalk next to the bus stop, allowing pedestrians to safely cross Spruce Street and more easily access transit services and sidewalks along the other side of the roadway. The median will also help curb the observed behaviors of drivers utilizing the center lane as a "jump lane" to pass queued eastbound traffic associated with the Dale Mabry intersection to the east, increasing safety for pedestrians and other drivers. RRFB (rectangular rapid flashing beacon) signage is recommended for the mid-block crossing.

5.4.6 Segment 4: Spruce Street from N. Grady Avenue to Dale Mabry Highway

The recommended typical section for this segment (**Figure 5-4**) retains the existing three 11-foot lanes, the center lane acting as a two-way left turn lane. Curb and gutter runs along the south side, with a 6-foot sidewalk at back of curb. A 6-foot sidewalk will be added to the north side of the roadway, separated by a sod strip. The existing ditch (much smaller for this segment) will be filled and replaced by a pipe. No guardrail is needed along this segment.

5.4.7 Intersection 3: Spruce Street and Dale Mabry Highway

At the most congested intersection on the Spruce Street corridor, multiple intersection alternatives have been evaluated to improve operations and safety. Just west of this intersection, the existing westbound left-turn movement into the shopping center (Home Depot) would be prohibited under all improvement alternatives evaluated in order to improve safety and to maximize eastbound queue storage for the Spruce Street/Dale Mabry intersection. While this modification will improve safety along this segment of Spruce Street, it will force vehicles that would have utilized the existing westbound left turn lane into Home Depot to now utilize the main entrance on Dale Mabry Highway.

Three different alternatives have been developed to improve safety and operations at this intersection:

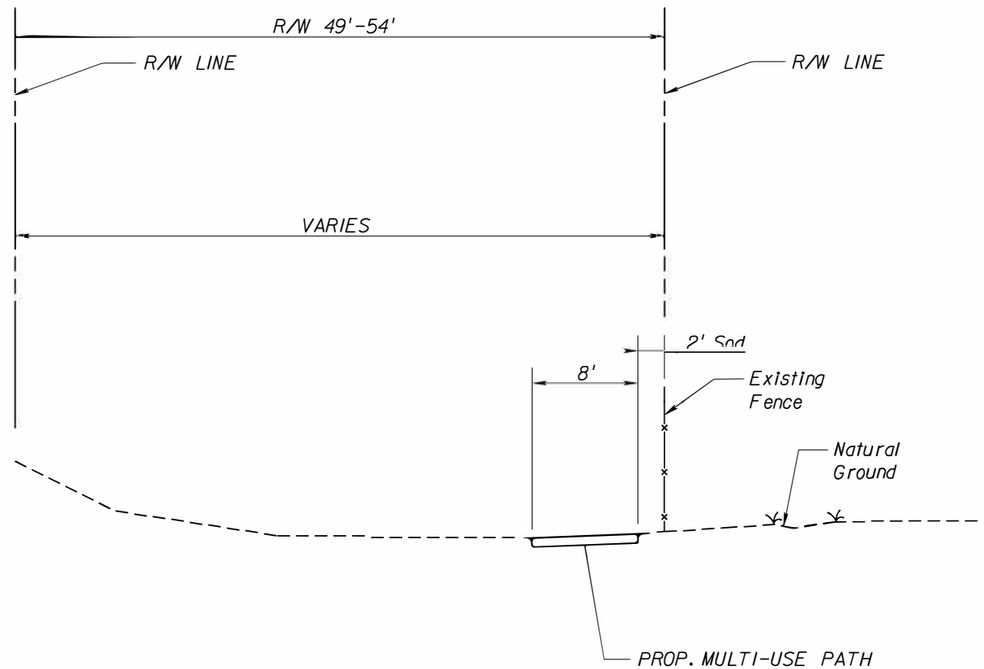
Alternative 1: Keep existing eastbound lane configuration (dual left turn, shared thru/right turn) with extended dual left turn bays (see **Figure 5-5**).

Alternative 2: Extend queue storage length and modify lane configuration to one left turn, thru, and right turn (see **Figure 5-6**).

Alternative 3: Extend dual left turn bays and modify lane configuration to include one left turn, one shared thru/left, and one right turn. This approach necessitates that the eastbound/westbound approaches operate under a split phase pattern (see **Figure 5-7**).

5.4.8 Intersection 4: Shopping Center Entrance and Dale Mabry Highway

A separate technical memorandum was prepared in August 2015 to evaluate alternatives and select a preferred design concept to be "Phase 1" of 2 phases of improvements to improve traffic flow, safety, and accessibility to the shopping center. Minor intersection improvements at N. Dale Mabry Highway and the entrance to the Home Depot/Target shopping center were evaluated for the Phase 1 improvements. The addition of a dedicated eastbound right-turn lane and adjustments to the laneage/signalization of the intersection were recommended and described in the attached memorandum (**Appendix D**). Phase 2, a more extensive evaluation of the shopping center traffic circulation, is planned for the future as part of a separate project. The Phase 1 improvements are considered to be in place for all future scenarios described in Section 6.



PROPOSED TYPICAL SECTION #1
SPRUCE STREET FROM
HESPERIDES STREET TO
MILLENNIUM WESTSHORE APARTMENTS
CITY OF TAMPA
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

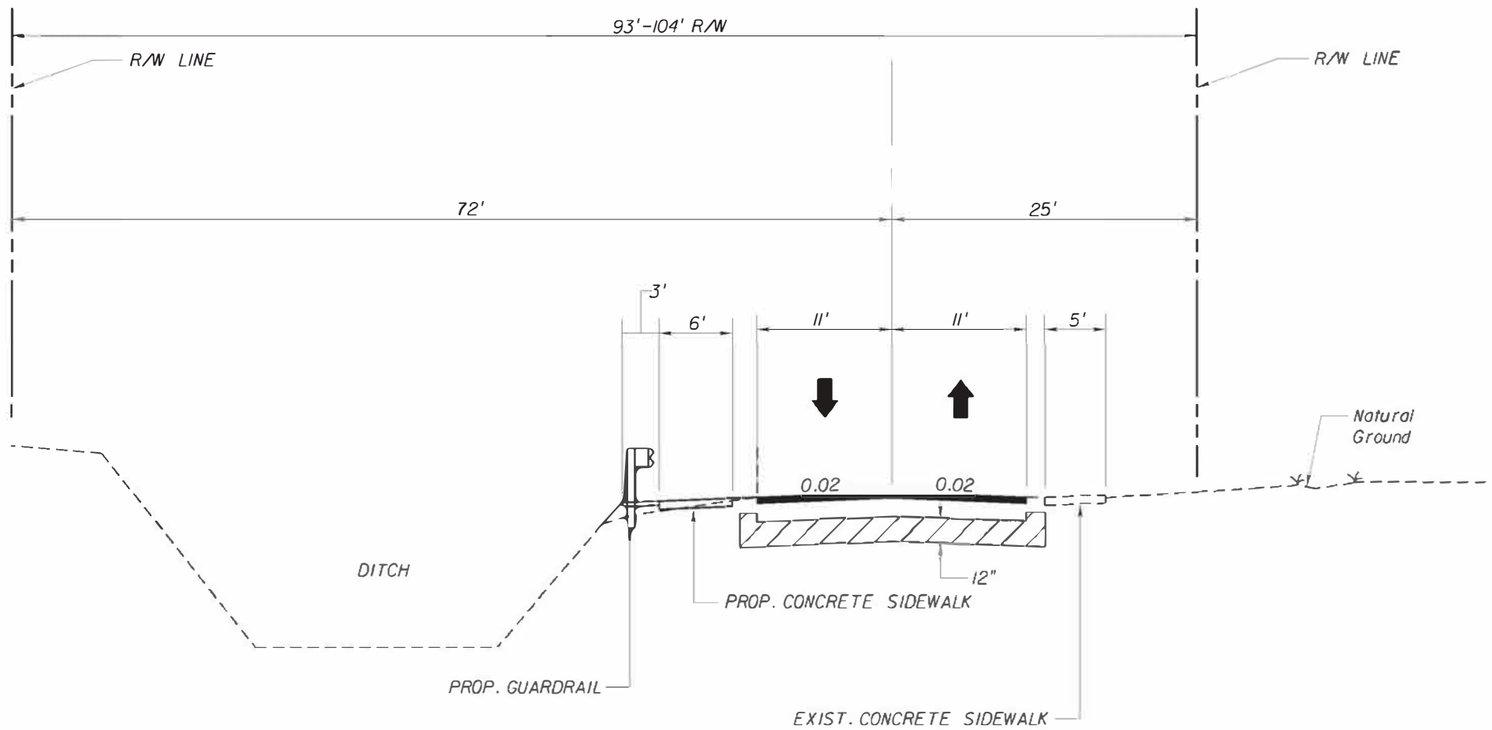
RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 5-1

SHEET NO.
5-5



PROPOSED TYPICAL SECTION #2
SPRUCE STREET FROM
MANHATTAN AVENUE TO LOIS AVENUE
CITY OF TAMPA
DESIGN SPEED = 30 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

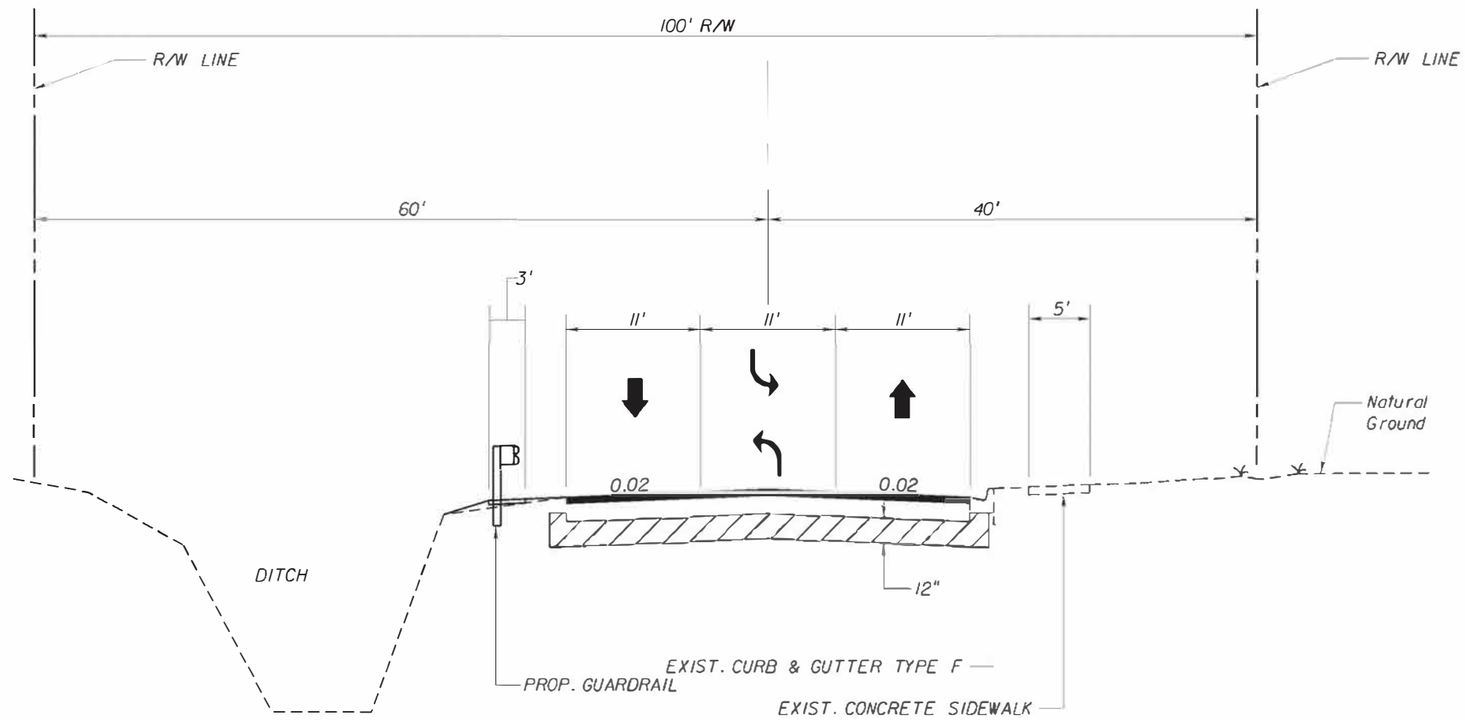
RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 5-2

SHEET NO.
5-6



PROPOSED TYPICAL SECTION #3
SPRUCE STREET FROM
LOIS AVENUE TO N. GRADY AVENUE
CITY OF TAMPA
DESIGN SPEED = 35 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

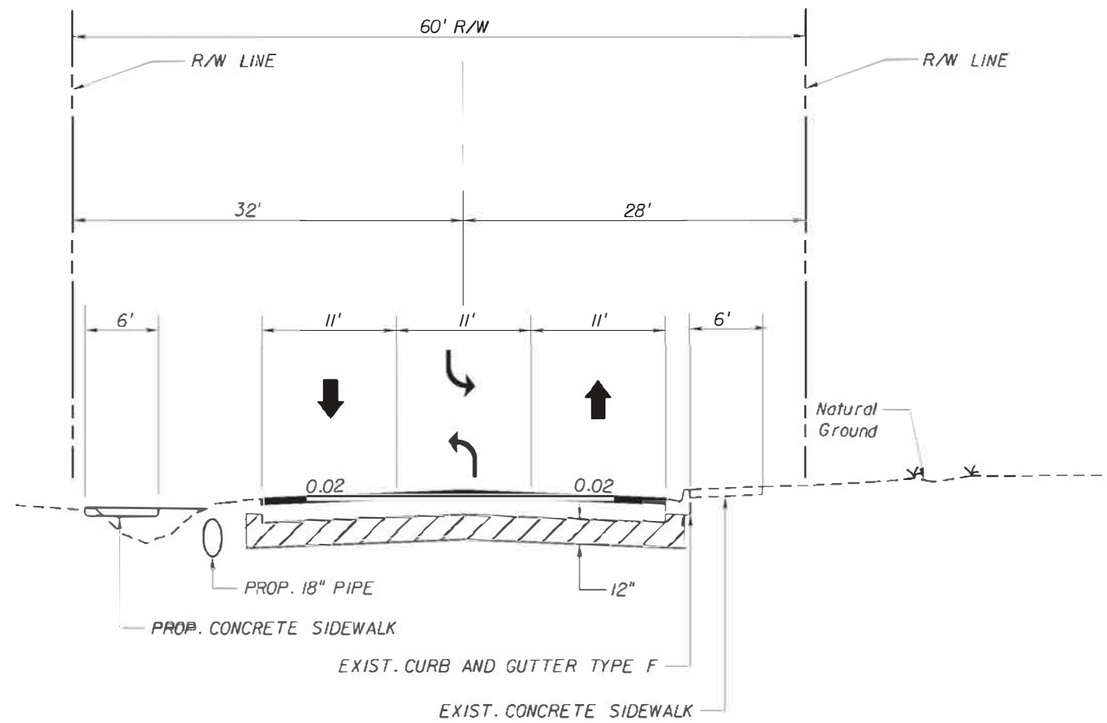
RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 5-3

SHEET NO.
6-7



PROPOSED TYPICAL SECTION #4
SPRUCE STREET FROM
N. GRADY AVENUE TO DALE MABRY HIGHWAY
CITY OF TAMPA
DESIGN SPEED = 35 MPH
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS&H
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS
FIGURE 5-4

SHEET NO.
5-8

Figure 5-5 – Spruce Street /Dale Mabry Intersection Alternative 1

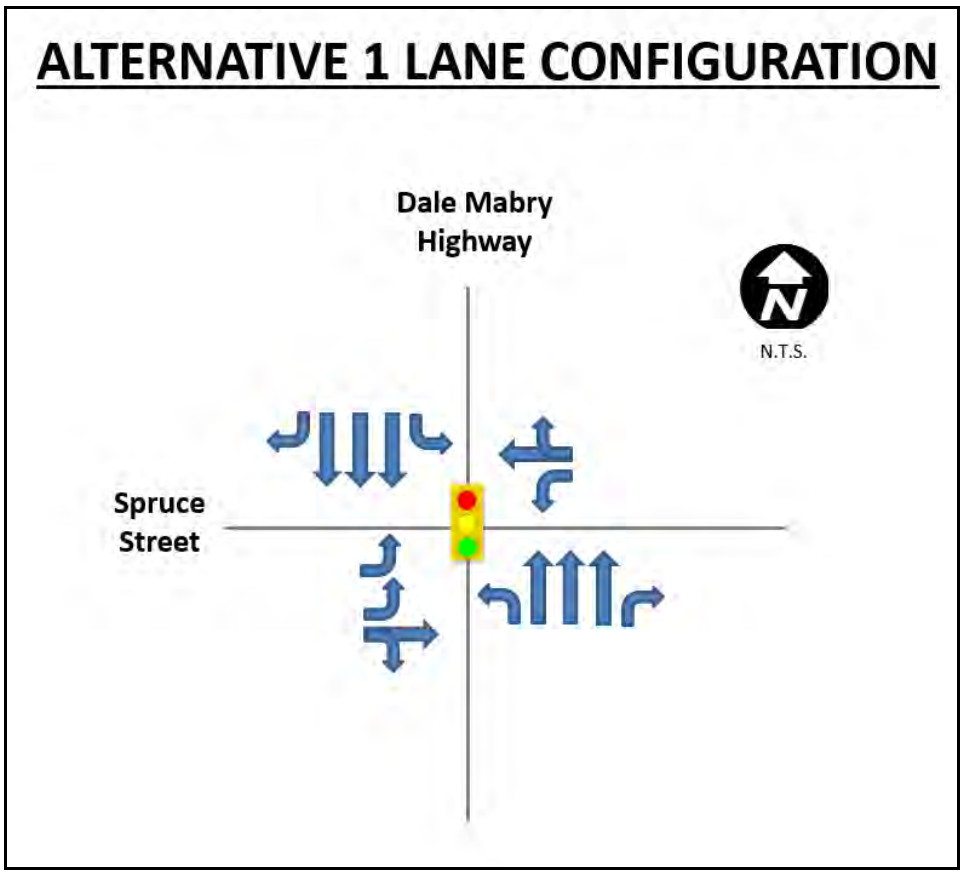


Figure 5-6 – Spruce Street /Dale Mabry Intersection Alternative 2

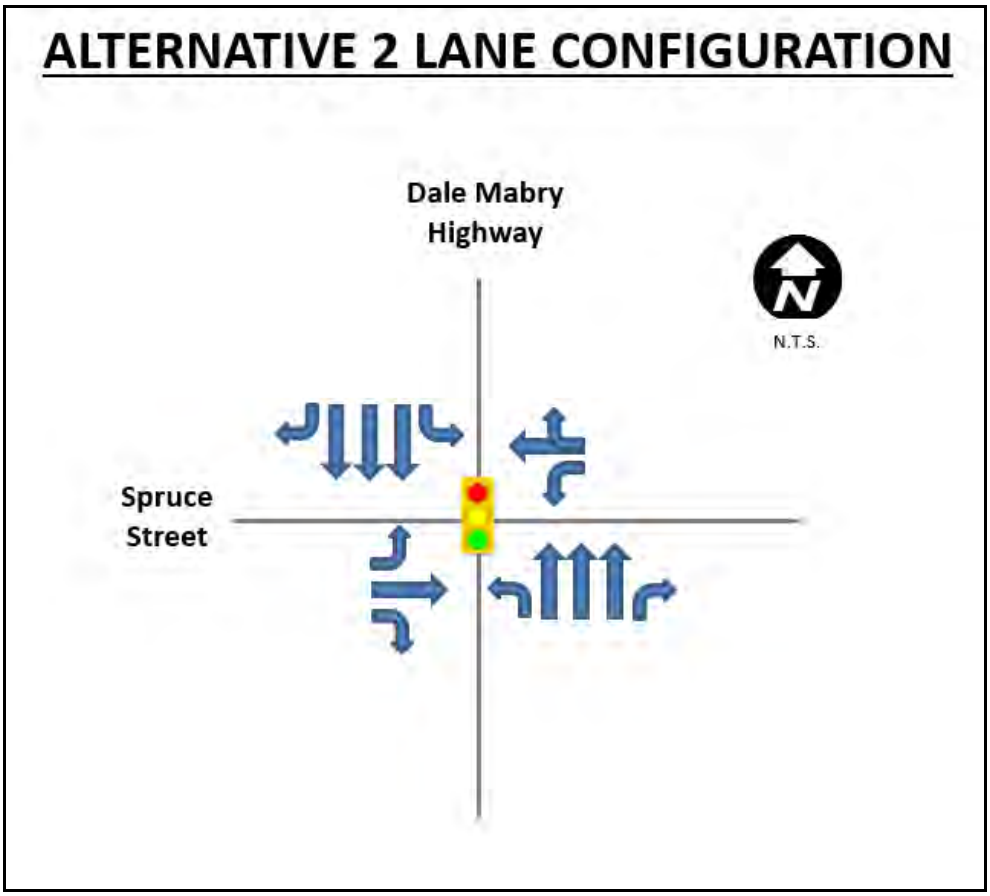
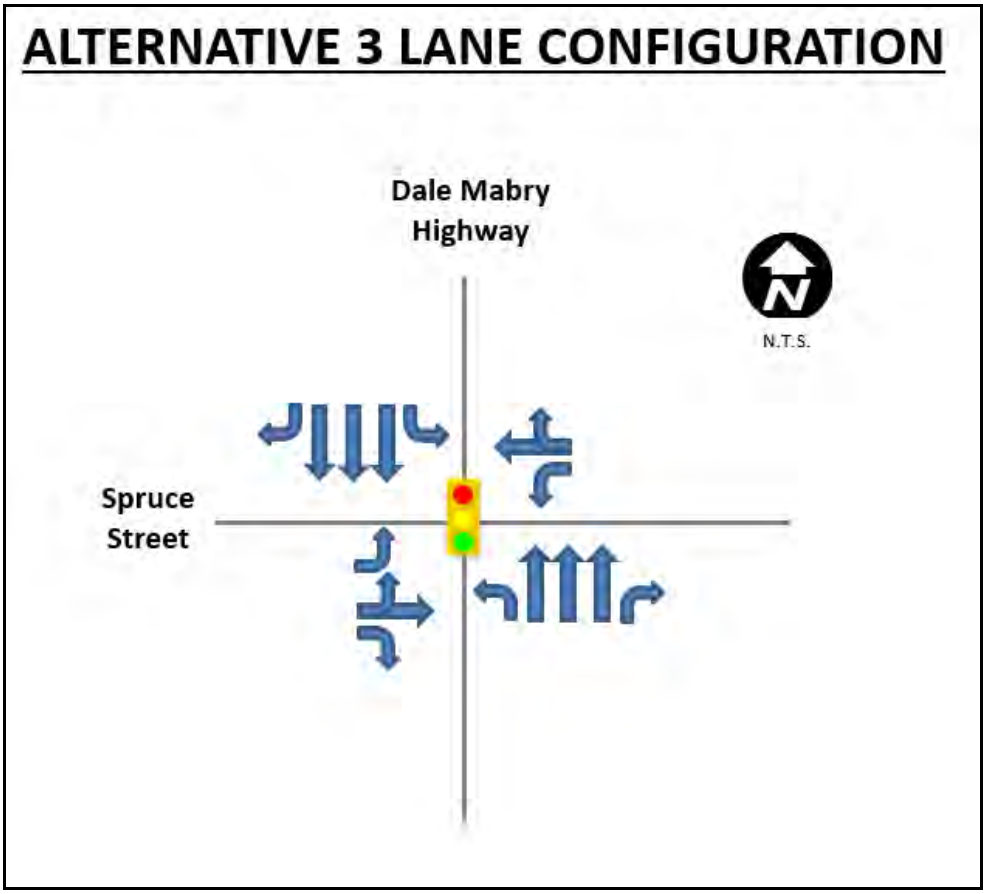


Figure 5-7 – Spruce Street /Dale Mabry Intersection Alternative 3



6 ANALYSIS OF ALTERNATIVES

6.1 Future Operational and Safety Performance

The initial concept screening resulted in three build alternatives, differing only at the eastbound approach at the intersection of Spruce Street and Dale Mabry Highway. A preliminary operational analysis has been conducted to compare the build alternatives. Traffic operational analysis was performed for the future design year (2034) conditions using *Trafficware's Synchro Version 8*. For the purposes of this study, current traffic signal phasing and timing were obtained from the City (see **Appendix A**) and incorporated into the Synchro models. Intersection splits (phase timings) were optimized in the evaluation of each future scenario to properly compare alternatives. Since the intersections are coordinated, cycle lengths were maintained. A qualitative safety assessment has also been conducted for the intersection alternatives to aid in ranking the alternatives in the evaluation matrix. Each of the three Build Alternatives for the Spruce/Dale Mabry intersection would include the prohibition of westbound left turns into the Home Depot driveway located just west of Dale Mabry, resulting in fewer conflicting movements and improved safety.

6.1.1 Future Condition Operational Analysis

Table 6-1 includes the overall vehicle delay and Level of Service for the Spruce Street and Dale Mabry Highway intersection, comparing the no-build condition to all three alternatives. **Table 6-2** compares the vehicle delay and LOS at the eastbound approach only. It should be noted that while Alternative 1 retains the same lane configuration as existing/No Build, the delay values shown in **Tables 6-1 and 6-2** for Alternative 1 differ from those reported for the No Build Alternative due to changes in signal timings associated with other network improvements under the Build Alternative.

Table 6-1 – Spruce Street at Dale Mabry Highway – Overall Intersection Delay/LOS

Condition	A.M. Peak Hour		P.M. Peak Hour	
	Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
No Build	46.1	D	100.2	F
Alternative 1	45.9	D	100.3	F
Alternative 2	42.4	D	98.2	F
Alternative 3	52.8	D	177.0	F

Table 6-2 – Spruce Street at Dale Mabry Highway – Eastbound Approach Delay/LOS

Condition	A.M. Peak Hour		P.M. Peak Hour	
	Vehicle Delay (sec/veh)	LOS	Vehicle Delay (sec/veh)	LOS
No Build	89.9	F	118.0	F
Alternative 1	92.9	F	141.0	F
Alternative 2	77.6	E	116.4	F
Alternative 3	66.5	E	81.6	F

While the delay decrease in Alternative 2 is not numerically significant, the intersection design will prevent starvation of the left turn bay and prevent vehicles from being blocked from performing a right-on-red movement.

6.2 Design Cost Estimate Comparison

A Preliminary Cost Estimate has been prepared for the preferred conceptual design alternative and is included in **Appendix E**.

6.3 Design and Construction

Following the selection of a preferred alternative for each segment/intersection described above, the project will progress into the design phase.

Construction activities for the proposed project will have minimal temporary, yet unavoidable, air, noise, water quality, traffic flow, and visual impacts for those residents and travelers within the immediate vicinity of the project. These impacts will be minimized by FDOT's Standard Specifications for Road and Bridge Construction, and through the use of best management practices.

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. Signs will be used as appropriate to provide notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction-related activities that could excessively inconvenience the community so that motorists, residents, and businesses can plan alternate travel routes in advance.

6.4 Utility and Drainage Impacts

The build alternatives were developed specifically to minimize drainage and utility impacts while improving safety and operations. However, without detailed utility information, it is difficult to quantify the level of impact that is likely to occur. At this stage, it appears that all of the build alternatives could be constructed without significant

drainage impacts. A more detailed evaluation of drainage issues will be conducted during final design.

6.5 Alternative Evaluation Matrix

An alternative evaluation matrix (see **Figure 6-1**) has been prepared to summarize important elements for each of the alternatives developed and evaluated in this study. The evaluation matrix compares each of the build alternatives (and the no-build alternative) based on traffic performance measures (i.e., intersection vehicle delay and safety improvement), safety and environmental impacts, and estimated project costs (including design and construction).

6.6 Public Involvement

A public information meeting was held on Tuesday, June 14, 2016, at the Loretta Ingraham Center located at 1611 Hubert Avenue in Tampa. The meeting's Sign-in Sheet along with all public comments received within 10 days of the meeting are provided in **Appendix F**. The concept roll plot that was on display at the meeting is also included in **Appendix F**. A brief summary of the public's concerns are listed below.

- General Comments
    - Access to Home Depot needs improvement
    - Request to fill ditches along Grady St.
    - Request for new access behind Target (to Grady St.)
    - In favor of proposed project
    - Request for sidewalk on north side of Lois Ave.
- Villa Sonoma
    - Existing sidewalk needs to be repaired/replaced
    - Ditch in front floods
    - Consider speed tables to slow traffic
    - Consider 4-way stop at Manhattan Ave.
- Denny's
    - Concerned with losing left-turn access at Spruce St. driveway
- Home Depot
    - Concerns with moving driveway to the west, in front of Home Depot (additional traffic directly in front of business entrance)
    - Request wayfinding signage inside shopping center parking lots
    - Add striping and speed bumps on Home Depot front drive to reduce speed
    - Supportive of new Grady Ave. access if left-turn out is not allowed on Spruce
- Request for display materials from public meeting
- Other
    - Retime Spruce St. at Dale Mabry Hwy. traffic signal so EB/WB thru movements occur before left turns

6.7 Conclusions and Recommendations

Based on the data collected and information evaluated in this study (summarized in **Figure 6-1**), a series of recommendations along the corridor have been made to improve

safety and mobility along the Spruce Street corridor. The following summarizes the recommended improvements:

Recommended Intersection Improvements at Spruce Street/Dale Mabry:

- Alternative 2 (one left, one through, and one right turn lane) is recommended for implementation based on the overall intersection performance and the improved right turn access for eastbound-to-southbound movements
- This includes the extension of the traffic separator/concrete median westward to extend the queue storage length and to physically prohibit left turns into the Denny's driveway and the existing Home Depot driveway

Recommended Corridor Improvements:

- Segment 1 (Hesperides Street to Millennium Westshore Apartments / N. Manhattan Ave.) – Proposed Typical Section #1 (**Figure 5-1**) including a new 8-foot multi-use path. The 8-foot width is recommended in accordance with the Florida Green Book (2013), Chapter 9, due to the following conditions:
    - Bicycle traffic is expected to be low, even on peak days or during peak hours
    - There will be good horizontal and vertical alignment, providing safe and frequent passing opportunities
    - During normal maintenance activities, the path will not be subjected to maintenance vehicles causing pavement edge damage
- Segment 2 (Manhattan Avenue to Lois Avenue) – Proposed Typical Section #2 (**Figure 5-2**)
- Segment 3 (Lois Avenue to N. Grady Avenue) – Proposed Typical Section #3 (**Figure 5-3**)
- Segment 4 (N. Grady Avenue to Dale Mabry Highway) – Proposed Typical Section #4 (**Figure 5-4**)

Further Coordination and Potential Concept Variations:

- Further coordination will be conducted between the City and the owners/operators of the Millennium Apartments regarding the recommended multi-use path between the Millennium Apartments and Hesperides Street
- Further coordination will be carried out between the City and the owners/operators of Home Depot regarding the potential relocation of their driveway approximately 300 feet to the west of their existing driveway which would align with the front of the Home Depot building
- Further coordination will also be conducted between the City and the owners/operators of Denny's (located at the Spruce St./Dale Mabry Hwy. intersection) regarding the potential construction of a directional median opening allowing eastbound traffic to turn left into the Denny's driveway on Spruce Street

The concept plans showing the recommended improvements along the Spruce Street study limits are provided in **Appendix G**.

Figure 6-1 Evaluation Matrix

Spruce Street Improvements from Hesperides Street to Himes Avenue, CITY Project No: 114210879

Improvement Alternatives at Spruce Street/Dale Mabry Highway Intersection

Criteria	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Alternative Description (Eastbound Approach Configuration)	**Dual lefts, 1 Shared thru/right**	Dual lefts, 1 Shared thru/right	1 Left, 1 Thru, and 1 Right	1 Left, 1 Shared left/thru, 1 Right
Traffic Operations				
2034 Overall Intersection Operation [AM/PM total intersection delay (LOS)]	46.1 (D)/100.2 (F)	45.9 (D)/100.3 (F)	42.4 (D)/98.2 (F)	52.8 (D)/177.0 (F)
2034 Eastbound Approach Operation [AM/PM Approach delay (LOS)]	89.9 (F)/118.0 (F)	92.9 (F)/141.0 (F)	77.6 (E)/116.4 (F)	66.5 (E)/ 81.6 (F)
Driveway Access Impacts	None	Low	Low	Low
Right of way impacts (number of parcels)	None	None	None	None
Drainage impacts	None	Low	Low	Low
Safety				
Impact on Driver Expectancy	None	Low	Low	Low
Impact on pedestrian/bicycle safety	None	Low	Low	Low
Environmental Impacts				
Wetlands	None	None	None	None
T&E Species	None	None	None	None
Permitting	None	None	None	None
Costs				
Construction Cost*	$0	$538,697	$538,697	$538,697

* Construction cost estimates include other corridor improvements (sidewalks, safety features, etc.) between Hesperides Street and Dale Mabry. All three intersection alternatives would result in approximately equal construction costs.

Appendix A – Traffic Count Data

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WD
Site Code: 2106
Start Date: 05/09/2013

Turning Movement Data

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	4	1	12	0	17	0	15	3	7	0	25	0	13	286	7	0	306	2	4	351	9	0	366	714
7:15	0	4	0	18	0	22	0	20	0	11	0	31	1	10	336	22	0	369	4	6	418	10	0	438	860
7:30	0	1	3	13	1	17	0	19	1	11	0	31	0	11	377	12	0	400	0	9	441	10	0	460	908
7:45	0	5	1	23	0	29	0	14	4	12	1	30	4	27	360	19	0	410	3	9	428	13	0	453	922
Hourly Total	0	14	5	66	1	85	0	68	8	41	1	117	5	61	1359	60	0	1485	9	28	1638	42	0	1717	3404
8:00	0	2	0	20	0	22	0	13	4	11	0	28	1	27	382	12	0	422	2	7	465	12	0	486	958
8:15	0	12	0	18	1	30	0	22	3	8	0	33	2	30	370	12	0	414	1	4	421	16	0	442	919
8:30	0	9	2	25	1	36	0	21	2	6	0	29	1	21	332	15	0	369	6	8	417	14	0	445	879
8:45	0	6	5	34	3	45	0	10	7	9	2	26	1	35	369	27	0	432	1	11	428	23	0	463	966
Hourly Total	0	29	7	97	5	133	0	66	16	34	2	116	5	113	1453	66	0	1637	10	30	1731	65	0	1836	3722
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:30	0	36	6	102	1	144	0	29	0	28	0	57	0	85	357	43	2	485	5	16	362	49	0	432	1118
11:45	0	38	4	100	0	142	0	40	0	29	0	69	2	91	348	54	0	495	2	15	394	57	1	468	1174
Hourly Total	0	74	10	202	1	286	0	69	0	57	0	126	2	176	705	97	2	980	7	31	756	106	1	900	2292
12:00	0	49	2	97	0	148	0	30	2	15	0	47	3	110	361	51	1	525	5	17	395	82	0	499	1219
12:15	0	51	9	120	0	180	0	39	0	28	1	67	2	103	346	60	2	511	4	24	437	65	5	530	1288
12:30	0	71	8	125	0	204	0	25	17	34	0	76	0	100	358	40	0	498	6	23	393	63	2	485	1263
12:45	0	70	3	145	0	218	0	37	14	25	0	76	2	95	403	51	0	551	7	15	388	63	6	473	1318
Hourly Total	0	241	22	487	0	750	0	131	33	102	1	266	7	408	1468	202	3	2085	22	79	1613	273	13	1987	5088
13:00	0	79	11	110	0	200	0	42	11	29	0	82	0	107	386	54	1	547	6	24	411	59	2	500	1329
13:15	0	71	2	143	0	216	0	37	12	24	0	73	3	101	336	57	0	497	6	21	365	73	1	465	1251
13:30	0	52	2	128	0	182	0	44	12	23	1	79	4	82	384	44	1	514	2	19	411	62	0	494	1269
13:45	0	85	5	135	0	225	0	28	13	20	0	61	2	83	392	44	0	521	3	21	467	61	0	552	1359
Hourly Total	0	287	20	516	0	823	0	151	48	96	1	295	9	373	1498	199	2	2079	17	85	1654	255	3	2011	5208
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:30	0	48	5	80	0	133	0	25	10	18	0	53	2	53	357	41	0	453	5	13	480	51	0	549	1188
16:45	0	54	7	81	0	142	0	29	12	18	0	59	0	55	369	35	0	459	2	20	502	45	2	569	1229
Hourly Total	0	102	12	161	0	275	0	54	22	36	0	112	2	108	726	76	0	912	7	33	982	96	2	1118	2417
17:00	0	45	3	113	0	161	0	33	11	23	0	67	2	52	314	36	0	404	5	25	501	49	1	580	1212
17:15	0	49	4	58	0	111	0	32	9	27	1	68	3	67	363	51	0	484	2	17	597	47	1	663	1326
17:30	0	39	2	107	0	148	0	48	13	17	0	78	1	67	366	22	1	456	2	16	521	58	2	597	1279
17:45	0	46	4	96	0	146	0	36	9	27	0	72	1	47	347	37	0	432	2	21	466	37	1	526	1176
Hourly Total	0	179	13	374	0	566	0	149	42	94	1	285	7	233	1390	146	1	1776	11	79	2085	191	5	2366	4993
18:00	0	28	3	82	0	113	0	17	7	22	0	46	0	69	366	42	0	477	6	14	453	53	0	526	1162
18:15	0	30	3	87	0	120	0	34	5	27	0	66	1	74	319	40	0	434	3	14	441	42	4	500	1120
18:30	0	45	10	71	0	126	0	42	22	24	1	88	5	62	327	50	0	444	1	20	319	46	3	386	1044
18:45	0	40	6	96	0	142	0	36	6	26	1	68	0	86	276	27	0	389	0	12	356	46	0	414	1013
Hourly Total	0	143	22	336	0	501	0	129	40	99	2	268	6	291	1288	159	0	1744	10	60	1569	187	7	1826	4339
19:00	0	41	4	121	0	166	0	40	9	24	0	73	3	61	291	44	0	399	1	18	278	34	2	331	969
19:15	1	28	3	64	0	96	0	31	8	25	0	64	1	64	272	42	0	379	3	20	360	41	0	424	963
19:30	0	44	6	104	0	154	0	42	10	19	1	71	1	71	238	48	0	358	4	20	268	34	0	326	909
19:45	0	31	5	81	0	117	0	30	8	24	0	62	0	63	219	32	0	314	3	19	310	34	1	366	859
Hourly Total	1	144	18	370	0	533	0	143	35	92	1	270	5	259	1020	166	0	1450	11	77	1216	143	3	1447	3700
Car	1	1197	129	2580	-	3907	0	951	243	647	-	1841	48	2006	10624	1160	-	13838	104	494	12893	1345	-	14836	34422
% Car	100.0	98.7	100.0	98.9	-	98.9	-	99.1	99.6	99.4	-	99.2	100.0	99.2	97.4	99.1	-	97.8	100.0	98.4	97.3	99.0	-	97.6	97.9
Truck	0	16	0	29	-	45	0	9	1	4	-	14	0	16	283	11	-	310	0	8	351	13	-	372	741
% Truck	0.0	1.3	0.0	1.1	-	1.1	-	0.9	0.4	0.6	-	0.8	0.0	0.8	2.6	0.9	-	2.2	0.0	1.6	2.7	1.0	-	2.4	2.1
Ped	-	-	-	-	7	-	-	-	-	-	9	-	-	-	-	-	8	-	-	-	-	-	34	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WD
Site Code: 2106
Start Date: 05/09/2013

Turning Movement Peak Hour Data (8:00)

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	2	0	20	0	22	0	13	4	11	0	28	1	27	382	12	0	422	2	7	465	12	0	486	958
8:15	0	12	0	18	1	30	0	22	3	8	0	33	2	30	370	12	0	414	1	4	421	16	0	442	919
8:30	0	9	2	25	1	36	0	21	2	6	0	29	1	21	332	15	0	369	6	8	417	14	0	445	879
8:45	0	6	5	34	3	45	0	10	7	9	2	26	1	35	369	27	0	432	1	11	428	23	0	463	966
PHF	0.000	0.604	0.350	0.713	-	0.739	0.000	0.750	0.571	0.773	-	0.879	0.625	0.807	0.951	0.611	-	0.947	0.417	0.682	0.931	0.707	-	0.944	0.963
Car	0	27	7	92	-	126	0	65	16	34	-	115	5	108	1407	64	-	1584	10	28	1648	63	-	1749	3574
% Car	-	93.1	100.0	94.8	-	94.7	-	98.5	100.0	100.0	-	99.1	100.0	95.6	96.8	97.0	-	96.8	100.0	93.3	95.2	96.9	-	95.3	96.0
Truck	0	2	0	5	-	7	0	1	0	0	-	1	0	5	46	2	-	53	0	2	83	2	-	87	148
% Truck	-	6.9	0.0	5.2	-	5.3	-	1.5	0.0	0.0	-	0.9	0.0	4.4	3.2	3.0	-	3.2	0.0	6.7	4.8	3.1	-	4.7	4.0
Ped	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WD
Site Code: 2106
Start Date: 05/09/2013

Turning Movement Peak Hour Data (13:00)

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	79	11	110	0	200	0	42	11	29	0	82	0	107	386	54	1	547	6	24	411	59	2	500	1329
13:15	0	71	2	143	0	216	0	37	12	24	0	73	3	101	336	57	0	497	6	21	365	73	1	465	1251
13:30	0	52	2	128	0	182	0	44	12	23	1	79	4	82	384	44	1	514	2	19	411	62	0	494	1269
13:45	0	85	5	135	0	225	0	28	13	20	0	61	2	83	392	44	0	521	3	21	467	61	0	552	1359
PHF	0.000	0.844	0.455	0.902	-	0.914	0.000	0.858	0.923	0.828	-	0.899	0.563	0.871	0.955	0.873	-	0.950	0.708	0.885	0.885	0.873	-	0.911	0.958
Car	0	282	20	514	-	816	0	149	48	96	-	293	9	371	1453	196	-	2029	17	84	1595	252	-	1948	5086
% Car	-	98.3	100.0	99.6	-	99.1	-	98.7	100.0	100.0	-	99.3	100.0	99.5	97.0	98.5	-	97.6	100.0	98.8	96.4	98.8	-	96.9	97.7
Truck	0	5	0	2	-	7	0	2	0	0	-	2	0	2	45	3	-	50	0	1	59	3	-	63	122
% Truck	-	1.7	0.0	0.4	-	0.9	-	1.3	0.0	0.0	-	0.7	0.0	0.5	3.0	1.5	-	2.4	0.0	1.2	3.6	1.2	-	3.1	2.3
Ped	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WD
Site Code: 2106
Start Date: 05/09/2013

Turning Movement Peak Hour Data (16:45)

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	54	7	81	0	142	0	29	12	18	0	59	0	55	369	35	0	459	2	20	502	45	2	569	1229
17:00	0	45	3	113	0	161	0	33	11	23	0	67	2	52	314	36	0	404	5	25	501	49	1	580	1212
17:15	0	49	4	58	0	111	0	32	9	27	1	68	3	67	363	51	0	484	2	17	597	47	1	663	1326
17:30	0	39	2	107	0	148	0	48	13	17	0	78	1	67	366	22	1	456	2	16	521	58	2	597	1279
PHF	0.000	0.866	0.571	0.794	-	0.873	0.000	0.740	0.865	0.787	-	0.872	0.500	0.899	0.957	0.706	-	0.931	0.550	0.780	0.888	0.858	-	0.908	0.951
Car	0	186	16	356	-	558	0	142	44	85	-	271	6	241	1379	144	-	1770	11	78	2086	197	-	2372	4971
% Car	-	99.5	100.0	99.2	-	99.3	-	100.0	97.8	100.0	-	99.6	100.0	100.0	97.7	100.0	-	98.2	100.0	100.0	98.3	99.0	-	98.5	98.5
Truck	0	1	0	3	-	4	0	0	1	0	-	1	0	0	33	0	-	33	0	0	35	2	-	37	75
% Truck	-	0.5	0.0	0.8	-	0.7	-	0.0	2.2	0.0	-	0.4	0.0	0.0	2.3	0.0	-	1.8	0.0	0.0	1.7	1.0	-	1.5	1.5
Ped	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	6	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WE
Site Code: 2106
Start Date: 05/11/2013
Page No: 1

Turning Movement Data

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	2	1	22	0	25	0	38	3	8	1	49	2	21	159	31	0	213	5	8	189	8	0	210	497
8:15	0	1	1	27	1	29	0	42	7	8	1	57	2	36	239	20	0	297	3	8	242	19	0	272	655
8:30	0	6	1	29	0	36	0	36	4	6	2	46	3	33	241	26	0	303	3	4	259	11	0	277	662
8:45	0	4	1	34	1	39	0	40	6	9	0	55	1	44	247	25	1	317	4	14	316	24	1	358	769
Hourly Total	0	13	4	112	2	129	0	156	20	31	4	207	8	134	886	102	1	1130	15	34	1006	62	1	1117	2583
9:00	0	11	3	33	2	47	0	46	2	12	1	60	2	47	260	35	1	344	0	8	258	18	0	284	735
9:15	0	15	4	48	1	67	0	76	4	13	0	93	0	60	270	33	1	363	2	21	282	33	1	338	861
9:30	0	26	4	49	0	79	0	64	9	15	1	88	2	56	267	36	0	361	1	11	339	24	0	375	903
9:45	0	15	5	67	0	87	0	62	10	19	0	91	0	65	298	34	1	397	3	12	361	31	0	407	982
Hourly Total	0	67	16	197	3	280	0	248	25	59	2	332	4	228	1095	138	3	1465	6	52	1240	106	1	1404	3481
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00	0	57	11	108	0	176	0	80	10	31	4	121	2	112	316	67	1	497	0	15	384	67	4	466	1260
12:15	0	62	7	50	1	119	0	66	9	24	0	99	2	127	359	66	0	554	0	13	454	70	2	537	1309
12:30	0	73	5	136	2	214	0	78	18	30	1	126	1	117	308	73	2	499	0	20	431	56	4	507	1346
12:45	0	70	6	92	0	168	0	78	12	26	0	116	4	113	366	49	0	532	0	19	436	74	0	529	1345
Hourly Total	0	262	29	386	3	677	0	302	49	111	5	462	9	469	1349	255	3	2082	0	67	1705	267	10	2039	5260
13:00	0	67	4	126	1	197	0	68	10	40	0	118	4	136	377	61	0	578	0	18	427	67	0	512	1405
13:15	0	84	3	118	1	205	0	74	19	30	0	123	6	103	365	71	2	545	0	21	412	80	0	513	1386
13:30	0	79	8	95	0	182	0	65	14	28	0	107	3	127	358	75	0	563	0	17	494	74	0	585	1437
13:45	0	59	8	146	0	213	0	76	25	22	0	123	1	151	354	74	0	580	0	24	396	54	3	474	1390
Hourly Total	0	289	23	485	2	797	0	283	68	120	0	471	14	517	1454	281	2	2266	0	80	1729	275	3	2084	5618
14:00	0	64	9	103	0	176	0	75	13	34	0	122	1	100	344	66	0	511	4	21	431	68	0	524	1333
14:15	0	63	5	117	0	185	0	61	19	25	0	105	3	116	390	65	2	574	0	17	424	64	0	505	1369
14:30	0	63	5	159	0	227	0	75	13	27	2	115	1	136	356	71	1	564	7	19	375	80	3	481	1387
14:45	0	82	8	120	0	210	0	81	16	29	0	126	2	125	310	54	0	491	1	19	467	68	1	555	1382
Hourly Total	0	272	27	499	0	798	0	292	61	115	2	468	7	477	1400	256	3	2140	12	76	1697	280	4	2065	5471
15:00	0	67	7	124	0	198	0	68	13	24	2	105	0	123	389	68	1	580	3	17	425	63	0	508	1391
15:15	0	77	6	154	0	237	0	82	15	31	1	128	2	106	292	57	1	457	5	25	413	77	1	520	1342
15:30	0	67	2	132	0	201	0	68	14	20	1	102	0	113	351	78	1	542	3	19	496	70	0	588	1433
15:45	0	60	9	143	0	212	0	80	15	30	2	125	3	125	366	72	0	566	2	27	412	76	2	517	1420
Hourly Total	0	271	24	553	0	848	0	298	57	105	6	460	5	467	1398	275	3	2145	13	88	1746	286	3	2133	5586
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18:00	0	63	6	121	3	190	0	54	17	41	0	112	5	100	367	55	0	527	0	20	350	47	1	417	1246
18:15	0	41	3	116	1	160	0	54	9	21	0	84	3	78	385	51	0	517	0	9	417	51	1	477	1238
18:30	0	44	5	114	0	163	0	63	13	36	0	112	2	105	383	50	0	540	0	22	365	51	0	438	1253
18:45	0	46	6	109	2	161	0	46	13	28	0	87	2	67	332	55	1	456	0	17	333	41	0	391	1095
Hourly Total	0	194	20	460	6	674	0	217	52	126	0	395	12	350	1467	211	1	2040	0	68	1465	190	2	1723	4832
19:00	0	45	10	114	0	169	0	62	11	30	0	103	2	78	343	52	0	475	0	17	350	52	0	419	1166
19:15	0	37	7	106	0	150	0	57	11	23	1	91	3	80	331	52	2	466	2	17	330	42	0	391	1098
19:30	0	51	4	83	1	138	0	56	8	30	2	94	0	58	268	37	0	363	3	19	311	36	2	369	964
19:45	0	36	11	93	0	140	0	50	9	20	0	79	1	71	291	53	0	416	2	17	265	26	0	310	945
Hourly Total	0	169	32	396	1	597	0	225	39	103	3	367	6	287	1233	194	2	1720	7	70	1256	156	2	1489	4173
Car	0	1534	175	3082	-	4791	0	2012	370	768	-	3150	65	2921	10164	1700	-	14850	53	533	11684	1616	-	13886	36677
% Car	-	99.8	100.0	99.8	-	99.8	-	99.6	99.7	99.7	-	99.6	100.0	99.7	98.9	99.3	-	99.1	100.0	99.6	98.6	99.6	-	98.8	99.1
Truck	0	3	0	6	-	9	0	9	1	2	-	12	0	8	118	12	-	138	0	2	160	6	-	168	327
% Truck	-	0.2	0.0	0.2	-	0.2	-	0.4	0.3	0.3	-	0.4	0.0	0.3	1.1	0.7	-	0.9	0.0	0.4	1.4	0.4	-	1.2	0.9
Ped	-	-	-	-	17	-	-	-	-	-	22	-	-	-	-	-	18	-	-	-	-	-	26	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WE
Site Code: 2106
Start Date: 05/11/2013

Turning Movement Peak Hour Data (9:00)

	Home Depot Entrance						Walmart Entrance						Dale Mabry Hwy						Dale Mabry Hwy						
	Eastbound						Westbound						Northbound						Southbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
9:00	0	11	3	33	2	47	0	46	2	12	1	60	2	47	260	35	1	344	0	8	258	18	0	284	735
9:15	0	15	4	48	1	67	0	76	4	13	0	93	0	60	270	33	1	363	2	21	282	33	1	338	861
9:30	0	26	4	49	0	79	0	64	9	15	1	88	2	56	267	36	0	361	1	11	339	24	0	375	903
9:45	0	15	5	67	0	87	0	62	10	19	0	91	0	65	298	34	1	397	3	12	361	31	0	407	982
PHF	0.000	0.644	0.800	0.735	-	0.805	0.000	0.816	0.625	0.776	-	0.892	0.500	0.877	0.919	0.958	-	0.923	0.500	0.619	0.859	0.803	-	0.862	0.886
Car	0	67	16	196	-	279	0	246	24	59	-	329	4	226	1072	138	-	1440	6	51	1208	106	-	1371	3419
% Car	-	100.0	100.0	99.5	-	99.6	-	99.2	96.0	100.0	-	99.1	100.0	99.1	97.9	100.0	-	98.3	100.0	98.1	97.4	100.0	-	97.6	98.2
Truck	0	0	0	1	-	1	0	2	1	0	-	3	0	2	23	0	-	25	0	1	32	0	-	33	62
% Truck	-	0.0	0.0	0.5	-	0.4	-	0.8	4.0	0.0	-	0.9	0.0	0.9	2.1	0.0	-	1.7	0.0	1.9	2.6	0.0	-	2.4	1.8
Ped	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WE
Site Code: 2106
Start Date: 05/11/2013

Turning Movement Peak Hour Data (13:00)

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	67	4	126	1	197	0	68	10	40	0	118	4	136	377	61	0	578	0	18	427	67	0	512	1405
13:15	0	84	3	118	1	205	0	74	19	30	0	123	6	103	365	71	2	545	0	21	412	80	0	513	1386
13:30	0	79	8	95	0	182	0	65	14	28	0	107	3	127	358	75	0	563	0	17	494	74	0	585	1437
13:45	0	59	8	146	0	213	0	76	25	22	0	123	1	151	354	74	0	580	0	24	396	54	3	474	1390
PHF	0.000	0.860	0.719	0.830	-	0.935	0.000	0.931	0.680	0.750	-	0.957	0.583	0.856	0.964	0.937	-	0.977	0.000	0.833	0.875	0.859	-	0.891	0.977
Car	0	288	23	484	-	795	0	281	68	120	-	469	14	517	1441	278	-	2250	0	80	1706	275	-	2061	5575
% Car	-	99.7	100.0	99.8	-	99.7	-	99.3	100.0	100.0	-	99.6	100.0	100.0	99.1	98.9	-	99.3	-	100.0	98.7	100.0	-	98.9	99.2
Truck	0	1	0	1	-	2	0	2	0	0	-	2	0	0	13	3	-	16	0	0	23	0	-	23	43
% Truck	-	0.3	0.0	0.2	-	0.3	-	0.7	0.0	0.0	-	0.4	0.0	0.0	0.9	1.1	-	0.7	-	0.0	1.3	0.0	-	1.1	0.8
Ped	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Home Depot/
Walmart Entrance
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Home Depot/Walmart Entrance_WE
Site Code: 2106
Start Date: 05/11/2013

Turning Movement Peak Hour Data (18:00)

Start Time	Home Depot Entrance Eastbound						Walmart Entrance Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
18:00	0	63	6	121	3	190	0	54	17	41	0	112	5	100	367	55	0	527	0	20	350	47	1	417	1246
18:15	0	41	3	116	1	160	0	54	9	21	0	84	3	78	385	51	0	517	0	9	417	51	1	477	1238
18:30	0	44	5	114	0	163	0	63	13	36	0	112	2	105	383	50	0	540	0	22	365	51	0	438	1253
18:45	0	46	6	109	2	161	0	46	13	28	0	87	2	67	332	55	1	456	0	17	333	41	0	391	1095
PHF	0.000	0.770	0.833	0.950	-	0.887	0.000	0.861	0.765	0.768	-	0.882	0.600	0.833	0.953	0.959	-	0.944	0.000	0.773	0.878	0.931	-	0.903	0.964
Car	0	194	20	460	-	674	0	216	52	125	-	393	12	350	1459	208	-	2029	0	68	1457	190	-	1715	4811
% Car	-	100.0	100.0	100.0	-	100.0	-	99.5	100.0	99.2	-	99.5	100.0	100.0	99.5	98.6	-	99.5	-	100.0	99.5	100.0	-	99.5	99.6
Truck	0	0	0	0	-	0	0	1	0	1	-	2	0	0	8	3	-	11	0	0	8	0	-	8	21
% Truck	-	0.0	0.0	0.0	-	0.0	-	0.5	0.0	0.8	-	0.5	0.0	0.0	0.5	1.4	-	0.5	-	0.0	0.5	0.0	-	0.5	0.4
Ped	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Dale Mabry Hwy & Spruce St_WD
Site Code: 2107
Start Date: 05/09/2013
Page No: 1

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	13	30	26	0	69	0	18	49	4	0	71	8	19	231	16	1	274	0	8	302	25	0	335	749
7:15	0	20	45	18	1	83	0	30	40	5	0	75	0	21	341	22	0	384	1	8	406	48	0	463	1005
7:30	0	16	60	19	1	95	0	24	71	5	1	100	0	29	347	17	0	393	0	18	395	54	0	467	1055
7:45	0	20	34	25	1	79	0	29	73	5	0	107	0	20	328	30	2	378	1	12	394	47	0	454	1018
Hourly Total	0	69	169	88	3	326	0	101	233	19	1	353	8	89	1247	85	3	1429	2	46	1497	174	0	1719	3827
8:00	0	19	26	28	0	73	0	33	58	7	0	98	6	29	343	30	0	408	0	10	402	45	0	457	1036
8:15	0	22	32	37	0	91	0	24	67	11	0	102	7	21	337	25	1	390	2	9	386	49	0	446	1029
8:30	0	19	26	20	1	65	0	23	52	12	0	87	8	22	292	22	0	344	0	8	384	67	0	459	955
8:45	0	28	38	21	1	87	0	26	56	6	0	88	5	28	336	20	1	389	0	13	424	67	0	504	1068
Hourly Total	0	88	122	106	2	316	0	106	233	36	0	375	26	100	1308	97	2	1531	2	40	1596	228	0	1866	4088
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:30	0	32	47	28	1	107	0	23	38	12	0	73	10	17	369	26	0	422	4	14	390	29	0	437	1039
11:45	0	58	41	42	0	141	0	31	44	14	0	89	13	24	359	25	0	421	4	16	417	51	0	488	1139
Hourly Total	0	90	88	70	1	248	0	54	82	26	0	162	23	41	728	51	0	843	8	30	807	80	0	925	2178
12:00	0	32	28	36	0	96	0	30	45	7	2	82	12	15	373	31	1	431	4	13	421	55	3	493	1102
12:15	0	51	47	48	2	146	0	33	50	11	2	94	14	14	378	28	1	434	5	21	450	60	5	536	1210
12:30	0	42	30	33	0	105	0	29	45	13	0	87	5	29	411	36	0	481	3	16	414	60	0	493	1166
12:45	0	43	47	25	0	115	0	30	47	11	0	88	6	29	411	45	1	491	3	18	432	64	0	517	1211
Hourly Total	0	168	152	142	2	462	0	122	187	42	4	351	37	87	1573	140	3	1837	15	68	1717	239	8	2039	4689
13:00	0	37	40	41	1	118	0	31	52	11	0	94	12	34	411	40	1	497	1	11	424	59	0	495	1204
13:15	0	41	41	35	0	117	0	40	49	17	0	106	8	33	371	35	1	447	1	11	415	64	0	491	1161
13:30	0	33	38	45	0	116	0	33	65	9	0	107	5	23	389	31	1	448	2	14	456	48	2	520	1191
13:45	0	28	36	45	0	109	0	32	46	16	0	94	7	19	426	43	0	495	4	16	454	59	0	533	1231
Hourly Total	0	139	155	166	1	460	0	136	212	53	0	401	32	109	1597	149	3	1887	8	52	1749	230	2	2039	4787
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:30	1	42	52	33	0	128	0	37	48	16	1	101	2	27	362	25	1	416	3	12	425	43	0	483	1128
16:45	0	23	33	20	2	76	0	18	60	8	0	86	8	17	389	32	1	446	4	15	541	34	1	594	1202
Hourly Total	1	65	85	53	2	204	0	55	108	24	1	187	10	44	751	57	2	862	7	27	966	77	1	1077	2330
17:00	0	43	60	41	2	144	0	43	71	7	0	121	3	27	337	22	2	389	2	16	495	42	0	555	1209
17:15	0	32	65	37	1	134	0	32	53	10	0	95	1	13	374	32	3	420	2	7	548	43	1	600	1249
17:30	0	39	45	50	2	134	0	32	69	18	0	119	9	30	396	21	1	456	2	15	507	39	0	563	1272
17:45	0	47	70	42	7	159	0	26	69	17	1	112	4	20	359	32	4	415	0	16	447	39	5	502	1188
Hourly Total	0	161	240	170	12	571	0	133	262	52	1	447	17	90	1466	107	10	1680	6	54	1997	163	6	2220	4918
18:00	0	45	61	33	2	139	0	36	50	11	0	97	9	25	350	34	2	418	0	19	439	36	0	494	1148
18:15	1	27	54	32	1	114	0	22	62	5	0	89	13	23	360	29	0	425	1	12	483	38	1	534	1162
18:30	0	42	36	41	0	119	0	22	51	9	0	82	4	24	339	30	4	397	3	10	368	31	0	412	1010
18:45	0	31	42	27	1	100	0	32	50	14	1	96	8	17	293	24	2	342	1	11	356	38	0	406	944
Hourly Total	1	145	193	133	4	472	0	112	213	39	1	364	34	89	1342	117	8	1582	5	52	1646	143	1	1846	4264
19:00	0	45	37	35	2	117	0	20	38	8	0	66	8	21	299	30	3	358	1	12	328	23	0	364	905
19:15	0	40	35	32	0	107	0	24	34	14	0	72	6	24	291	22	0	343	4	13	329	42	0	388	910
19:30	0	27	14	35	0	76	0	13	35	10	0	58	0	23	241	22	0	286	0	7	292	24	0	323	743
19:45	0	32	33	42	0	107	0	23	27	6	0	56	6	20	233	14	0	273	1	4	295	22	0	322	758
Hourly Total	0	144	119	144	2	407	0	80	134	38	0	252	20	88	1064	88	3	1260	6	36	1244	111	0	1397	3316
Car	2	1048	1278	1048	-	3376	0	894	1586	322	-	2802	205	727	10805	883	-	12620	59	398	12866	1406	-	14729	33527
% Car	100.0	98.0	96.6	97.8	-	97.4	-	99.4	95.3	97.9	-	96.9	99.0	98.6	97.6	99.1	-	97.7	100.0	98.3	97.3	97.3	-	97.4	97.5
Truck	0	21	45	24	-	90	0	5	78	7	-	90	2	10	271	8	-	291	0	7	353	39	-	399	870
% Truck	0.0	2.0	3.4	2.2	-	2.6	-	0.6	4.7	2.1	-	3.1	1.0	1.4	2.4	0.9	-	2.3	0.0	1.7	2.7	2.7	-	2.6	2.5
Ped	-	-	-	-	29	-	-	-	-	-	8	-	-	-	-	-	34	-	-	-	-	-	18	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekday TMC

Count Name: 2107_Dale Mabry Hwy & Spruce St_WD
Site Code: 2107
Start Date: 05/09/2013

Turning Movement Peak Hour Data (7:30)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:30	0	16	60	19	1	95	0	24	71	5	1	100	0	29	347	17	0	393	0	18	395	54	0	467	1055
7:45	0	20	34	25	1	79	0	29	73	5	0	107	0	20	328	30	2	378	1	12	394	47	0	454	1018
8:00	0	19	26	28	0	73	0	33	58	7	0	98	6	29	343	30	0	408	0	10	402	45	0	457	1036
8:15	0	22	32	37	0	91	0	24	67	11	0	102	7	21	337	25	1	390	2	9	386	49	0	446	1029
PHF	0.000	0.875	0.633	0.736	-	0.889	0.000	0.833	0.921	0.636	-	0.951	0.464	0.853	0.976	0.850	-	0.961	0.375	0.681	0.981	0.903	-	0.976	0.981
Car	0	76	143	106	-	325	0	110	259	27	-	396	13	97	1308	101	-	1519	3	47	1510	189	-	1749	3989
% Car	-	98.7	94.1	97.2	-	96.2	-	100.0	96.3	96.4	-	97.3	100.0	98.0	96.5	99.0	-	96.8	100.0	95.9	95.8	96.9	-	95.9	96.4
Truck	0	1	9	3	-	13	0	0	10	1	-	11	0	2	47	1	-	50	0	2	67	6	-	75	149
% Truck	-	1.3	5.9	2.8	-	3.8	-	0.0	3.7	3.6	-	2.7	0.0	2.0	3.5	1.0	-	3.2	0.0	4.1	4.2	3.1	-	4.1	3.6
Ped	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Albeck Gerken, Inc.
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Suite 410
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FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekday TMC

Count Name: 2107_Dale Mabry Hwy & Spruce St_WD
Site Code: 2107
Start Date: 05/09/2013
Page No: 3

Turning Movement Peak Hour Data (12:15)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:15	0	51	47	48	2	146	0	33	50	11	2	94	14	14	378	28	1	434	5	21	450	60	5	536	1210
12:30	0	42	30	33	0	105	0	29	45	13	0	87	5	29	411	36	0	481	3	16	414	60	0	493	1166
12:45	0	43	47	25	0	115	0	30	47	11	0	88	6	29	411	45	1	491	3	18	432	64	0	517	1211
13:00	0	37	40	41	1	118	0	31	52	11	0	94	12	34	411	40	1	497	1	11	424	59	0	495	1204
PHF	0.000	0.848	0.872	0.766	-	0.829	0.000	0.932	0.933	0.885	-	0.965	0.661	0.779	0.980	0.828	-	0.957	0.600	0.786	0.956	0.949	-	0.952	0.989
Car	0	173	160	138	-	471	0	121	181	46	-	348	36	103	1570	147	-	1856	12	65	1670	237	-	1984	4659
% Car	-	100.0	97.6	93.9	-	97.3	-	98.4	93.3	100.0	-	95.9	97.3	97.2	97.5	98.7	-	97.5	100.0	98.5	97.1	97.5	-	97.2	97.2
Truck	0	0	4	9	-	13	0	2	13	0	-	15	1	3	41	2	-	47	0	1	50	6	-	57	132
% Truck	-	0.0	2.4	6.1	-	2.7	-	1.6	6.7	0.0	-	4.1	2.7	2.8	2.5	1.3	-	2.5	0.0	1.5	2.9	2.5	-	2.8	2.8
Ped	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	5	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
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FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekday TMC

Count Name: 2107_Dale Mabry Hwy & Spruce St_WD
Site Code: 2107
Start Date: 05/09/2013

Turning Movement Peak Hour Data (16:45)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	23	33	20	2	76	0	18	60	8	0	86	8	17	389	32	1	446	4	15	541	34	1	594	1202
17:00	0	43	60	41	2	144	0	43	71	7	0	121	3	27	337	22	2	389	2	16	495	42	0	555	1209
17:15	0	32	65	37	1	134	0	32	53	10	0	95	1	13	374	32	3	420	2	7	548	43	1	600	1249
17:30	0	39	45	50	2	134	0	32	69	18	0	119	9	30	396	21	1	456	2	15	507	39	0	563	1272
PHF	0.000	0.797	0.781	0.740	-	0.847	0.000	0.727	0.891	0.597	-	0.870	0.583	0.725	0.944	0.836	-	0.938	0.625	0.828	0.954	0.919	-	0.963	0.969
Car	0	134	198	147	-	479	0	125	247	42	-	414	21	87	1465	107	-	1680	10	53	2053	153	-	2269	4842
% Car	-	97.8	97.5	99.3	-	98.2	-	100.0	97.6	97.7	-	98.3	100.0	100.0	97.9	100.0	-	98.2	100.0	100.0	98.2	96.8	-	98.1	98.2
Truck	0	3	5	1	-	9	0	0	6	1	-	7	0	0	31	0	-	31	0	0	38	5	-	43	90
% Truck	-	2.2	2.5	0.7	-	1.8	-	0.0	2.4	2.3	-	1.7	0.0	0.0	2.1	0.0	-	1.8	0.0	0.0	1.8	3.2	-	1.9	1.8
Ped	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	2	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Dale Mabry Hwy & Spruce St_WE
Site Code: 2107
Start Date: 05/11/2013
Page No: 1

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	11	17	8	0	36	0	37	25	2	4	64	7	8	164	13	1	192	2	7	153	17	1	179	471
8:15	0	15	14	22	0	51	0	62	27	2	2	91	12	16	201	20	2	249	0	9	179	19	0	207	598
8:30	0	17	22	16	6	55	0	59	37	9	5	105	15	8	210	18	0	251	0	11	216	21	4	248	659
8:45	0	26	23	22	5	71	0	56	40	6	0	102	17	15	242	17	0	291	0	11	251	31	5	293	757
Hourly Total	0	69	76	68	11	213	0	214	129	19	11	362	51	47	817	68	3	983	2	38	799	88	10	927	2485
9:00	1	30	33	23	1	87	0	58	39	5	0	102	13	16	221	22	2	272	0	15	216	25	0	256	717
9:15	0	28	30	20	1	78	0	54	34	9	0	97	10	9	256	21	0	296	0	17	258	33	0	308	779
9:30	1	30	25	35	0	91	0	54	53	7	0	114	26	14	264	30	0	334	1	21	289	37	0	348	887
9:45	0	29	35	32	1	96	0	68	43	4	0	115	14	17	252	32	0	315	1	10	281	30	1	322	848
Hourly Total	2	117	123	110	3	352	0	234	169	25	0	428	63	56	993	105	2	1217	2	63	1044	125	1	1234	3231
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00	0	39	32	39	3	110	0	58	48	12	0	118	13	22	341	51	1	427	2	20	420	43	1	485	1140
12:15	1	47	43	38	1	129	0	60	53	10	0	123	21	28	367	39	0	455	2	12	467	65	3	546	1253
12:30	0	49	40	45	1	134	0	60	51	8	1	119	13	21	362	59	2	455	3	11	437	56	1	507	1215
12:45	0	31	33	45	1	109	0	54	47	11	1	112	13	27	393	42	2	475	0	17	439	60	2	516	1212
Hourly Total	1	166	148	167	6	482	0	232	199	41	2	472	60	98	1463	191	5	1812	7	60	1763	224	7	2054	4820
13:00	0	48	53	32	2	133	0	66	50	14	0	130	14	29	355	38	1	436	2	21	360	49	0	432	1131
13:15	0	42	40	38	1	120	0	58	29	7	0	94	9	23	400	53	0	485	1	9	458	58	0	526	1225
13:30	0	41	55	45	2	141	0	50	60	13	0	123	10	24	394	48	2	476	1	20	450	64	0	535	1275
13:45	1	37	44	41	1	123	0	67	57	3	0	127	15	23	335	42	2	415	3	19	375	49	1	446	1111
Hourly Total	1	168	192	156	6	517	0	241	196	37	0	474	48	99	1484	181	5	1812	7	69	1643	220	1	1939	4742
14:00	0	46	33	49	1	128	0	64	56	3	0	123	18	26	417	40	1	501	3	16	374	58	0	451	1203
14:15	0	35	38	50	0	123	0	42	50	11	0	103	15	27	417	47	2	506	1	8	399	63	0	471	1203
14:30	0	49	51	38	1	138	0	61	59	7	1	127	13	18	366	46	3	443	2	8	362	36	1	408	1116
14:45	0	39	38	53	1	130	0	44	54	13	0	111	17	25	402	43	1	487	3	17	453	39	0	512	1240
Hourly Total	0	169	160	190	3	519	0	211	219	34	1	464	63	96	1602	176	7	1937	9	49	1588	196	1	1842	4762
15:00	0	40	46	43	1	129	0	67	49	22	2	138	10	27	370	50	2	457	1	13	333	57	1	404	1128
15:15	0	52	36	45	1	133	0	54	45	11	1	110	4	27	380	36	1	447	0	9	386	52	0	447	1137
15:30	0	36	41	46	3	123	0	45	55	7	0	107	18	20	358	36	1	432	0	11	387	48	0	446	1108
15:45	0	50	38	49	0	137	0	71	52	7	0	130	11	30	355	34	0	430	1	19	332	40	0	392	1089
Hourly Total	0	178	161	183	5	522	0	237	201	47	3	485	43	104	1463	156	4	1766	2	52	1438	197	1	1689	4462
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18:00	0	30	35	40	2	105	0	56	34	8	0	98	11	8	423	45	2	487	1	25	334	38	1	398	1088
18:15	0	36	41	42	2	119	0	54	33	16	0	103	13	22	378	32	2	445	2	7	372	35	0	416	1083
18:30	0	45	33	42	0	120	0	66	29	11	2	106	13	24	351	50	2	438	0	8	299	44	2	351	1015
18:45	0	41	27	46	1	114	0	40	28	12	0	80	9	13	424	29	3	475	1	18	305	26	1	350	1019
Hourly Total	0	152	136	170	5	458	0	216	124	47	2	387	46	67	1576	156	9	1845	4	58	1310	143	4	1515	4205
19:00	0	42	22	54	1	118	1	53	39	11	0	104	14	25	344	47	0	430	1	14	298	30	1	343	995
19:15	3	42	35	33	0	113	0	60	29	7	0	96	9	17	345	27	0	398	0	9	281	26	0	316	923
19:30	0	34	32	38	3	104	0	43	24	5	1	72	7	16	326	37	0	386	0	9	284	28	0	321	883
19:45	0	33	32	29	0	94	0	60	32	8	7	100	11	26	268	22	0	327	3	11	219	34	0	267	788
Hourly Total	3	151	121	154	4	429	1	216	124	31	8	372	41	84	1283	133	0	1541	4	43	1082	118	1	1247	3589
Car	7	1153	1101	1185	-	3446	1	1777	1346	279	-	3403	414	647	10554	1165	-	12780	37	432	10536	1296	-	12301	31930
% Car	100.0	98.5	98.6	98.9	-	98.7	100.0	98.7	98.9	99.3	-	98.8	99.8	99.4	98.8	99.9	-	99.0	100.0	100.0	98.8	98.9	-	98.8	98.9
Truck	0	17	16	13	-	46	0	24	15	2	-	41	1	4	127	1	-	133	0	0	131	15	-	146	366
% Truck	0.0	1.5	1.4	1.1	-	1.3	0.0	1.3	1.1	0.7	-	1.2	0.2	0.6	1.2	0.1	-	1.0	0.0	0.0	1.2	1.1	-	1.2	1.1
Ped	-	-	-	-	43	-	-	-	-	-	27	-	-	-	-	-	35	-	-	-	-	-	26	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekend TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Dale Mabry Hwy & Spruce St_WE
Site Code: 2107
Start Date: 05/11/2013

Turning Movement Peak Hour Data (9:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
9:00	1	30	33	23	1	87	0	58	39	5	0	102	13	16	221	22	2	272	0	15	216	25	0	256	717
9:15	0	28	30	20	1	78	0	54	34	9	0	97	10	9	256	21	0	296	0	17	258	33	0	308	779
9:30	1	30	25	35	0	91	0	54	53	7	0	114	26	14	264	30	0	334	1	21	289	37	0	348	887
9:45	0	29	35	32	1	96	0	68	43	4	0	115	14	17	252	32	0	315	1	10	281	30	1	322	848
PHF	0.500	0.975	0.879	0.786	-	0.917	0.000	0.860	0.797	0.694	-	0.930	0.606	0.824	0.940	0.820	-	0.911	0.500	0.750	0.903	0.845	-	0.886	0.911
Car	2	113	122	109	-	346	0	231	168	24	-	423	63	55	968	105	-	1191	2	63	1016	124	-	1205	3165
% Car	100.0	96.6	99.2	99.1	-	98.3	-	98.7	99.4	96.0	-	98.8	100.0	98.2	97.5	100.0	-	97.9	100.0	100.0	97.3	99.2	-	97.6	98.0
Truck	0	4	1	1	-	6	0	3	1	1	-	5	0	1	25	0	-	26	0	0	28	1	-	29	66
% Truck	0.0	3.4	0.8	0.9	-	1.7	-	1.3	0.6	4.0	-	1.2	0.0	1.8	2.5	0.0	-	2.1	0.0	0.0	2.7	0.8	-	2.4	2.0
Ped	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

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1911 N US Hwy 301
Suite 410
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(813) 319-3790

FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekend TMC

Count Name: 2107_Dale Mabry Hwy & Spruce St_WE
Site Code: 2107
Start Date: 05/11/2013

Turning Movement Peak Hour Data (12:45)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:45	0	31	33	45	1	109	0	54	47	11	1	112	13	27	393	42	2	475	0	17	439	60	2	516	1212
13:00	0	48	53	32	2	133	0	66	50	14	0	130	14	29	355	38	1	436	2	21	360	49	0	432	1131
13:15	0	42	40	38	1	120	0	58	29	7	0	94	9	23	400	53	0	485	1	9	458	58	0	526	1225
13:30	0	41	55	45	2	141	0	50	60	13	0	123	10	24	394	48	2	476	1	20	450	64	0	535	1275
PHF	0.000	0.844	0.823	0.889	-	0.892	0.000	0.864	0.775	0.804	-	0.883	0.821	0.888	0.964	0.854	-	0.965	0.500	0.798	0.932	0.902	-	0.939	0.950
Car	0	160	178	159	-	497	0	223	185	45	-	453	45	103	1523	181	-	1852	4	67	1695	229	-	1995	4797
% Car	-	98.8	98.3	99.4	-	98.8	-	97.8	99.5	100.0	-	98.7	97.8	100.0	98.8	100.0	-	98.9	100.0	100.0	99.3	99.1	-	99.3	99.1
Truck	0	2	3	1	-	6	0	5	1	0	-	6	1	0	19	0	-	20	0	0	12	2	-	14	46
% Truck	-	1.2	1.7	0.6	-	1.2	-	2.2	0.5	0.0	-	1.3	2.2	0.0	1.2	0.0	-	1.1	0.0	0.0	0.7	0.9	-	0.7	0.9
Ped	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	2	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
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FDOT D7
TWO #8 - S Dale Mabry Hwy
Dale Mabry Hwy & Spruce St
Weekend TMC

Count Name: 2107_Dale Mabry Hwy & Spruce St_WE
Site Code: 2107
Start Date: 05/11/2013

Turning Movement Peak Hour Data (18:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Hwy Northbound						Dale Mabry Hwy Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
18:00	0	30	35	40	2	105	0	56	34	8	0	98	11	8	423	45	2	487	1	25	334	38	1	398	1088
18:15	0	36	41	42	2	119	0	54	33	16	0	103	13	22	378	32	2	445	2	7	372	35	0	416	1083
18:30	0	45	33	42	0	120	0	66	29	11	2	106	13	24	351	50	2	438	0	8	299	44	2	351	1015
18:45	0	41	27	46	1	114	0	40	28	12	0	80	9	13	424	29	3	475	1	18	305	26	1	350	1019
PHF	0.000	0.844	0.829	0.924	-	0.954	0.000	0.818	0.912	0.734	-	0.913	0.885	0.698	0.929	0.780	-	0.947	0.500	0.580	0.880	0.813	-	0.910	0.966
Car	0	150	135	170	-	455	0	216	123	46	-	385	46	67	1566	156	-	1835	4	58	1302	142	-	1506	4181
% Car	-	98.7	99.3	100.0	-	99.3	-	100.0	99.2	97.9	-	99.5	100.0	100.0	99.4	100.0	-	99.5	100.0	100.0	99.4	99.3	-	99.4	99.4
Truck	0	2	1	0	-	3	0	0	1	1	-	2	0	0	10	0	-	10	0	0	8	1	-	9	24
% Truck	-	1.3	0.7	0.0	-	0.7	-	0.0	0.8	2.1	-	0.5	0.0	0.0	0.6	0.0	-	0.5	0.0	0.0	0.6	0.7	-	0.6	0.6
Ped	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	9	-	-	-	-	-	4	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name. 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013
Page No: 1

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	4	19	10	0	33	0	22	18	11	0	51	1	7	54	13	0	75	0	5	36	1	0	42	201
7:15	0	4	17	17	0	38	0	44	39	9	0	92	0	7	103	30	0	140	0	8	31	5	0	44	314
7:30	0	8	24	18	0	50	0	27	28	17	0	72	0	14	122	24	0	160	0	7	62	2	0	71	353
7:45	0	5	18	20	0	43	0	37	23	20	0	80	0	14	136	19	0	169	0	16	44	3	0	63	355
Hourly Total	0	21	78	65	0	164	0	130	108	57	0	295	1	42	415	86	0	544	0	36	173	11	0	220	1223
8:00	0	4	11	21	0	36	0	41	17	22	0	80	0	9	143	25	0	177	0	15	44	1	0	60	353
8:15	0	2	7	20	0	29	0	35	11	16	0	62	0	7	116	14	0	137	0	10	59	2	0	71	299
8:30	0	4	12	25	0	41	0	35	18	19	0	72	0	5	106	25	0	136	0	7	50	2	0	59	308
8:45	0	2	17	14	0	33	0	29	10	18	0	57	0	8	123	19	0	150	0	6	42	3	0	51	291
Hourly Total	0	12	47	80	0	139	0	140	56	75	0	271	0	29	488	83	0	600	0	38	195	8	0	241	1251
9:00	0	2	9	16	0	27	0	20	16	17	0	53	1	4	110	29	0	144	1	8	44	0	0	53	277
9:15	0	2	11	11	0	24	0	15	10	15	0	40	1	6	113	15	0	135	0	12	40	1	0	53	252
9:30	0	3	10	13	0	26	0	24	12	10	0	46	0	5	76	25	0	106	0	7	45	3	0	55	233
9:45	0	1	8	8	0	17	0	20	16	15	0	51	0	4	91	13	0	108	0	6	32	5	0	43	219
Hourly Total	0	8	38	48	0	94	0	79	54	57	0	190	2	19	390	82	0	493	1	33	161	9	0	204	981
*** BREAK ***	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	2	8	5	0	15	0	21	16	20	0	57	0	6	77	26	0	109	0	15	44	3	0	62	243
11:15	0	3	13	5	0	21	0	35	10	22	0	67	0	5	109	28	0	142	0	7	60	3	0	70	300
11:30	0	3	10	7	0	20	0	26	13	16	0	55	1	6	121	38	0	166	0	24	79	1	0	104	345
11:45	1	6	15	8	0	30	0	24	15	17	0	56	0	7	118	37	0	162	0	28	85	2	0	115	363
Hourly Total	1	14	46	25	0	86	0	106	54	75	0	235	1	24	425	129	0	579	0	74	268	9	0	351	1251
12:00	0	4	16	7	0	27	0	28	17	18	0	63	0	5	105	47	0	157	0	22	96	6	0	124	371
12:15	0	1	13	9	0	23	0	27	18	23	0	68	0	4	103	38	0	145	0	27	92	3	0	122	358
12:30	0	6	5	6	0	17	0	32	9	42	0	83	0	8	109	48	0	165	0	18	92	3	0	113	378
12:45	0	5	12	11	0	28	0	44	23	29	0	96	0	11	110	38	0	159	0	19	95	6	0	120	403
Hourly Total	0	16	46	33	0	95	0	131	67	112	0	310	0	28	427	171	0	626	0	86	375	18	0	479	1510
*** BREAK ***	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	3	7	7	0	17	0	22	21	21	0	64	0	9	74	31	0	114	0	12	105	3	0	120	315
15:15	0	5	13	4	0	22	0	11	17	12	0	40	0	16	78	38	0	132	0	19	86	0	0	105	299
15:30	0	2	17	6	0	25	0	29	16	17	0	62	1	8	79	46	0	134	0	16	95	6	0	117	338
15:45	0	0	13	4	0	17	0	34	12	19	0	65	0	2	97	44	0	143	0	24	104	1	0	129	354
Hourly Total	0	10	50	21	0	81	0	96	66	69	0	231	1	35	328	159	0	523	0	71	390	10	0	471	1306
16:00	0	1	15	7	0	23	0	32	13	15	0	60	1	6	90	42	0	139	0	25	114	0	0	139	361
16:15	0	3	19	7	0	29	0	34	12	18	0	64	1	11	106	29	0	147	0	18	94	2	0	114	354
16:30	0	3	16	6	0	25	0	22	21	21	0	64	0	5	113	49	0	167	0	16	149	6	0	171	427
16:45	0	5	21	14	0	40	0	31	24	15	0	70	2	6	108	48	0	164	0	30	137	6	0	173	447
Hourly Total	0	12	71	34	0	117	0	119	70	69	0	258	4	28	417	168	0	617	0	89	494	14	0	597	1589
17:00	0	4	27	20	0	51	0	33	26	17	0	76	0	12	103	51	0	166	0	34	236	5	0	275	568
17:15	0	2	24	9	0	35	0	36	26	22	0	84	0	11	121	57	0	189	0	36	219	3	0	258	566
17:30	0	9	41	24	0	74	0	41	24	18	0	83	0	8	103	47	0	158	0	28	197	8	0	233	548
17:45	0	1	40	16	0	57	0	42	24	23	0	89	0	15	126	44	0	185	0	32	185	6	0	223	554
Hourly Total	0	16	132	69	0	217	0	152	100	80	0	332	0	46	453	199	0	698	0	130	837	22	0	989	2236
Car	1	104	500	369	-	974	0	911	564	587	-	2062	9	243	3298	1022		4572	1	551	2858	101	-	3511	11119
% Car	100.0	95.4	98.4	98.4	-	98.1	-	95.6	98.1	98.8	-	97.2	100.0	96.8	98.7	94.9		97.7	100.0	98.9	98.8	100.0	-	98.8	98.0
Truck	0	5	8	6	-	19	0	42	11	7	-	60	0	8	45	55	-	108	0	6	35	0	-	41	228
% Truck	0.0	4.6	1.6	1.6	-	1.9	-	4.4	1.9	1.2	-	2.8	0.0	3.2	1.3	5.1	-	2.3	0.0	1.1	1.2	0.0	-	1.2	2.0
Ped	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
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City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Peak Hour Data (7:15)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15	0	4	17	17	0	38	0	44	39	9	0	92	0	7	103	30	1	140	0	8	31	5	0	44	314
7:30	0	8	24	18	1	50	0	27	28	17	1	72	0	14	122	24	0	160	0	7	62	2	1	71	353
7:45	0	5	18	20	0	43	0	37	23	20	0	80	0	14	136	19	0	169	0	16	44	3	0	63	355
8:00	0	4	11	21	1	36	0	41	17	22	0	80	0	9	143	25	0	177	0	15	44	1	0	60	353
PHF	0.000	0.656	0.729	0.905	-	0.835	0.000	0.847	0.686	0.773	-	0.880	0.000	0.786	0.881	0.817	-	0.912	0.000	0.719	0.730	0.550	-	0.838	0.968
Car	0	21	70	74	-	165	0	141	107	67	-	315	0	41	497	93	-	631	0	46	177	11	-	234	1345
% Car	-	100.0	100.0	97.4	-	98.8	-	94.6	100.0	98.5	-	97.2	-	93.2	98.6	94.9	-	97.7	-	100.0	97.8	100.0	-	98.3	97.6
Truck	0	0	0	2	-	2	0	8	0	1	-	9	0	3	7	5	-	15	0	0	4	0	-	4	30
% Truck	-	0.0	0.0	2.6	-	1.2	-	5.4	0.0	1.5	-	2.8	-	6.8	1.4	5.1	-	2.3	-	0.0	2.2	0.0	-	1.7	2.2
Ped	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Count Name. 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013
Page No: 3

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	4	16	7	0	27	0	28	17	16	1	63	0	5	105	47	1	157	0	22	96	6	0	124	371
12:15	0	1	13	9	1	23	0	27	18	23	0	68	0	4	103	38	0	145	0	27	92	3	0	122	358
12:30	0	6	5	6	0	17	0	32	9	42	0	83	0	8	109	48	2	165	0	18	92	3	0	113	378
12:45	0	5	12	11	0	28	0	44	23	29	0	96	0	11	110	38	2	159	0	19	95	6	0	120	403
PHF	0.000	0.667	0.719	0.750		0.848	0.000	0.744	0.728	0.667		0.807	0.000	0.636	0.970	0.891	-	0.948	0.000	0.796	0.977	0.750	-	0.966	0.937
Car	0	16	46	32	-	94	0	125	65	111	-	301	0	28	423	166	-	617	0	85	374	18	-	477	1489
% Car	-	100.0	100.0	97.0	-	98.9	-	95.4	97.0	99.1	-	97.1	-	100.0	99.1	97.1	-	98.6	-	98.8	99.7	100.0	-	99.6	98.6
Truck	0	0	0	1	-	1	0	6	2	1	-	9	0	0	4	5	-	9	0	1	1	0	-	2	21
% Truck	-	0.0	0.0	3.0	-	1.1	-	4.6	3.0	0.9	-	2.9	-	0.0	0.9	2.9	-	1.4	-	1.2	0.3	0.0	-	0.4	1.4
Ped	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Peak Hour Data (17:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
17:00	0	4	27	20	[illegible]	51	0	33	26	17	[illegible]	76	0	12	103	51	[illegible]	166	0	34	236	5	[illegible]	275	568
17:15	0	2	24	9	[illegible]	35	0	36	26	22	[illegible]	84	0	11	121	57	[illegible]	189	0	36	219	3	[illegible]	258	566
17:30	0	9	41	24	[illegible]	74	0	41	24	18	[illegible]	83	0	8	103	47	[illegible]	158	0	28	197	8	[illegible]	233	548
17:45	0	1	40	16	[illegible]	57	0	42	24	23	[illegible]	89	0	15	126	44	[illegible]	185	0	32	185	6	[illegible]	223	554
PHF	0.000	0.444	0.805	0.719	-	0.733	0.000	0.905	0.962	0.870	-	0.933	0.000	0.767	0.899	0.873	-	0.923	0.000	0.903	0.887	0.688	-	0.899	0.984
Car	0	15	132	69	-	216	0	149	99	80	-	328	0	48	450	195	-	691	0	129	829	22	-	980	2215
% Car	-	93.8	100.0	100.0	-	99.5	-	98.0	99.0	100.0	-	98.8	-	100.0	99.3	98.0	-	99.0	-	99.2	99.0	100.0	-	99.1	99.1
Truck	0	1	0	0	-	1	0	3	1	0	-	4	0	0	3	4	-	7	0	1	8	0	-	9	21
% Truck	-	6.3	0.0	0.0	-	0.5	-	2.0	1.0	0.0	-	1.2	-	0.0	0.7	2.0	-	1.0	-	0.8	1.0	0.0	-	0.9	0.9
Ped	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-
% Ped	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-	-	-	-	[illegible]	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013
Page No: 1

Turning Movement Data

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	60	5	0	65	0	15	70	0	85	7	1	7	0	0	157
7:15	0	62	6	0	68	0	19	93	0	112	13	2	13	0	0	193
7:30	0	78	3	0	81	0	21	97	0	118	17	3	17	0	0	216
7:45	0	68	9	0	77	0	25	111	0	136	22	3	22	0	0	235
Hourly Total	0	268	23	0	291	0	80	371	0	451	59	8	59	0	0	801
8:00	0	56	8	1	64	0	17	82	1	99	15	4	15	0	0	178
8:15	0	55	2	1	57	0	29	88	0	117	22	0	22	1	0	196
8:30	0	50	7	3	57	0	23	82	1	105	15	3	15	0	0	177
8:45	0	49	8	1	57	1	29	80	0	110	24	4	24	0	0	191
Hourly Total	0	210	25	5	235	1	98	332	2	431	76	11	76	1	0	742
9:00	0	55	13	0	68	0	30	70	0	100	28	1	28	0	0	196
9:15	0	48	10	0	58	0	39	56	0	95	32	0	32	0	0	185
9:30	0	57	12	0	69	0	29	54	0	83	35	0	35	0	0	187
9:45	0	57	9	2	68	0	36	65	0	101	45	0	45	4	0	212
Hourly Total	0	217	44	2	261	0	134	245	0	379	140	3	140	4	0	780
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	61	24	0	85	0	37	58	2	95	43	2	43	0	0	223
11:15	0	51	20	0	71	0	42	74	0	116	46	0	46	1	0	233
11:30	0	55	31	0	86	0	51	64	0	115	46	0	46	0	0	247
11:45	0	58	34	1	92	0	47	70	0	117	51	2	51	1	0	260
Hourly Total	0	225	109	1	334	0	177	266	2	443	186	7	186	2	0	963
12:00	0	60	35	0	95	0	33	72	1	105	48	0	48	0	0	248
12:15	0	45	49	0	94	0	38	75	0	113	59	0	59	0	0	266
12:30	0	60	26	0	86	0	31	96	0	127	65	0	65	0	0	278
12:45	0	52	25	0	77	0	36	119	0	155	64	0	64	0	0	296
Hourly Total	0	217	135	6	352	0	138	362	2	500	236	7	236	2	0	1088
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	64	17	0	81	0	39	67	0	106	57	0	57	2	0	244
15:15	0	61	17	0	78	0	18	58	0	76	55	0	55	2	0	209
15:30	0	82	22	0	104	0	38	75	0	113	46	1	46	0	0	263
15:45	0	77	15	2	92	0	25	81	0	106	45	5	45	3	0	243
Hourly Total	0	284	71	2	355	0	120	281	0	401	203	7	203	7	0	959
16:00	1	62	17	0	80	0	19	64	2	83	39	0	39	4	0	202
16:15	1	89	36	0	126	0	27	77	0	104	41	1	41	0	0	271
16:30	0	81	13	0	94	0	23	77	0	100	31	3	31	3	0	225
16:45	0	98	16	0	114	0	17	77	0	94	35	1	35	1	0	243
Hourly Total	2	330	82	2	414	0	86	295	2	381	146	16	146	8	0	941
17:00	0	111	15	1	126	0	24	93	0	117	38	5	38	1	0	281
17:15	0	112	26	3	138	0	21	92	1	113	29	3	29	2	0	280
17:30	0	101	25	4	126	0	27	84	0	111	31	3	31	2	0	268
17:45	0	89	41	2	130	0	38	91	0	129	36	1	36	1	0	295
Hourly Total	0	413	107	10	520	0	110	360	1	470	134	14	134	6	0	1124
Car	2	2069	591	-	2662	1	932	2383	-	3316	1164	-	1164	-	0	7142
% Car	100.0	95.6	99.2	-	96.4	100.0	98.8	94.9	-	95.9	98.6	-	98.6	-	-	96.5
Truck	0	95	5	-	100	0	11	129	-	140	16	-	16	-	0	256
% Truck	0.0	4.4	0.8	-	3.6	0.0	1.2	5.1	-	4.1	1.4	-	1.4	-	-	3.5
Ped	-	-	-	28	-	-	-	-	8	-	-	28	-	28	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Home Depot Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St & Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013
Page No: 2

Turning Movement Peak Hour Data (7:30)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:30	0	78	3	2	81	0	21	97	2	118	17	2	17	0	0	216
7:45	0	68	9	0	77	0	25	111	0	136	22	3	22	0	0	235
8:00	0	56	8	2	64	0	17	82	1	99	15	4	15	0	0	178
8:15	0	55	2	4	57	0	29	88	3	117	22	0	22	1	0	196
PHF	0.000	0.824	0.611	-	0.861	0.000	0.793	0.851	-	0.864	0.864	-	0.864	-	0.000	0.878
Car	0	243	22	-	265	0	90	363	-	453	76	-	76	-	0	794
% Car	-	94.6	100.0	-	95.0	-	97.8	96.0	-	96.4	100.0	-	100.0	-	-	96.2
Truck	0	14	0	-	14	0	2	15	-	17	0	-	0	-	0	31
% Truck	-	5.4	0.0	-	5.0	-	2.2	4.0	-	3.6	0.0	-	0.0	-	-	3.8
Ped	-	-	-	-	-	-	-	-	1	-	-	9	-	1	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
12:00	0	60	35	2	95	0	33	72	1	105	48	2	48	2	0	248
12:15	0	45	49	0	94	0	38	75	0	113	59	2	59	0	0	266
12:30	0	60	26	4	86	0	31	96	0	127	65	2	65	0	0	278
12:45	0	52	25	0	77	0	36	119	1	155	64	1	64	0	0	296
PHF	0.000	0.904	0.689	-	0.926	0.000	0.908	0.761	-	0.806	0.908	-	0.908	-	0.000	0.919
Car	0	205	135		340	0	138	346		484	234		234		0	1058
% Car	-	94.5	100.0	-	96.6	-	100.0	95.6		96.8	99.2		99.2		-	97.2
Truck	0	12	0		12	0	0	16	-	16	2	-	2	-	0	30
% Truck	-	5.5	0.0	-	3.4	-	0.0	4.4	-	3.2	0.8	-	0.8		-	2.8
Ped	-	-	-	6	-	-	-	-	2	-	-	4	-	2	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

City of Tampa
Study #7 - Spruce St
Spruce St & Home Depot Driveway
Weekday TMC

Count Name: 0001_Spruce St & Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Peak Hour Data (17:00)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	
17:00	0	111	15	[illegible]	126	0	24	93	0	117	36	5	36	1	0	281
17:15	0	112	26	[illegible]	138	0	21	92	1	113	29	3	29	2	0	280
17:30	0	101	25	4	126	0	27	84	0	111	31	5	31	3	0	268
17:45	0	89	41	2	130	0	38	91	0	129	36	1	36	1	0	295
PHF	0.000	0.922	0.652	-	0.942	0.000	0.724	0.968		0.911	0.882		0.882		0.000	0.953
Car	0	409	107		516	0	109	352		461	131	-	131	-	0	1108
% Car	-	99.0	100.0		99.2	-	99.1	97.8		98.1	97.8		97.8		-	98.6
Truck	0	4	0	-	4	0	1	8	-	9	3	-	3		0	16
% Truck	-	1.0	0.0	-	0.8	-	0.9	2.2	-	1.9	2.2	-	2.2	-	-	1.4
Ped	-	-	-	[illegible]	-	-	-	-	[illegible]	-	-	[illegible]	-	[illegible]	-	-
% Ped	-	-	-	[illegible]	-	-	-	-	[illegible]	-	-	[illegible]	-	[illegible]	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry
Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St &
Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013
Page No: 1

Turning Movement Data

	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	11	23	19	0	53	0	15	37	4	0	56	4	8	237	13	1	262	0	7	312	30	0	349	720
7:15	0	19	31	14	0	64	0	20	49	2	0	71	7	21	306	25	0	359	0	11	421	41	0	473	967
7:30	0	21	46	27	0	94	0	35	64	8	0	107	10	14	344	18	1	386	0	13	394	37	0	444	1031
7:45	0	25	49	11	0	85	0	26	51	4	0	81	6	20	322	31	2	379	0	6	377	53	0	436	981
Hourly Total	0	76	149	71	0	296	0	96	201	18	2	315	27	63	1209	87	4	1386	0	37	1504	161	0	1702	3699
8:00	0	26	23	14	1	63	0	23	54	12	0	89	9	18	359	24	1	410	0	14	389	42	0	445	1007
8:15	0	22	32	17	1	71	0	29	56	10	0	95	12	17	300	23	1	352	1	10	395	39	0	445	963
8:30	0	19	28	11	1	58	0	28	55	8	0	91	11	6	360	28	0	405	0	11	428	32	0	471	1025
8:45	0	20	37	12	0	69	0	16	54	9	0	79	6	13	336	20	1	375	3	16	403	53	0	475	998
Hourly Total	0	87	120	54	3	261	0	96	219	39	0	354	38	54	1355	95	3	1542	4	51	1615	166	0	1836	3993
9:00	0	28	36	15	0	79	0	15	38	9	1	62	7	14	335	17	1	373	3	20	353	41	2	417	931
9:15	0	18	27	9	0	54	0	24	32	10	0	66	10	13	345	20	0	388	1	14	392	42	0	449	957
9:30	0	29	43	21	0	93	0	23	39	15	0	77	11	15	298	14	0	338	1	13	340	33	0	387	895
9:45	1	28	35	29	0	91	0	26	42	12	0	80	4	14	292	22	1	332	1	15	270	43	0	329	832
Hourly Total	1	101	141	74	0	317	0	88	151	46	0	285	32	56	1270	73	4	1431	6	62	1355	159	0	1582	3615
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	41	47	25	0	113	0	16	36	11	0	63	5	13	303	22	0	343	0	16	323	47	0	386	905
11:15	0	36	31	22	1	89	0	18	50	14	1	82	4	9	396	24	1	433	6	19	494	59	0	578	1182
11:30	0	49	30	20	0	99	0	29	43	12	0	84	10	14	335	33	0	392	1	16	406	49	0	472	1047
11:45	0	33	40	19	0	92	0	29	41	18	0	88	8	22	356	33	0	419	4	17	387	50	0	458	1057
Hourly Total	0	159	148	86	1	393	0	92	170	55	13	317	27	58	1390	112	10	1587	11	68	1610	205	0	1894	4191
12:00	0	54	41	16	0	111	0	30	34	11	0	75	11	24	331	35	0	401	5	17	444	45	0	511	1098
12:15	0	47	29	26	0	102	0	29	35	14	0	78	7	24	405	33	0	469	6	25	463	53	0	547	1196
12:30	1	42	32	29	1	104	0	40	53	17	0	110	11	13	399	42	0	465	3	21	459	52	1	535	1214
12:45	0	46	34	32	0	112	0	37	56	10	0	103	8	24	416	43	0	491	9	18	463	77	0	567	1273
Hourly Total	1	189	136	103	1	429	0	136	178	52	0	366	37	85	1551	153	0	1826	23	81	1829	227	1	2160	4781
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	39	49	26	0	114	0	17	46	11	0	74	9	14	357	20	0	400	7	15	408	44	0	474	1062
15:15	0	44	44	26	0	114	0	24	33	17	0	74	6	13	406	26	0	451	6	13	471	23	0	513	1152
15:30	1	33	58	30	0	122	0	34	47	8	0	89	4	14	339	19	0	376	4	16	484	49	0	553	1140
15:45	2	45	54	29	0	130	0	34	41	16	0	91	2	12	350	29	0	393	1	14	437	46	0	498	1112
Hourly Total	3	161	205	111	0	480	0	109	167	52	0	328	21	53	1452	94	0	1620	18	58	1800	162	0	2038	4466
16:00	0	36	33	17	0	86	0	26	33	20	0	79	9	12	402	29	0	452	0	11	472	40	0	523	1140
16:15	0	40	59	26	0	125	0	25	52	10	0	87	10	19	372	27	0	428	1	16	436	31	0	484	1124
16:30	0	38	48	19	0	105	0	25	38	14	0	77	9	16	386	23	0	434	1	17	441	35	0	494	1110
16:45	0	34	64	23	0	121	0	27	57	9	0	93	7	10	397	15	0	429	5	13	536	34	0	588	1231
Hourly Total	0	148	204	85	0	437	0	103	180	53	0	336	35	57	1557	94	0	1743	7	57	1885	140	0	2089	4605
17:00	0	52	64	29	0	145	0	29	53	15	0	97	1	21	389	27	0	438	4	17	509	38	0	568	1248
17:15	0	41	69	24	0	134	0	33	50	9	0	92	6	16	441	26	0	489	1	11	565	37	0	614	1329
17:30	0	28	68	32	0	128	0	28	57	16	0	101	7	20	348	21	0	396	1	15	535	42	0	593	1218
17:45	0	38	53	27	0	118	0	47	58	11	0	116	5	24	350	20	0	399	1	14	453	44	0	512	1145
Hourly Total	0	159	254	112	0	525	0	137	218	51	0	406	19	81	1528	94	0	1722	7	57	2062	161	0	2287	4940
Car	5	1060	1305	866	-	3036	0	835	1403	360	-	2598	232	482	11013	791	-	12518	76	463	13262	1343	-	15144	33296
% Car	100.0	98.1	96.2	95.7	-	96.7	-	97.4	94.5	98.4	-	96.0	98.3	95.1	97.4	98.6	-	97.4	100.0	98.3	97.1	97.2	-	97.2	97.1
Truck	0	20	52	30	-	102	0	22	81	6	-	109	4	25	299	11	-	339	0	8	398	38	-	444	994
% Truck	0.0	1.9	3.8	4.3	-	3.3	-	2.6	5.5	1.6	-	4.0	1.7	4.9	2.6	1.4	-	2.6	0.0	1.7	2.9	2.8	-	2.8	2.9
Ped	-	-	-	-	25	-	-	-	-	-	85	-	-	-	-	-	28	-	-	-	-	-	32	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry
Highway
Weekday TMC

Albeck Gerken, Inc.
Transportation Engineers

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319 3790

Count Name: 2107_Spruce St &
Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (8:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	26	23	14	1	63	0	23	54	12	0	89	9	18	359	24	1	410	0	14	389	42	0	445	1007
8:15	0	22	32	17	1	71	0	29	56	10	0	95	12	17	300	23	1	352	1	10	395	39	0	445	963
8:30	0	19	28	11	1	58	0	28	55	8	0	91	11	8	360	28	0	405	0	11	428	32	0	471	1025
8:45	0	20	37	12	0	69	0	16	54	9	0	79	6	13	336	20	1	375	3	16	403	53	0	475	998
PHF	0.000	0.837	0.811	0.794		0.919	0.000	0.828	0.978	0.813		0.932	0.792	0.750	0.941	0.848		0.940	0.333	0.797	0.943	0.783		0.966	0.974
Car	0	85	111	48		244	0	94	201	38		333	38	50	1328	93		1507	4	50	1548	161		1763	3847
% Car	-	97.7	92.5	88.9		93.5	-	97.9	91.8	97.4		94.1	94.7	92.6	98.0	97.9		97.7	100.0	98.0	95.9	97.0		96.0	96.3
Truck	0	2	9	6		17	0	2	18	1		21	2	4	27	2		35	0	1	67	5		73	146
% Truck	-	2.3	7.5	11.1		6.5	-	2.1	8.2	2.6		5.9	5.3	7.4	2.0	2.1		2.3	0.0	2.0	4.1	3.0		4.0	3.7
Ped	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	54	41	16	0	111	0	30	34	11	0	75	11	24	331	35	0	401	5	17	444	45	0	511	1098
12:15	0	47	29	26	0	102	0	29	35	14	0	78	7	24	405	33	0	469	6	25	463	53	0	547	1196
12:30	1	42	32	29	1	104	0	40	53	17	0	110	11	13	399	42	1	465	3	21	459	52	1	535	1214
12:45	0	46	34	32	0	112	0	37	56	10	0	103	8	24	416	43	0	491	9	18	463	77	0	567	1273
PHF	0.250	0.875	0.829	0.805		0.958	0.000	0.850	0.795	0.765		0.832	0.841	0.885	0.932	0.890		0.930	0.639	0.810	0.988	0.737		0.952	0.939
Car	1	187	132	97		417	0	132	169	52		353	37	80	1502	151		1770	23	80	1769	224		2096	4636
% Car	100.0	98.9	97.1	94.2		97.2	-	97.1	94.9	100.0		96.4	100.0	94.1	96.8	98.7		96.9	100.0	98.8	96.7	98.7		97.0	97.0
Truck	0	2	4	6		12	0	4	9	0		13	0	5	49	2		56	0	1	60	3		64	145
% Truck	0.0	1.1	2.9	5.8		2.8	-	2.9	5.1	0.0		3.6	0.0	5.9	3.2	1.3		3.1	0.0	1.2	3.3	1.3		3.0	3.0
Ped	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (16:45)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	34	64	23	2	121	0	27	57	9	1	93	7	10	397	15	1	429	5	13	536	34	3	588	1231
17:00	0	52	64	29	1	145	0	29	53	15	3	97	1	21	389	27	-	438	4	17	509	38	-	568	1248
17:15	0	41	69	24	2	134	0	33	50	9	2	92	6	16	441	26	1	489	1	11	565	37	2	614	1329
17:30	0	28	68	32	1	128	0	28	57	16	1	101	7	20	348	21	2	396	1	15	535	42	1	593	1218
PHF	0.000	0.745	0.960	0.844	-	0.910	0.000	0.886	0.952	0.766	-	0.948	0.750	0.798	0.893	0.824	-	0.896	0.550	0.824	0.949	0.899	-	0.962	0.945
Car	0	153	262	106	-	521	0	116	211	49	-	376	20	66	1544	89	-	1719	11	55	2119	149	-	2334	4950
% Car	-	96.7	98.9	98.1	-	98.7	-	99.1	97.2	100.0	-	98.2	95.2	98.5	98.0	100.0	-	98.1	100.0	98.2	98.8	98.7	-	98.8	98.5
Truck	0	2	3	2	-	7	0	1	6	0	-	7	1	1	31	0	-	33	0	1	26	2	-	29	76
% Truck	-	1.3	1.1	1.9	-	1.3	-	0.9	2.8	0.0	-	1.8	4.8	1.5	2.0	0.0	-	1.9	0.0	1.8	1.2	1.3	-	1.2	1.5
Ped	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	5	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

RS&H, Inc

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File Name : 08262014_AM
Site Code : 00000003
Start Date : 8/26/2014
Page No : 1

Groups Printed- Unshifted - Bank 1

	Manhattan Avenue From North					Spruce Street From East					Manhattan Avenue From South					Spruce Street From West					
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	67	0	0	82	22	1	2	1	26	1	17	7	3	28	6	14	5	0	25	161
07:15 AM	16	97	0	0	113	24	5	8	1	38	0	38	20	2	60	4	14	7	0	25	236
07:30 AM	14	41	6	2	63	14	3	5	0	22	1	43	19	1	64	8	17	4	0	29	178
07:45 AM	18	14	1	1	34	13	2	9	0	24	0	15	7	1	23	8	12	8	0	28	109
Total	63	219	7	3	292	73	11	24	2	110	2	113	53	7	175	26	57	24	0	107	684
08:00 AM	7	18	2	0	27	18	1	8	1	28	0	9	5	0	14	6	12	7	0	25	94
08:15 AM	8	11	0	2	21	14	2	12	0	28	2	10	2	1	15	12	15	9	0	36	100
08:30 AM	7	14	2	2	25	8	0	7	1	16	0	7	8	0	15	5	12	4	1	22	78
08:45 AM	8	16	0	0	24	10	2	2	1	15	1	9	2	0	12	7	5	3	2	17	68
Total	30	59	4	4	97	50	5	29	3	87	3	35	17	1	56	30	44	23	3	100	340
09:00 AM	6	16	1	0	23	4	0	7	0	11	0	5	0	1	6	7	9	3	0	19	59
09:15 AM	12	13	2	0	27	4	2	7	1	14	1	9	1	1	12	5	8	3	0	16	69
09:30 AM	8	13	1	0	22	7	9	10	0	26	0	7	2	0	9	4	6	1	0	11	68
09:45 AM	9	6	6	0	21	3	1	9	1	14	1	4	4	0	9	4	8	5	0	17	61
Total	35	48	10	0	93	18	12	33	2	65	2	25	7	2	36	20	31	12	0	63	257
Grand Total	128	326	21	7	482	141	28	86	7	262	7	173	77	10	267	76	132	59	3	270	1281
Apprch %	26.6	67.6	4.4	1.5		53.8	10.7	32.8	2.7		2.6	64.8	28.8	3.7		28.1	48.9	21.9	1.1		
Total %	10	25.4	1.6	0.5	37.6	11	2.2	6.7	0.5	20.5	0.5	13.5	6	0.8	20.8	5.9	10.3	4.6	0.2	21.1	
Unshifted	128	326	21	7	482	141	28	86	7	262	7	173	77	10	267	76	132	59	3	270	1281
% Unshifted	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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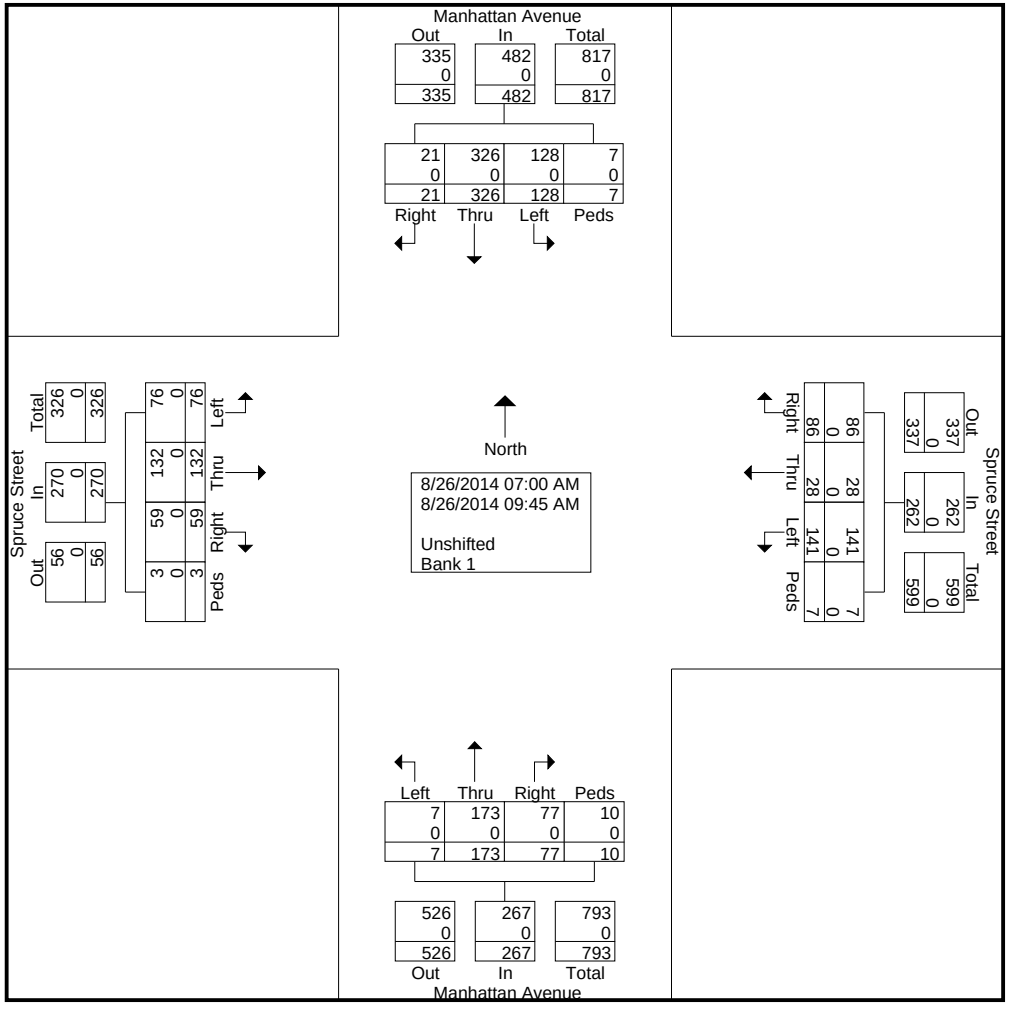
Start Date : 8/26/2014
Page No : 2



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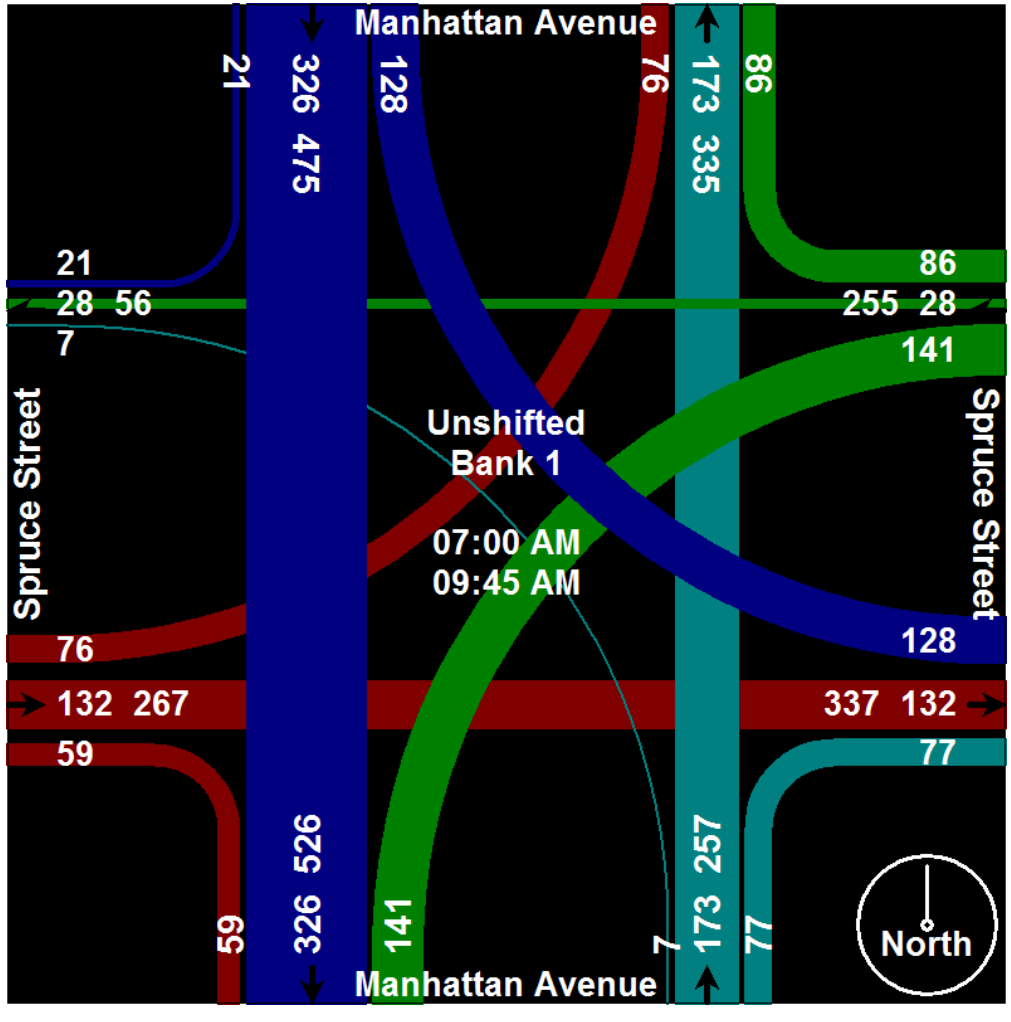

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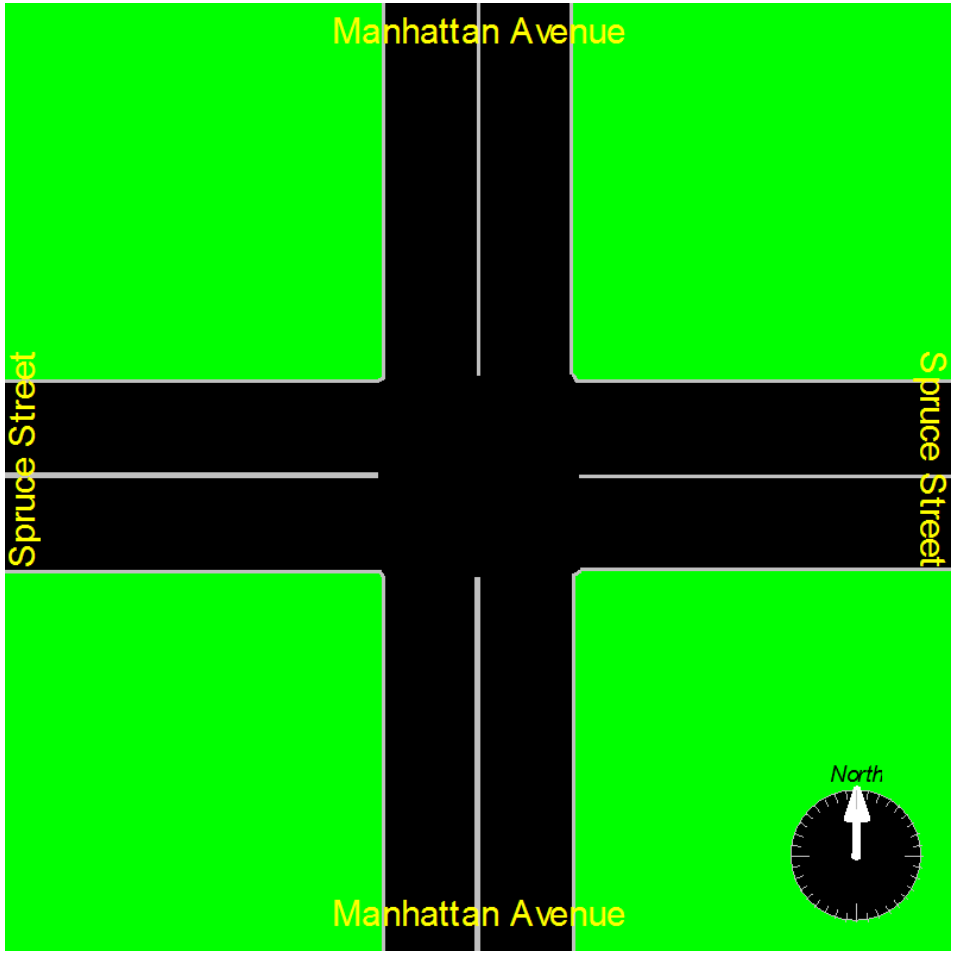
Site Code : 00000003
Start Date : 8/26/2014
Page No : 4



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File Name : 08262014_PM
Site Code : 00000003
Start Date : 8/26/2014
Page No : 1

Groups Printed- Unshifted - Bank 1

	Manhattan Avenue From North					Spruce Street From East					Manhattan Avenue From South					Spruce Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	6	19	14	0	39	16	10	7	1	34	11	19	3	0	33	3	2	3	0	8	114
04:15 PM	8	19	7	1	35	14	3	10	1	28	4	18	2	0	24	2	8	1	1	12	99
04:30 PM	5	20	14	0	39	11	3	11	1	26	9	14	4	1	28	0	3	6	0	9	102
04:45 PM	6	14	14	2	36	10	4	6	2	22	7	15	3	0	25	0	2	5	0	7	90
Total	25	72	49	3	149	51	20	34	5	110	31	66	12	1	110	5	15	15	1	36	405
05:00 PM	6	15	7	0	28	5	5	8	0	18	3	11	3	0	17	0	4	3	0	7	70
05:15 PM	16	27	22	2	67	19	10	15	0	44	18	12	5	0	35	3	4	6	1	14	160
05:30 PM	19	23	27	2	71	17	8	5	0	30	6	16	7	4	33	6	6	6	0	18	152
05:45 PM	17	19	22	0	58	13	10	15	1	39	14	9	1	4	28	2	6	8	1	17	142
Total	58	84	78	4	224	54	33	43	1	131	41	48	16	8	113	11	20	23	2	56	524
06:00 PM	13	11	20	0	44	13	10	10	2	35	7	7	6	1	21	5	6	4	0	15	115
06:15 PM	10	9	14	2	35	12	9	5	0	26	5	6	2	2	15	3	8	4	0	15	91
06:30 PM	10	11	11	0	32	16	10	2	1	29	3	14	6	6	29	4	8	5	1	18	108
06:45 PM	11	16	12	1	40	9	15	8	0	32	9	4	5	3	21	3	4	11	0	18	111
Total	44	47	57	3	151	50	44	25	3	122	24	31	19	12	86	15	26	24	1	66	425
Grand Total	127	203	184	10	524	155	97	102	9	363	96	145	47	21	309	31	61	62	4	158	1354
Apprch %	24.2	38.7	35.1	1.9		42.7	26.7	28.1	2.5		31.1	46.9	15.2	6.8		19.6	38.6	39.2	2.5		
Total %	9.4	15	13.6	0.7	38.7	11.4	7.2	7.5	0.7	26.8	7.1	10.7	3.5	1.6	22.8	2.3	4.5	4.6	0.3	11.7	
Unshifted	127	203	184	10	524	155	97	102	9	363	96	145	47	21	309	31	61	62	4	158	1354
% Unshifted	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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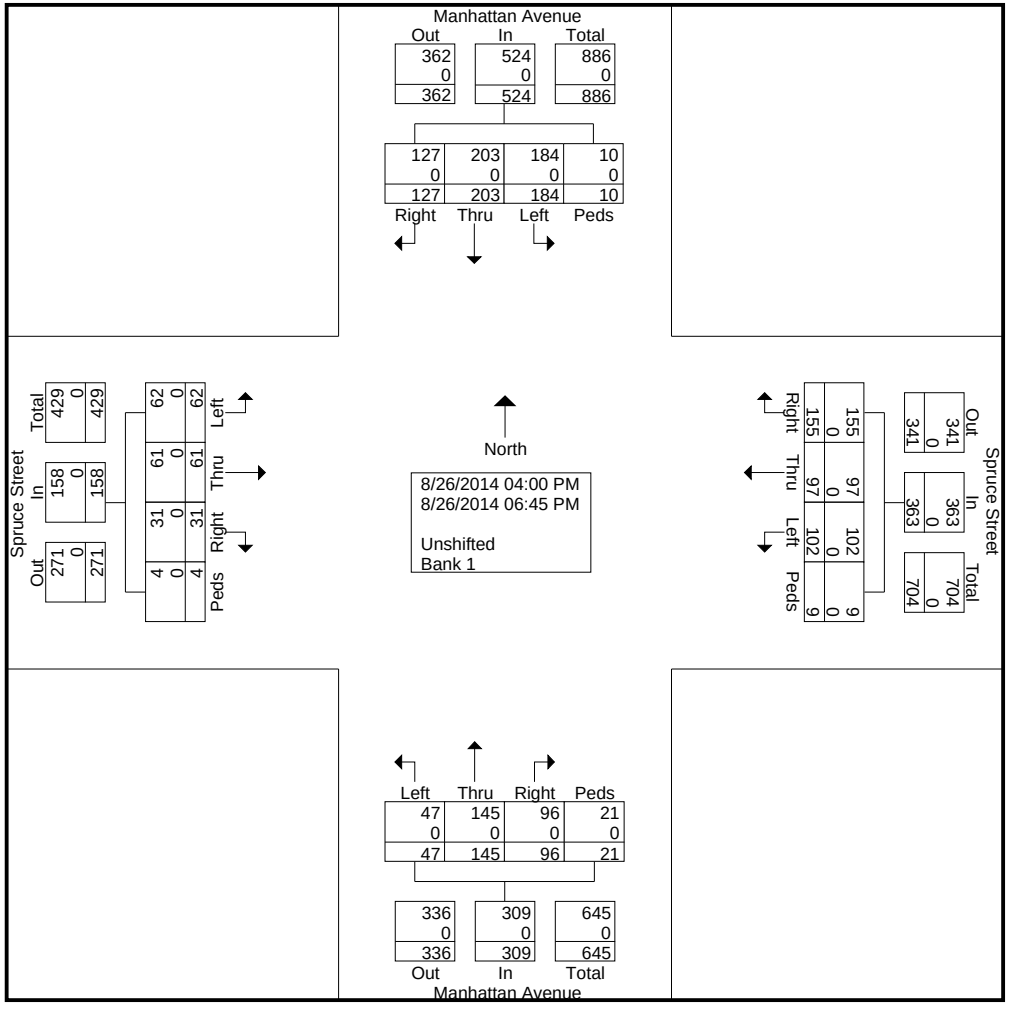

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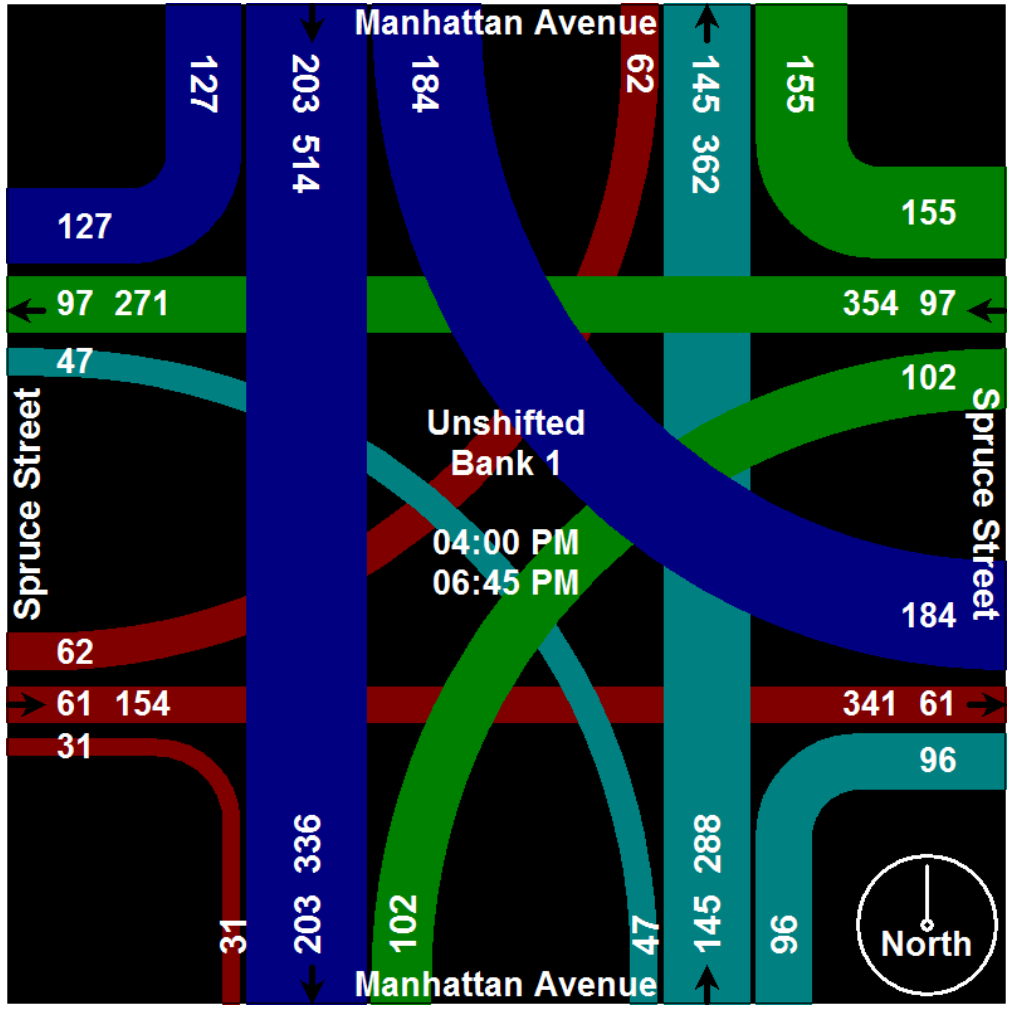

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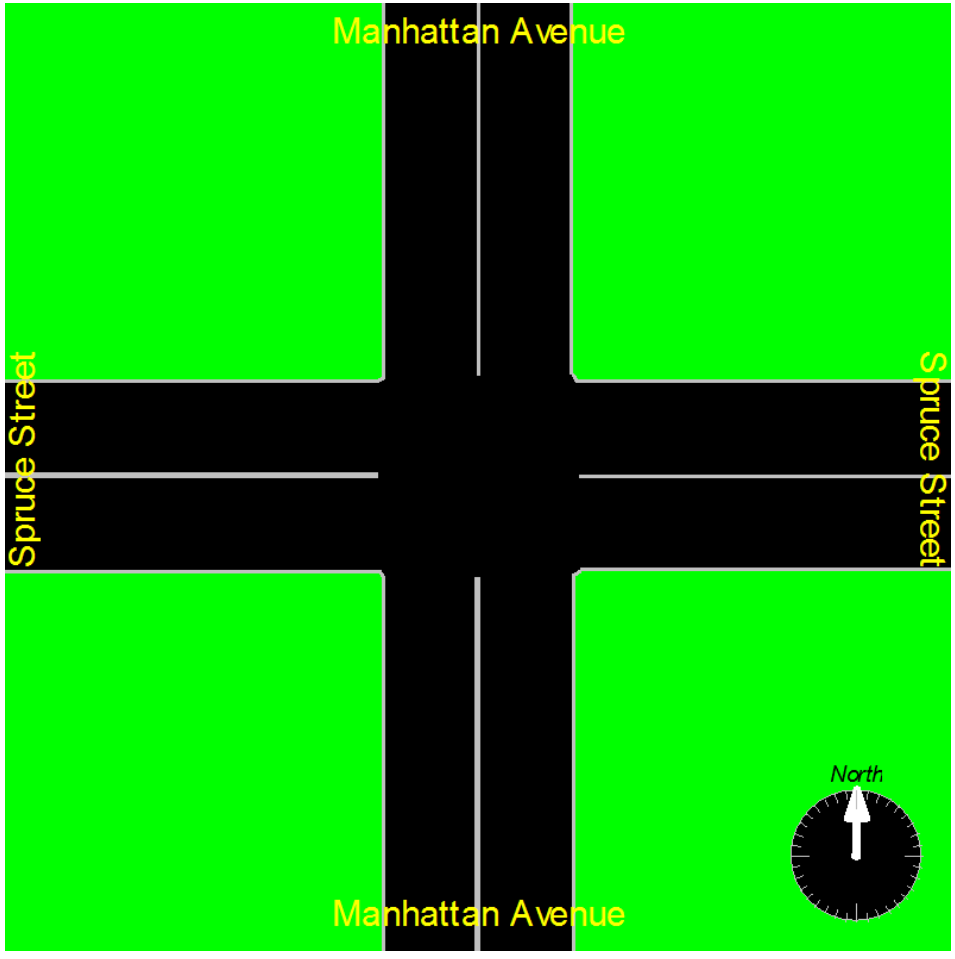


Appendix B – Crash Data

Intentionally omitted from report for file size. Please contact City Project Manager if you require the information.

Appendix C – Synchro Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	71	77	150	108	69	46	508	99	46	182	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	50		0	100		0	115		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
Frt		0.922			0.941			0.976			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1717	0	1770	1753	0	1770	3454	0	1770	3511	0
Flt Permitted	0.641			0.659			0.626			0.273		
Satd. Flow (perm)	1194	1717	0	1228	1753	0	1166	3454	0	509	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			34			22			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		476			664			973			1388	
Travel Time (s)		10.8			15.1			19.0			27.0	
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
Adj. Flow (vph)	22	74	80	156	112	72	48	529	103	48	190	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	154	0	156	184	0	48	632	0	48	201	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		5	2	

Lanes, Volumes, Timings
1: Lois Ave & Spruce St

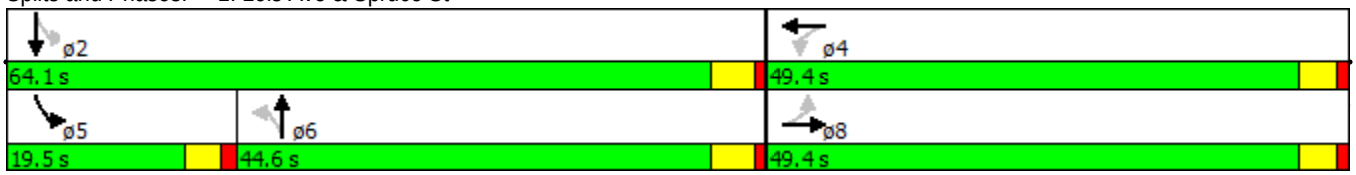
1/11/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		20.6	20.6		9.5	20.6	
Total Split (s)	49.4	49.4		49.4	49.4		44.6	44.6		19.5	64.1	
Total Split (%)	43.5%	43.5%		43.5%	43.5%		39.3%	39.3%		17.2%	56.5%	
Maximum Green (s)	45.0	45.0		45.0	45.0		40.0	40.0		15.0	59.5	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.2	1.2		1.2	1.2		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4		4.4	4.4		4.6	4.6		4.5	4.6	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?										Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		Min	Min		None	Min	
Walk Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		10.0	10.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	13.9	13.9		13.9	13.9		15.9	15.9		21.7	21.6	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.35	0.35		0.48	0.48	
v/c Ratio	0.06	0.27		0.42	0.33		0.12	0.52		0.11	0.12	
Control Delay	15.3	11.6		19.5	14.2		13.8	14.4		6.8	6.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.3	11.6		19.5	14.2		13.8	14.4		6.8	6.2	
LOS	B	B		B	B		B	B		A	A	
Approach Delay		12.1			16.6			14.4			6.3	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	4	20		35	32		9	69		5	11	
Queue Length 95th (ft)	20	68		97	91		34	145		21	31	
Internal Link Dist (ft)		396			584			893			1308	
Turn Bay Length (ft)	120			50			100			115		
Base Capacity (vph)	1074	1551		1105	1581		984	2920		725	3442	
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	0.10		0.14	0.12		0.05	0.22		0.07	0.06	

Intersection Summary

Area Type: Other
Cycle Length: 113.5
Actuated Cycle Length: 45.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 13.2 — Intersection LOS: B
Intersection Capacity Utilization 54.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Lois Ave & Spruce St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	163	72	105	220	26	74	1342	99	44	1594	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.96	1.00		
Frt		0.959			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1780	0	1770	1818	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3427	1780	0	1768	1818	0	1770	5085	1519	1764	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			5				121			193
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			697			1358	
Travel Time (s)		8.9			9.6			10.6			20.6	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Peak Hour Factor	0.88	0.63	0.74	0.83	0.92	0.64	0.85	0.98	0.85	0.68	0.98	0.90
Adj. Flow (vph)	112	259	97	127	239	41	87	1369	116	65	1627	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	356	0	127	280	0	87	1369	116	65	1627	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	13.2	52.2		13.2	53.2		11.6	51.6	51.6	11.6	30.6	30.6
Total Split (s)	24.0	55.0		24.0	55.0		24.0	77.0	77.0	24.0	77.0	77.0
Total Split (%)	13.3%	30.6%		13.3%	30.6%		13.3%	42.8%	42.8%	13.3%	42.8%	42.8%
Maximum Green (s)	15.8	46.8		15.8	46.8		17.4	70.4	70.4	17.4	70.4	70.4
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	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
Flash Dont Walk (s)		37.0			38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		1			2			4	4		0	0
Act Effct Green (s)	10.3	39.5		15.0	44.3		13.0	84.8	84.8	11.0	82.9	82.9
Actuated g/C Ratio	0.06	0.22		0.08	0.25		0.07	0.47	0.47	0.06	0.46	0.46
v/c Ratio	0.57	0.89		0.86	0.62		0.69	0.57	0.15	0.60	0.70	0.23
Control Delay	93.9	90.7		124.4	65.1		111.5	23.0	3.7	104.2	42.1	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	93.9	90.7		124.4	65.1		111.5	23.1	3.7	104.2	42.1	4.7
LOS	F	F		F	E		F	C	A	F	D	A
Approach Delay		91.4			83.6			26.6			40.5	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	68	400		150	289		82	439	36	76	566	0
Queue Length 95th (ft)	101	323		#236	387		167	88	3	97	692	55
Internal Link Dist (ft)		312			341			617			1278	
Turn Bay Length (ft)	180			275			200			250		500
Base Capacity (vph)	301	470		155	485		171	2396	779	171	2340	832
Starvation Cap Reductn	0	0		0	0		0	150	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	0.37	0.76		0.82	0.58		0.51	0.61	0.15	0.38	0.70	0.23

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 37 (21%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 45.0	Intersection LOS: D
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: 2: Dale Mabry & Spruce Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	57	24	73	11	24	2	113	53	63	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.970			0.970			0.957			0.997	
Flt Protected		0.988			0.967			0.999			0.989	
Satd. Flow (prot)	0	1785	0	0	1747	0	0	1781	0	0	1837	0
Flt Permitted		0.988			0.967			0.999			0.989	
Satd. Flow (perm)	0	1785	0	0	1747	0	0	1781	0	0	1837	0
Link Speed (mph)		10			30			15			15	
Link Distance (ft)		272			642			784			390	
Travel Time (s)		18.5			14.6			35.6			17.7	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	36	79	33	101	15	33	3	157	74	88	304	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	149	0	0	234	0	0	402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 47.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	266	26	83	385	0	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	12
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1840	0	2006	1863	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	1840	0	2006	1863	0	1611
Link Speed (mph)	30			30	10	
Link Distance (ft)	149			392	353	
Travel Time (s)	3.4			8.9	24.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	306	30	95	443	0	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	336	0	95	443	0	78
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.85	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	3	170	108	31	0	0
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			0.970			
Flt Protected		0.999				
Satd. Flow (prot)	0	1861	1807	0	1863	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1861	1807	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		642	228		405	
Travel Time (s)		14.6	5.2		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	185	117	34	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	188	151	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	216	0	0	327	51	0	0	0	13	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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					0.982							
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		664			674			228			1043	
Travel Time (s)		15.1			15.3			5.2			23.7	
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
Adj. Flow (vph)	0	235	0	0	355	55	0	0	0	14	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	235	0	0	410	0	0	0	0	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	229	0	4	378	0	42
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					0.865	
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1611	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	674			159	877	
Travel Time (s)	15.3			3.6	19.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	0	4	411	0	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	249	0	0	415	46	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	271	382	1	16	0
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						
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1863	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1863	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		159	700		813	
Travel Time (s)		3.6	15.9		18.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	295	415	1	17	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	295	416	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 30.2%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	287	383	2	5	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		700	149		751	
Travel Time (s)		15.9	3.4		17.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	312	416	2	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	312	418	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 30.3%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	169	1	26	139	0	0
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	0.999					
Flt Protected				0.992		
Satd. Flow (prot)	1861	0	0	1848	1863	0
Flt Permitted				0.992		
Satd. Flow (perm)	1861	0	0	1848	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	228			476	166	
Travel Time (s)	5.2			10.8	3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	184	1	28	151	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	0	0	179	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.4%		ICU Level of Service A	
Analysis Period (min) 15			

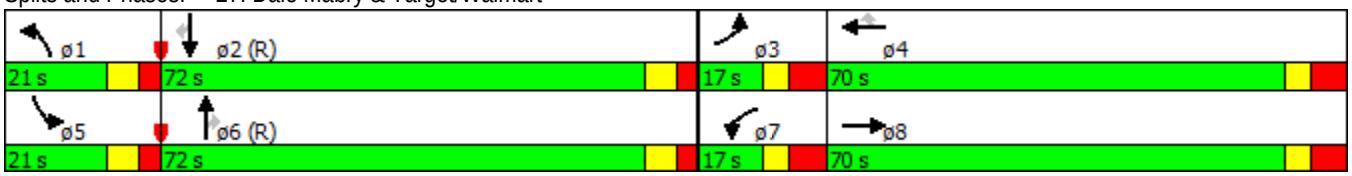
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	0.99		1.00		0.99						
Frt		0.864				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1591	0	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3430	1591	0	3431	1863	1563	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		165				123			130			130
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			10.6	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	182	0	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5		13.5	69.5	69.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	17.0	70.0		17.0	70.0	70.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	9.4%	38.9%		9.4%	38.9%	38.9%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	8.5	61.5		8.5	61.5	61.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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)		54.0			45.0	45.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		1			1	1		0	0		0	0
Act Effct Green (s)	6.6	20.5		7.3	24.0	24.0	10.8	116.7	116.7	6.2	109.6	109.6
Actuated g/C Ratio	0.04	0.11		0.04	0.13	0.13	0.06	0.65	0.65	0.03	0.61	0.61
v/c Ratio	0.32	0.56		0.44	0.12	0.10	0.60	0.37	0.08	0.26	0.47	0.08
Control Delay	90.8	16.9		93.8	65.1	0.6	94.2	18.6	0.7	103.7	8.2	0.1
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	90.8	16.9		93.8	65.1	0.6	94.2	18.6	0.7	103.7	8.2	0.1
LOS	F	B		F	E	A	F	B	A	F	A	A
Approach Delay		30.2			63.1			23.0			9.4	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)	24	20		37	34	0	73	203	0	19	88	0
Queue Length 95th (ft)	31	0		54	32	0	98	461	0	m28	261	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)				180		180	400		200	350		233
Base Capacity (vph)	162	652		162	636	615	261	4153	1071	259	3901	1014
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	405	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	0.25	0.28		0.38	0.05	0.05	0.47	0.37	0.08	0.12	0.52	0.08

Intersection Summary	
Area Type: Other	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 50 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 155	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		100	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Link Speed (mph)		30			30			10			30	
Link Distance (ft)		251			411			502			419	
Travel Time (s)		5.7			9.3			34.2			9.5	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	1863
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	757		473			877
Travel Time (s)	17.2		10.8			19.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	1863	1863	0	1863
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	1863	0	1863
Link Speed (mph)	30			30	30	
Link Distance (ft)	757			251	194	
Travel Time (s)	17.2			5.7	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			10	30	
Link Distance (ft)	132			419	353	
Travel Time (s)	3.0			28.6	8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

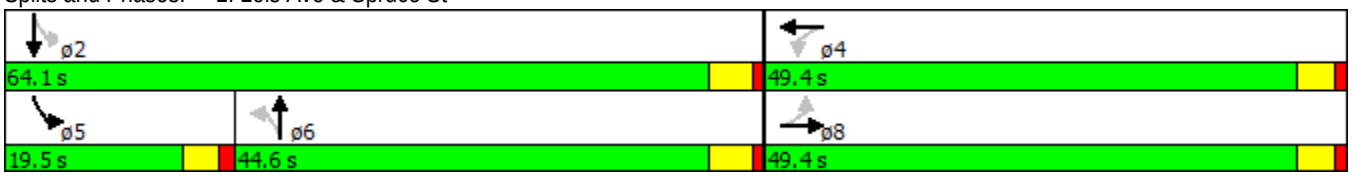
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	133	70	153	101	81	45	457	201	131	844	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	50		0	100		0	115		0
Storage Lanes	1		0	1		0	1		0	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
Frt		0.949			0.933			0.954			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1768	0	1770	1738	0	1770	3376	0	1770	3525	0
Flt Permitted	0.640			0.607			0.322			0.243		
Satd. Flow (perm)	1192	1768	0	1131	1738	0	600	3376	0	453	3525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			42			68			3	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		504			640			973			1388	
Travel Time (s)		11.5			14.5			19.0			27.0	
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
Adj. Flow (vph)	16	136	71	156	103	83	46	466	205	134	861	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	207	0	156	186	0	46	671	0	134	883	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		20.6	20.6		19.5	20.6	
Total Split (s)	49.4	49.4		49.4	49.4		44.6	44.6		19.5	64.1	
Total Split (%)	43.5%	43.5%		43.5%	43.5%		39.3%	39.3%		17.2%	56.5%	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.2	1.2		1.2	1.2		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4		4.4	4.4		4.6	4.6		4.5	4.6	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?										Yes		
Recall Mode	None	None		None	None		Min	Min		None	Min	
Act Effct Green (s)	15.4	15.4		15.4	15.4		17.7	17.7		28.0	27.9	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.33	0.33		0.53	0.52	
v/c Ratio	0.05	0.39		0.48	0.35		0.23	0.57		0.30	0.48	
Control Delay	17.1	17.7		24.0	15.8		19.6	16.8		8.4	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.1	17.7		24.0	15.8		19.6	16.8		8.4	8.9	
LOS	B	B		C	B		B	B		A	A	
Approach Delay		17.7			19.6			17.0			8.8	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	4	46		41	36		10	80		17	72	
Queue Length 95th (ft)	18	119		111	100		42	174		53	161	
Internal Link Dist (ft)		424			560			893			1308	
Turn Bay Length (ft)	120			50			100			115		
Base Capacity (vph)	996	1482		945	1459		459	2599		656	3354	
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	0.14		0.17	0.13		0.10	0.26		0.20	0.26	

Intersection Summary

Area Type: Other
Cycle Length: 113.5
Actuated Cycle Length: 53.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Lois Ave & Spruce St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	267	118	138	220	51	150	1540	95	162	2078	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.93	0.99		0.96
Frt		0.952			0.962				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1760	0	1770	1779	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3396	1760	0	1759	1779	0	1768	5085	1470	1760	5085	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			8				109			109
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		384			421			682			1358	
Travel Time (s)		8.7			9.6			10.3			20.6	
Confl. Peds. (#/hr)	13		9	9		13	4		9	9		4
Peak Hour Factor	0.80	0.78	0.74	0.73	0.89	0.60	0.72	0.94	0.84	0.83	0.95	0.92
Adj. Flow (vph)	208	342	159	189	247	85	208	1638	113	195	2187	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	208	501	0	189	332	0	208	1638	113	195	2187	113
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

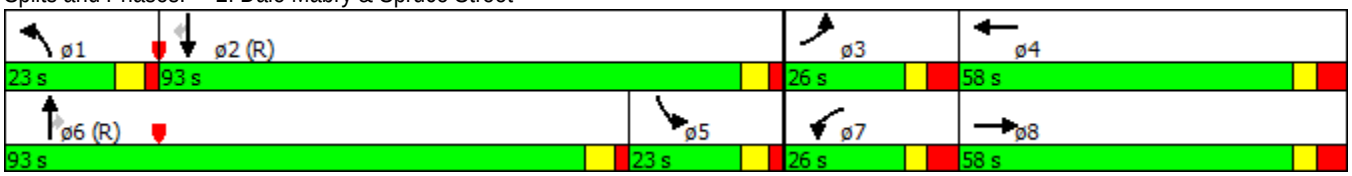
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.2	52.2		13.2	53.2		11.6	47.6	47.6	11.6	30.6	30.6
Total Split (s)	26.0	58.0		26.0	58.0		23.0	93.0	93.0	23.0	93.0	93.0
Total Split (%)	13.0%	29.0%		13.0%	29.0%		11.5%	46.5%	46.5%	11.5%	46.5%	46.5%
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.7	49.8		17.8	51.9		16.4	86.4	86.4	16.4	86.4	86.4
Actuated g/C Ratio	0.08	0.25		0.09	0.26		0.08	0.43	0.43	0.08	0.43	0.43
v/c Ratio	0.77	1.12		1.20	0.71		1.43	0.75	0.16	1.34	1.00	0.16
Control Delay	109.2	143.8		206.9	75.7		295.0	24.4	1.3	255.3	73.9	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	13.7	0.0
Total Delay	109.2	143.8		206.9	75.7		295.0	24.4	1.3	255.3	87.6	6.0
LOS	F	F		F	E		F	C	A	F	F	A
Approach Delay		133.7			123.3			51.8			97.0	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	140	~746		~300	395		~357	684	3	~333	1050	3
Queue Length 95th (ft)	168	#777		#352	521		#415	184	m6	#461	#1160	46
Internal Link Dist (ft)		304			341			602			1278	
Turn Bay Length (ft)	180			275			200			250		500
Base Capacity (vph)	305	446		157	467		145	2196	696	145	2196	721
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	94	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.12		1.20	0.71		1.43	0.75	0.16	1.34	1.04	0.16

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 148 (74%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.43
Intersection Signal Delay: 88.4 Intersection LOS: F
Intersection Capacity Utilization 106.2% 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: Dale Mabry & Spruce Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	22	16	45	38	62	19	44	45	65	80	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.965			0.942			0.944			0.948	
Flt Protected		0.981			0.985			0.991			0.986	
Satd. Flow (prot)	0	1763	0	0	1728	0	0	1743	0	0	1741	0
Flt Permitted		0.981			0.985			0.991			0.986	
Satd. Flow (perm)	0	1763	0	0	1728	0	0	1743	0	0	1741	0
Link Speed (mph)		10			30			15			15	
Link Distance (ft)		272			646			784			390	
Travel Time (s)		18.5			14.7			35.6			17.7	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	27	25	18	51	43	70	22	50	51	74	91	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	0	0	164	0	0	123	0	0	268	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	416	108	111	363	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	12
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.972					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1811	0	2006	1863	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	1811	0	2006	1863	0	1611
Link Speed (mph)	30			30	10	
Link Distance (ft)	134			384	326	
Travel Time (s)	3.0			8.7	22.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	438	114	117	382	0	142
Shared Lane Traffic (%)						
Lane Group Flow (vph)	552	0	117	382	0	142
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.85	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	132	145	23	11	0
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			0.982			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1829	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1829	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		646	192		405	
Travel Time (s)		14.7	4.4		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	143	158	25	12	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	143	183	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	465	0	0	335	12	0	0	0	51	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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					0.995							
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1853	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1853	0	0	1863	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		640			664			228			1043	
Travel Time (s)		14.5			15.1			5.2			23.7	
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
Adj. Flow (vph)	0	505	0	0	364	13	0	0	0	55	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	505	0	0	377	0	0	0	0	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	516	0	10	347	0	4
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					0.865	
Flt Protected				0.999		
Satd. Flow (prot)	1863	0	0	1861	1611	0
Flt Permitted				0.999		
Satd. Flow (perm)	1863	0	0	1861	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	664			174	861	
Travel Time (s)	15.1			4.0	19.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	561	0	11	377	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	561	0	0	388	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	520	357	4	2	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		174	690		813	
Travel Time (s)		4.0	15.7		18.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	565	388	4	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	565	392	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 37.4%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	522	361	2	2	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		690	134		751	
Travel Time (s)		15.7	3.0		17.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	567	392	2	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	567	394	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 37.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	143	0	0	168	0	76
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					0.865	
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1611	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	192			504	166	
Travel Time (s)	4.4			11.5	3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	0	0	183	0	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	155	0	0	183	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.2%		ICU Level of Service A	
Analysis Period (min) 15			

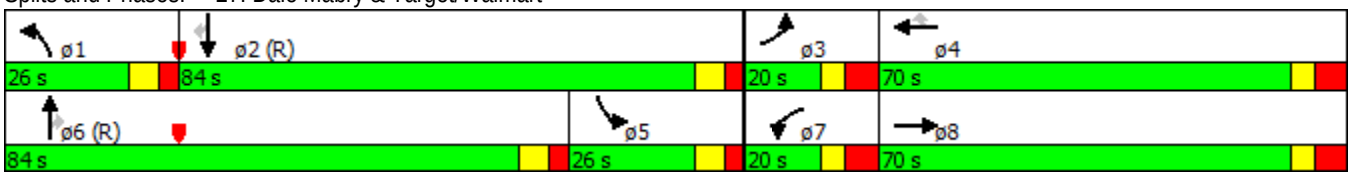
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt		0.859				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1600	0	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3429	1600	0	3433	1863	1563	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		218				151			117			117
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.78	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	250	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	471	0	96	31	82	280	1631	210	250	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5		13.5	60.5	60.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	20.0	70.0		20.0	70.0	70.0	26.0	84.0	84.0	26.0	84.0	84.0
Total Split (%)	10.0%	35.0%		10.0%	35.0%	35.0%	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.5	42.7		9.7	40.9	40.9	20.3	97.2	97.2	18.6	95.6	95.6
Actuated g/C Ratio	0.06	0.21		0.05	0.20	0.20	0.10	0.49	0.49	0.09	0.48	0.48
v/c Ratio	0.90	0.92		0.58	0.08	0.19	0.80	0.52	0.26	0.78	0.76	0.11
Control Delay	133.2	63.7		106.9	58.4	0.9	105.3	37.9	15.8	57.3	15.4	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	133.2	63.7		106.9	58.4	0.9	105.3	38.0	15.8	57.3	15.9	0.2
LOS	F	E		F	E	A	F	D	B	E	B	A
Approach Delay		82.7			58.1			44.6			19.3	
Approach LOS		F			E			D			B	
Queue Length 50th (ft)	122	363		64	33	0	188	431	67	158	146	0
Queue Length 95th (ft)	#191	153		81	58	0	#248	547	91	m156	m589	m2
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)				180		180	400		200	350		233
Base Capacity (vph)	197	642		197	572	585	356	3115	819	319	3061	804
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	316	0
Spillback Cap Reductn	0	0		0	0	2	0	137	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.73		0.49	0.05	0.14	0.79	0.55	0.26	0.78	0.84	0.11

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 168 (84%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 99.1% 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: 27: Dale Mabry & Target/Walmart



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		100	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Link Speed (mph)		30			30			10			30	
Link Distance (ft)		225			394			502			436	
Travel Time (s)		5.1			9.0			34.2			9.9	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	1863
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	773		473			861
Travel Time (s)	17.6		10.8			19.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	1863	1863	0	1863
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	1863	0	1863
Link Speed (mph)	30			30	30	
Link Distance (ft)	773			225	194	
Travel Time (s)	17.6			5.1	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			10	30	
Link Distance (ft)	132			436	326	
Travel Time (s)	3.0			29.7	7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lanes, Volumes, Timings
1: Lois Ave & Spruce St

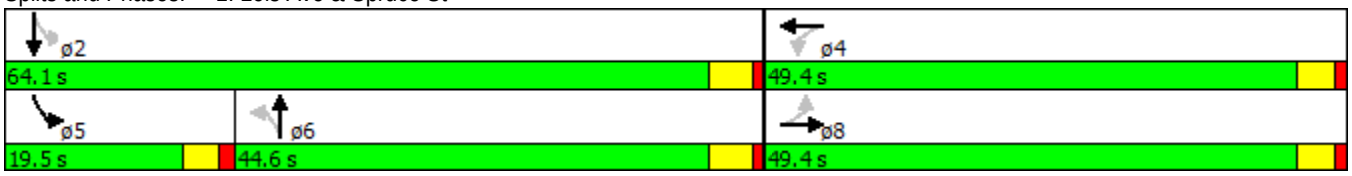
1/11/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	111	122	185	134	85	53	589	116	53	211	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	50		0	100		0	115		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
Frt		0.922			0.942			0.975			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1717	0	1770	1755	0	1770	3451	0	1770	3507	0
Flt Permitted	0.561			0.539			0.605			0.213		
Satd. Flow (perm)	1045	1717	0	1004	1755	0	1127	3451	0	397	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			33			22			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		476			297			577			1388	
Travel Time (s)		10.8			6.8			11.2			27.0	
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
Adj. Flow (vph)	34	117	128	195	141	89	56	620	122	56	222	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	245	0	195	230	0	56	742	0	56	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		20.6	20.6		19.5	20.6	
Total Split (s)	49.4	49.4		49.4	49.4		44.6	44.6		19.5	64.1	
Total Split (%)	43.5%	43.5%		43.5%	43.5%		39.3%	39.3%		17.2%	56.5%	
Maximum Green (s)	45.0	45.0		45.0	45.0		40.0	40.0		15.0	59.5	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.2	1.2		1.2	1.2		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4		4.4	4.4		4.6	4.6		4.5	4.6	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?										Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		2.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		10.0	10.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	19.3	19.3		19.3	19.3		20.8	20.8		32.8	32.7	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.34	0.34		0.53	0.53	
v/c Ratio	0.10	0.43		0.62	0.40		0.15	0.63		0.15	0.13	
Control Delay	17.3	15.8		28.9	17.1		17.8	20.3		9.7	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.3	15.8		28.9	17.1		17.8	20.3		9.7	8.4	
LOS	B	B		C	B		B	C		A	A	
Approach Delay		16.0			22.5			20.2			8.6	
Approach LOS		B			C			C			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 113.5	
Actuated Cycle Length: 61.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Lois Ave & Spruce St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	211	94	122	255	30	86	1557	115	51	1849	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.954			0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1777	0	1770	1833	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1777	0	1770	1833	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			3				121			206
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			696			1358	
Travel Time (s)		8.9			9.6			10.5			20.6	
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
Adj. Flow (vph)	135	222	99	128	268	32	91	1639	121	54	1946	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	321	0	128	300	0	91	1639	121	54	1946	213
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	13.2	52.2		13.2	53.2		11.6	47.6	47.6	11.6	30.6	30.6
Total Split (s)	24.0	55.0		24.0	55.0		24.0	77.0	77.0	24.0	77.0	77.0
Total Split (%)	13.3%	30.6%		13.3%	30.6%		13.3%	42.8%	42.8%	13.3%	42.8%	42.8%
Maximum Green (s)	15.8	46.8		15.8	46.8		17.4	70.4	70.4	17.4	70.4	70.4
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	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
Flash Dont Walk (s)		37.0			38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		1			2			4	4		0	0
Act Effct Green (s)	11.5	36.8		15.1	40.4		13.3	91.1	91.1	9.9	85.3	85.3
Actuated g/C Ratio	0.06	0.20		0.08	0.22		0.07	0.51	0.51	0.06	0.47	0.47
v/c Ratio	0.62	0.86		0.86	0.73		0.70	0.64	0.14	0.56	0.81	0.25
Control Delay	94.1	88.1		125.3	74.1		128.3	26.2	2.0	103.2	44.9	5.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.1	88.1		125.3	74.1		128.3	26.3	2.0	103.2	44.9	5.1
LOS	F	F		F	E		F	C	A	F	D	A
Approach Delay		89.9			89.4			29.7			42.5	
Approach LOS		F			F			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 37 (21%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 46.1	Intersection LOS: D
Intersection Capacity Utilization 88.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	70	28	115	16	38	2	131	65	78	254	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.971			0.970			0.956			0.997	
Flt Protected		0.988			0.967						0.989	
Satd. Flow (prot)	0	1787	0	0	1747	0	0	1781	0	0	1837	0
Flt Permitted		0.988			0.967						0.989	
Satd. Flow (perm)	0	1787	0	0	1747	0	0	1781	0	0	1837	0
Link Speed (mph)		10			30			15			15	
Link Distance (ft)		272			642			784			390	
Travel Time (s)		18.5			14.6			35.6			17.7	
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
Adj. Flow (vph)	32	74	29	121	17	40	2	138	68	82	267	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	178	0	0	208	0	0	357	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	354	31	96	447	0	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	12
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1842	0	2006	1863	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	1842	0	2006	1863	0	1611
Link Speed (mph)	30			30	10	
Link Distance (ft)	132			392	331	
Travel Time (s)	3.0			8.9	22.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	373	33	101	471	0	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	406	0	101	471	0	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.85	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	197	13	8	126	36	43	0	69	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	0		0	0		0
Storage Lanes	0		0	1		0	0		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		0.992			0.967			0.916				
Flt Protected		0.999		0.950				0.981				
Satd. Flow (prot)	0	1846	0	1770	1801	0	0	1674	0	1863	0	0
Flt Permitted		0.999		0.950				0.981				
Satd. Flow (perm)	0	1846	0	1770	1801	0	0	1674	0	1863	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		642			228			161			405	
Travel Time (s)		14.6			5.2			3.7			9.2	
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
Adj. Flow (vph)	3	207	14	8	133	38	45	0	73	0	0	0
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	0	224	0	8	171	0	0	118	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 26.9%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	296	0	0	380	59	0	0	0	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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					0.982							
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1829	0	0	1863	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		367			662			228			1043	
Travel Time (s)		8.3			15.0			5.2			23.7	
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
Adj. Flow (vph)	0	312	0	0	400	62	0	0	0	16	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	462	0	0	0	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.6%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	311	0	5	439	0	49
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					0.865	
Flt Protected				0.999		
Satd. Flow (prot)	1863	0	0	1861	1611	0
Flt Permitted				0.999		
Satd. Flow (perm)	1863	0	0	1861	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	662			176	867	
Travel Time (s)	15.0			4.0	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	327	0	5	462	0	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	327	0	0	467	52	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	360	444	1	19	0
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						
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1863	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1863	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		176	700		813	
Travel Time (s)		4.0	15.9		18.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	379	467	1	20	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	379	468	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 33.4%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	379	445	2	6	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		700	132		751	
Travel Time (s)		15.9	3.0		17.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	399	468	2	6	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	399	470	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 33.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	265	1	30	170	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	1863	0	1770	1863	1863	0
Flt Permitted			0.950			
Satd. Flow (perm)	1863	0	1770	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	228			476	166	
Travel Time (s)	5.2			10.8	3.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	1	32	179	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	280	0	32	179	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

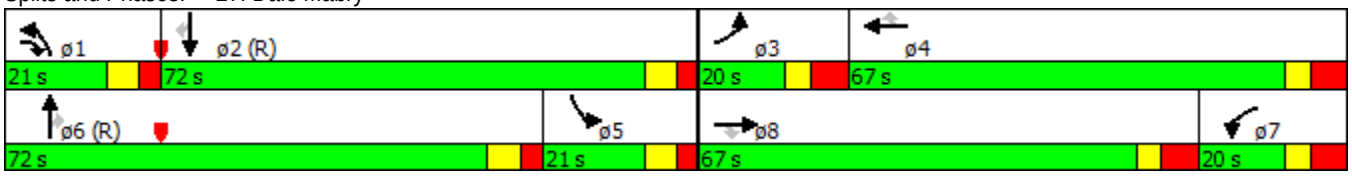
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 24.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	7	136	53	20	28	115	1702	59	25	1975	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			168			181			181
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		412			333			867			696	
Travel Time (s)		9.4			7.6			13.1			15.8	
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
Adj. Flow (vph)	29	7	143	56	21	29	121	1792	62	26	2079	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	7	143	56	21	29	121	1792	62	26	2079	68
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	20.0	67.0	21.0	20.0	67.0	67.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	11.1%	37.2%	11.7%	11.1%	37.2%	37.2%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	11.5	58.5	13.6	11.5	58.5	58.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.0	6.3	12.5	17.1	7.6	7.6	10.7	135.6	135.6	10.2	128.5	128.5
Actuated g/C Ratio	0.04	0.04	0.07	0.10	0.04	0.04	0.06	0.75	0.75	0.06	0.71	0.71
v/c Ratio	0.22	0.11	0.64	0.17	0.27	0.13	0.59	0.37	0.05	0.13	0.45	0.06
Control Delay	87.3	87.3	27.4	75.6	91.4	1.1	94.0	10.9	0.1	53.0	1.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	87.3	87.3	27.4	75.6	91.4	1.1	94.0	10.9	0.1	53.0	1.8	0.0
LOS	F	F	C	E	F	A	F	B	A	D	A	A
Approach Delay		39.5			58.4			15.6			2.4	
Approach LOS		D			E			B			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 78 (43%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 11.1	Intersection LOS: B
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 27: Dale Mabry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		100	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Link Speed (mph)		30			30			10			30	
Link Distance (ft)		243			412			502			429	
Travel Time (s)		5.5			9.4			34.2			9.8	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	1863	1863	0	1863
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	1863	0	1863
Link Speed (mph)	30			30	30	
Link Distance (ft)	640			243	194	
Travel Time (s)	14.5			5.5	4.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			10	30	
Link Distance (ft)	132			429	331	
Travel Time (s)	3.0			29.3	7.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	276	4	6	374	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.947	
Flt Protected			0.950		0.971	
Satd. Flow (prot)	1859	0	1770	1863	1713	0
Flt Permitted			0.950		0.971	
Satd. Flow (perm)	1859	0	1770	1863	1713	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	297			367	159	
Travel Time (s)	6.8			8.3	3.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	291	4	6	394	32	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	295	0	6	394	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	38	61	697	12	7	511
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	0.95	0.95	1.00	0.95
Frt	0.917		0.997			
Flt Protected	0.981				0.950	
Satd. Flow (prot)	1676	0	3529	0	1770	3539
Flt Permitted	0.981				0.950	
Satd. Flow (perm)	1676	0	3529	0	1770	3539
Link Speed (mph)	30		35			30
Link Distance (ft)	177		396			577
Travel Time (s)	4.0		7.7			13.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	64	734	13	7	538
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	747	0	7	538
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 32.2%	ICU Level of Service A
Analysis Period (min) 15	

Lanes, Volumes, Timings
1: Lois Ave & Spruce St

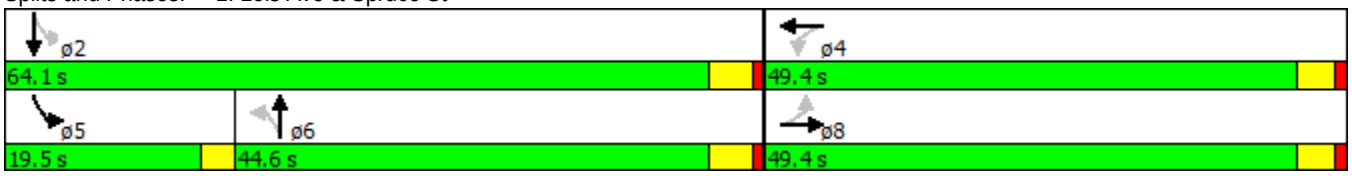
1/11/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	169	89	177	151	95	67	530	233	152	979	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	50		0	100		0	115		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
Frt		0.948			0.942			0.954			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1766	0	1770	1755	0	1770	3376	0	1770	3522	0
Flt Permitted	0.500			0.481			0.268			0.194		
Satd. Flow (perm)	931	1766	0	896	1755	0	499	3376	0	361	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			33			67			4	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		476			297			577			1388	
Travel Time (s)		10.8			6.8			11.2			27.0	
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
Adj. Flow (vph)	22	178	94	186	159	100	71	558	245	160	1031	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	272	0	186	259	0	71	803	0	160	1066	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		20.6	20.6		19.5	20.6	
Total Split (s)	49.4	49.4		49.4	49.4		44.6	44.6		19.5	64.1	
Total Split (%)	43.5%	43.5%		43.5%	43.5%		39.3%	39.3%		17.2%	56.5%	
Maximum Green (s)	45.0	45.0		45.0	45.0		40.0	40.0		16.5	59.5	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.6	3.6		3.0	3.6	
All-Red Time (s)	1.2	1.2		1.2	1.2		1.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.4	4.4		4.4	4.4		4.6	4.6		3.0	4.6	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?										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		Min	Min		Min	Min	
Walk Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		10.0	10.0			10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	21.0	21.0		21.0	21.0		23.5	23.5		39.5	37.8	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.34	0.34		0.57	0.55	
v/c Ratio	0.08	0.49		0.68	0.46		0.42	0.67		0.37	0.55	
Control Delay	20.0	21.6		36.4	20.6		29.5	21.9		10.9	12.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.0	21.6		36.4	20.6		29.5	21.9		10.9	12.1	
LOS	B	C		D	C		C	C		B	B	
Approach Delay		21.4			27.2			22.5			12.0	
Approach LOS		C			C			C			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 113.5	
Actuated Cycle Length: 68.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 75.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Lois Ave & Spruce St

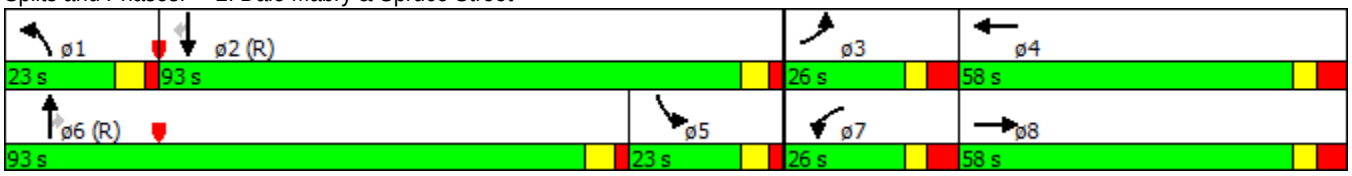


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	312	137	160	275	59	188	1786	110	188	2410	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.954			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1777	0	1770	1814	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1777	0	1770	1814	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5				109			109
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			697			1358	
Travel Time (s)		8.9			9.6			10.6			20.6	
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
Adj. Flow (vph)	203	328	144	168	289	62	198	1880	116	198	2537	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	472	0	168	351	0	198	1880	116	198	2537	137
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.2	52.2		12.2	53.2		10.6	47.6	47.6	10.6	49.0	49.0
Total Split (s)	26.0	58.0		26.0	58.0		23.0	93.0	93.0	23.0	93.0	93.0
Total Split (%)	13.0%	29.0%		13.0%	29.0%		11.5%	46.5%	46.5%	11.5%	46.5%	46.5%
Maximum Green (s)	17.8	49.8		17.8	49.8		16.4	86.4	86.4	16.4	86.4	86.4
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	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	3.0	3.0
Recall Mode	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
Flash Dont Walk (s)		37.0			38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	16.1	49.8		17.8	51.5		16.4	86.4	86.4	16.4	86.4	86.4
Actuated g/C Ratio	0.08	0.25		0.09	0.26		0.08	0.43	0.43	0.08	0.43	0.43
v/c Ratio	0.74	1.05		1.07	0.75		1.37	0.86	0.16	1.37	1.16	0.18
Control Delay	105.6	123.3		171.7	78.8		256.3	37.0	2.6	262.5	125.0	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	105.6	123.3		171.7	78.8		256.3	37.0	2.6	262.5	125.1	9.2
LOS	F	F		F	E		F	D	A	F	F	A
Approach Delay		118.0			108.9			55.0			129.1	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 170 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.37	
Intersection Signal Delay: 100.2	Intersection LOS: F
Intersection Capacity Utilization 115.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	35	19	64	44	88	22	51	69	100	93	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.969			0.939			0.934			0.952	
Flt Protected		0.983			0.984			0.992			0.984	
Satd. Flow (prot)	0	1774	0	0	1721	0	0	1726	0	0	1745	0
Flt Permitted		0.983			0.984			0.992			0.984	
Satd. Flow (perm)	0	1774	0	0	1721	0	0	1726	0	0	1745	0
Link Speed (mph)		10			30			15			15	
Link Distance (ft)		272			642			784			390	
Travel Time (s)		18.5			14.6			35.6			17.7	
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
Adj. Flow (vph)	29	37	20	67	46	93	23	54	73	105	98	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	0	0	206	0	0	150	0	0	315	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	485	125	129	464	0	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	12
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.972					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1811	0	2006	1863	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	1811	0	2006	1863	0	1611
Link Speed (mph)	30			30	10	
Link Distance (ft)	149			392	353	
Travel Time (s)	3.4			8.9	24.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	511	132	136	488	0	165
Shared Lane Traffic (%)						
Lane Group Flow (vph)	643	0	136	488	0	165
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.85	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	153	51	56	168	27	28	0	25	13	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	0		0	0		0
Storage Lanes	0		0	1		0	0		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	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.980			0.936				
Flt Protected				0.950				0.974			0.950	
Satd. Flow (prot)	0	1799	0	1770	1825	0	0	1698	0	0	1770	0
Flt Permitted				0.950				0.974			0.950	
Satd. Flow (perm)	0	1799	0	1770	1825	0	0	1698	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		642			228			161			405	
Travel Time (s)		14.6			5.2			3.7			9.2	
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
Adj. Flow (vph)	0	161	54	59	177	28	29	0	26	14	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	215	0	59	205	0	0	55	0	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 35.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	541	0	0	432	13	0	0	0	59	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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					0.996							
Flt Protected											0.950	
Satd. Flow (prot)	0	1863	0	0	1855	0	0	1863	0	0	1770	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	1863	0	0	1855	0	0	1863	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		367			674			228			1043	
Travel Time (s)		8.3			15.3			5.2			23.7	
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
Adj. Flow (vph)	0	569	0	0	455	14	0	0	0	62	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	569	0	0	469	0	0	0	0	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 38.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	600	0	12	445	0	5
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					0.865	
Flt Protected				0.999		
Satd. Flow (prot)	1863	0	0	1861	1611	0
Flt Permitted				0.999		
Satd. Flow (perm)	1863	0	0	1861	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	674			159	877	
Travel Time (s)	15.3			3.6	19.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	632	0	13	468	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	632	0	0	481	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	605	457	5	3	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		159	700		813	
Travel Time (s)		3.6	15.9		18.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	637	481	5	3	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	637	486	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	608	462	2	2	0
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			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		700	149		751	
Travel Time (s)		15.9	3.4		17.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	640	486	2	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	640	488	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	191	0	0	251	0	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	1863	0	1863	1863	1611	0
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	1863	1611	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	228			476	166	
Travel Time (s)	5.2			10.8	3.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	201	0	0	264	0	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	201	0	0	264	93	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 25.3%	ICU Level of Service A
Analysis Period (min) 15	

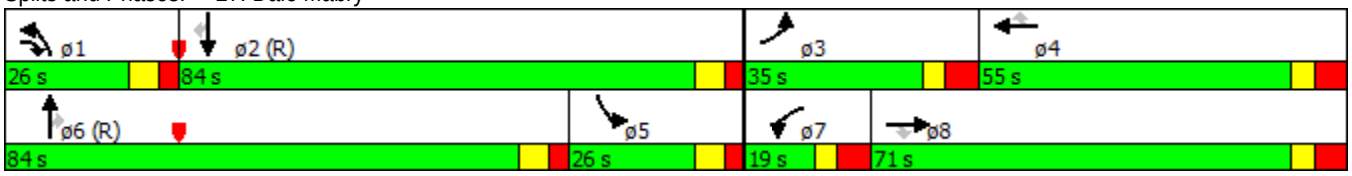
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	19	406	82	31	76	292	1829	173	226	2391	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			197			163			163
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			10.6	
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
Adj. Flow (vph)	188	20	427	86	33	80	307	1925	182	238	2517	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	20	427	86	33	80	307	1925	182	238	2517	95
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	18.5	62.5	12.4	18.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	35.0	71.0	26.0	19.0	55.0	55.0	26.0	84.0	84.0	26.0	84.0	84.0
Total Split (%)	17.5%	35.5%	13.0%	9.5%	27.5%	27.5%	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%
Maximum Green (s)	26.5	62.5	18.6	10.5	46.5	46.5	18.6	76.6	76.6	18.6	76.6	76.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			1	1		1	1		5	5
Act Effct Green (s)	15.3	19.9	56.2	18.5	15.7	15.7	35.2	118.6	118.6	18.6	102.0	102.0
Actuated g/C Ratio	0.08	0.10	0.28	0.09	0.08	0.08	0.18	0.59	0.59	0.09	0.51	0.51
v/c Ratio	0.72	0.11	0.81	0.27	0.23	0.26	0.51	0.51	0.18	0.75	0.77	0.11
Control Delay	105.2	76.3	59.9	90.2	86.2	2.1	78.6	25.8	4.7	47.5	9.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.0	0.0
Total Delay	105.2	76.3	59.9	90.2	86.2	2.1	78.6	25.9	4.7	47.5	10.8	0.0
LOS	F	E	E	F	F	A	E	C	A	D	B	A
Approach Delay		73.9			54.1			31.0			13.5	
Approach LOS		E			D			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 190 (95%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 27: Dale Mabry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		100	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	1863	3539	1863	0	1863	0	0	1863	0
Link Speed (mph)		30			30			10			30	
Link Distance (ft)		251			411			502			419	
Travel Time (s)		5.7			9.3			34.2			9.5	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	1863
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	757		473			877
Travel Time (s)	17.2		10.8			19.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	1863	1863	0	1863
Flt Permitted						
Satd. Flow (perm)	1863	0	1863	1863	0	1863
Link Speed (mph)	30			30	30	
Link Distance (ft)	757			251	194	
Travel Time (s)	17.2			5.7	4.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	0	0	0
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						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			10	30	
Link Distance (ft)	132			419	353	
Travel Time (s)	3.0			28.6	8.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	529	25	18	414	9	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.920	
Flt Protected			0.950		0.980	
Satd. Flow (prot)	1852	0	1770	1863	1679	0
Flt Permitted			0.950		0.980	
Satd. Flow (perm)	1852	0	1770	1863	1679	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	297			367	159	
Travel Time (s)	6.8			8.3	3.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	557	26	19	436	9	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	583	0	19	436	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 39.4%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	29	19	811	38	58	1187
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	0.95	0.95	1.00	0.95
Frt	0.947		0.993			
Flt Protected	0.971				0.950	
Satd. Flow (prot)	1713	0	3514	0	1770	3539
Flt Permitted	0.971				0.950	
Satd. Flow (perm)	1713	0	3514	0	1770	3539
Link Speed (mph)	30		35			30
Link Distance (ft)	177		396			577
Travel Time (s)	4.0		7.7			13.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	20	854	40	61	1249
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	894	0	61	1249
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 42.8%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	211	94	122	201	30	86	1557	115	51	1945	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.954			0.980				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1777	0	1770	1825	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1777	0	1770	1825	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			4				121			166
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		391			421			706			1358	
Travel Time (s)		8.9			9.6			10.7			20.6	
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
Adj. Flow (vph)	135	222	99	128	212	32	91	1639	121	54	2047	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	321	0	128	244	0	91	1639	121	54	2047	168
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	13.2	52.2		13.2	53.2		11.6	47.6	47.6	11.6	30.6	30.6
Total Split (s)	20.6	52.2		24.0	55.6		19.0	85.2	85.2	18.6	84.8	84.8
Total Split (%)	11.4%	29.0%		13.3%	30.9%		10.6%	47.3%	47.3%	10.3%	47.1%	47.1%
Maximum Green (s)	12.4	44.0		15.8	47.4		12.4	78.6	78.6	12.0	78.2	78.2
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	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
Flash Dont Walk (s)		37.0			38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		1			2			4	4		0	0
Act Effct Green (s)	10.9	36.1		15.1	40.3		12.6	92.2	92.2	9.5	86.6	86.6
Actuated g/C Ratio	0.06	0.20		0.08	0.22		0.07	0.51	0.51	0.05	0.48	0.48
v/c Ratio	0.65	0.88		0.86	0.59		0.74	0.63	0.14	0.58	0.84	0.20
Control Delay	97.4	90.9		125.3	66.9		121.2	25.0	3.1	106.7	45.6	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.4	90.9		125.3	66.9		121.2	25.0	3.1	106.7	45.6	4.5
LOS	F	F		F	E		F	C	A	F	D	A
Approach Delay		92.9			87.0			28.3			44.0	
Approach LOS		F			F			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 37 (21%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 45.9	Intersection LOS: D
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street

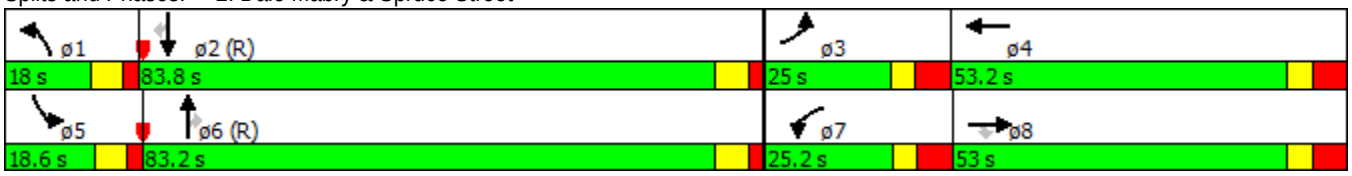
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	211	94	122	201	30	86	1557	115	51	1945	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	275		0	200		0	250		500
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.980				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1825	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1825	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112		4				121			165
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		391			421			706			1358	
Travel Time (s)		8.9			9.6			10.7			20.6	
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
Adj. Flow (vph)	135	222	99	128	212	32	91	1639	121	54	2047	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	222	99	128	244	0	91	1639	121	54	2047	168
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	13.2	52.2	52.2	13.2	53.2		11.6	47.6	47.6	11.6	30.6	30.6
Total Split (s)	25.0	53.0	53.0	25.2	53.2		18.0	83.2	83.2	18.6	83.8	83.8
Total Split (%)	13.9%	29.4%	29.4%	14.0%	29.6%		10.0%	46.2%	46.2%	10.3%	46.6%	46.6%
Maximum Green (s)	16.8	44.8	44.8	17.0	45.0		11.4	76.6	76.6	12.0	77.2	77.2
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8		2.2	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	0.0	0.0
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
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)		37.0	37.0		38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		1	1		2			4	4		0	0
Act Effct Green (s)	15.9	30.8	30.8	15.6	30.5		13.0	97.0	97.0	9.5	91.0	91.0
Actuated g/C Ratio	0.09	0.17	0.17	0.09	0.17		0.07	0.54	0.54	0.05	0.51	0.51
v/c Ratio	0.87	0.70	0.27	0.84	0.78		0.72	0.60	0.13	0.58	0.80	0.19
Control Delay	123.3	80.9	7.7	119.3	86.5		128.1	21.8	2.1	106.7	41.1	4.4
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	123.3	80.9	7.7	119.3	86.5		128.1	21.8	2.1	106.7	41.1	4.4
LOS	F	F	A	F	F		F	C	A	F	D	A
Approach Delay		77.6			97.8			25.7			40.0	
Approach LOS		E			F			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 37 (21%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 42.4 Intersection LOS: D
Intersection Capacity Utilization 86.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Dale Mabry & Spruce Street

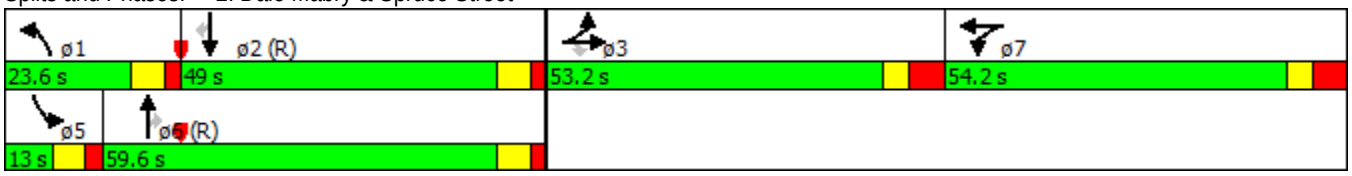


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	211	94	122	201	30	86	1557	115	51	1945	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	275		0	200		0	250		500
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.980				0.850			0.850
Flt Protected	0.950	0.997		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1764	1583	1770	1825	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950	0.997		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1764	1583	1770	1825	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152		4				121			161
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		391			421			706			1358	
Travel Time (s)		8.9			9.6			10.7			20.6	
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
Adj. Flow (vph)	135	222	99	128	212	32	91	1639	121	54	2047	168
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	121	236	99	128	244	0	91	1639	121	54	2047	168
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		7	7		1	6		5	2	
Permitted Phases			3						6			2
Detector Phase	3	3	3	7	7		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	52.2	52.2	52.2	53.2	53.2		22.6	47.6	47.6	11.6	30.6	30.6
Total Split (s)	53.2	53.2	53.2	54.2	54.2		23.6	59.6	59.6	13.0	49.0	49.0
Total Split (%)	29.6%	29.6%	29.6%	30.1%	30.1%		13.1%	33.1%	33.1%	7.2%	27.2%	27.2%
Maximum Green (s)	45.0	45.0	45.0	46.0	46.0		17.0	53.0	53.0	6.4	42.4	42.4
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8		2.2	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	0.0	0.0
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	3.0	3.0	2.0	3.0	3.0
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		7.0	7.0
Flash Dont Walk (s)	37.0	37.0	37.0	38.0	38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)	1	1	1	2	2			4	4		0	0
Act Effct Green (s)	29.9	29.9	29.9	29.8	29.8		13.6	80.7	80.7	9.9	77.1	77.1
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17		0.08	0.45	0.45	0.06	0.43	0.43
v/c Ratio	0.43	0.81	0.25	0.44	0.80		0.68	0.72	0.16	0.56	0.94	0.22
Control Delay	70.4	91.6	2.0	70.3	89.0		109.9	39.5	6.3	103.0	56.5	7.8
Queue Delay	0.0	0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	70.4	91.6	2.1	70.3	89.0		109.9	39.6	6.3	103.0	57.4	7.8
LOS	E	F	A	E	F		F	D	A	F	E	A
Approach Delay		66.5			82.5			40.9			54.8	
Approach LOS		E			F			D			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 52.8	Intersection LOS: D
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street

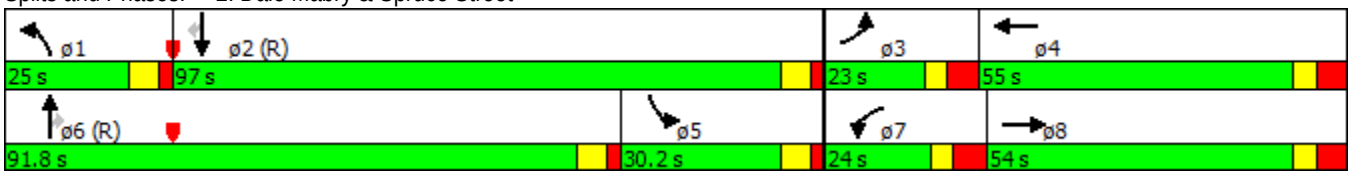


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	312	137	160	187	59	188	1786	110	188	2539	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.954			0.964				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1777	0	1770	1796	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1777	0	1770	1796	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			7				109			109
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			697			1358	
Travel Time (s)		8.9			9.6			10.6			20.6	
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
Adj. Flow (vph)	203	328	144	168	197	62	198	1880	116	198	2673	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	472	0	168	259	0	198	1880	116	198	2673	94
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.2	52.2		12.2	53.2		10.6	47.6	47.6	10.6	49.4	49.4
Total Split (s)	23.0	54.0		24.0	55.0		25.0	91.8	91.8	30.2	97.0	97.0
Total Split (%)	11.5%	27.0%		12.0%	27.5%		12.5%	45.9%	45.9%	15.1%	48.5%	48.5%
Maximum Green (s)	14.8	45.8		15.8	46.8		18.4	85.2	85.2	23.6	90.4	90.4
Yellow Time (s)	3.4	3.4		3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8		4.8	4.8		2.2	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	0.0
Total Lost Time (s)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	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	3.0	3.0
Recall Mode	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
Flash Dont Walk (s)		37.0			38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	14.5	45.8		15.8	47.1		18.4	85.2	85.2	23.6	90.4	90.4
Actuated g/C Ratio	0.07	0.23		0.08	0.24		0.09	0.43	0.43	0.12	0.45	0.45
v/c Ratio	0.82	1.14		1.21	0.61		1.22	0.87	0.16	0.95	1.16	0.12
Control Delay	115.7	151.8		213.1	73.2		204.4	38.3	2.3	135.6	126.4	3.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	115.7	151.8		213.1	73.2		204.4	38.3	2.3	135.6	126.4	3.3
LOS	F	F		F	E		F	D	A	F	F	A
Approach Delay		141.0			128.3			51.4			123.2	
Approach LOS		F			F			D			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 170 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.22	
Intersection Signal Delay: 100.3	Intersection LOS: F
Intersection Capacity Utilization 117.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street

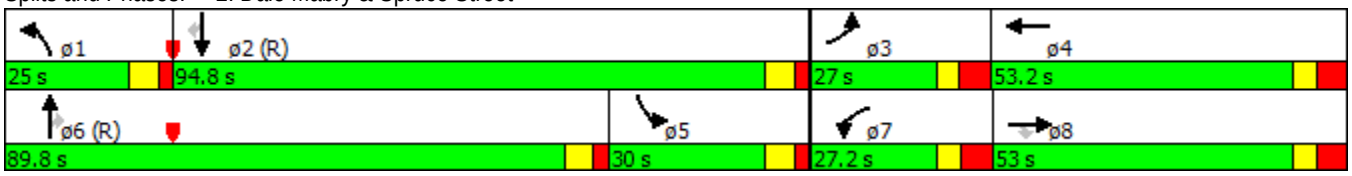


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	312	137	160	187	59	188	1786	110	188	2539	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.964				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1796	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1796	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		7				109			109
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			697			1358	
Travel Time (s)		8.9			9.6			10.6			20.6	
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
Adj. Flow (vph)	203	328	144	168	197	62	198	1880	116	198	2673	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	328	144	168	259	0	198	1880	116	198	2673	94
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.2	52.2	52.2	12.2	53.2		10.6	47.6	47.6	10.6	49.4	49.4
Total Split (s)	27.0	53.0	53.0	27.2	53.2		25.0	89.8	89.8	30.0	94.8	94.8
Total Split (%)	13.5%	26.5%	26.5%	13.6%	26.6%		12.5%	44.9%	44.9%	15.0%	47.4%	47.4%
Maximum Green (s)	18.8	44.8	44.8	19.0	45.0		18.4	83.2	83.2	23.4	88.2	88.2
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8		2.2	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	0.0	0.0
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lead	Lag	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	3.0	3.0	3.0
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)		37.0	37.0		38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	18.8	39.5	39.5	19.0	39.7		23.7	88.5	88.5	23.4	88.2	88.2
Actuated g/C Ratio	0.09	0.20	0.20	0.10	0.20		0.12	0.44	0.44	0.12	0.44	0.44
v/c Ratio	1.22	0.89	0.34	1.00	0.72		0.95	0.84	0.15	0.96	1.19	0.12
Control Delay	210.5	103.7	12.3	155.6	83.7		123.7	34.8	1.8	136.8	138.7	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	210.5	103.7	12.3	155.6	83.7		123.7	34.8	1.8	136.8	138.7	3.4
LOS	F	F	B	F	F		F	C	A	F	F	A
Approach Delay		116.4			112.0			41.1			134.3	
Approach LOS		F			F			D			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 170 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.22	
Intersection Signal Delay: 98.2	Intersection LOS: F
Intersection Capacity Utilization 109.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street

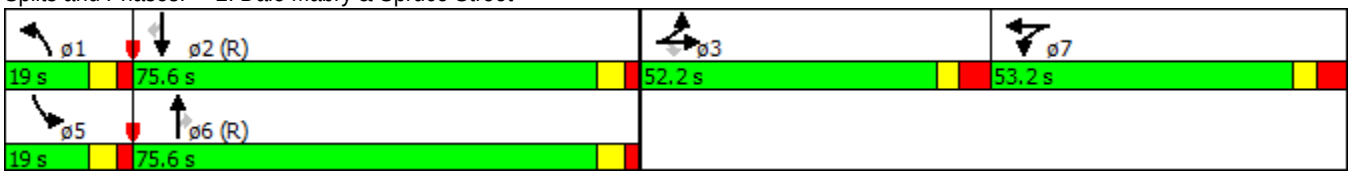


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	312	137	160	187	59	188	1786	110	188	2539	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	275		0	200		0	250		500
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.964				0.850			0.850
Flt Protected	0.950	0.997		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1764	1583	1770	1796	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950	0.997		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1764	1583	1770	1796	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		7				109			109
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		392			421			697			1358	
Travel Time (s)		8.9			9.6			10.6			20.6	
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
Adj. Flow (vph)	203	328	144	168	197	62	198	1880	116	198	2673	94
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	183	348	144	168	259	0	198	1880	116	198	2673	94
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		7	7		1	6		5	2	
Permitted Phases			3						6			2
Detector Phase	3	3	3	7	7		1	6	6	5	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	52.2	52.2	52.2	53.2	53.2		10.6	47.6	47.6	10.6	49.4	49.4
Total Split (s)	52.2	52.2	52.2	53.2	53.2		19.0	75.6	75.6	19.0	75.6	75.6
Total Split (%)	26.1%	26.1%	26.1%	26.6%	26.6%		9.5%	37.8%	37.8%	9.5%	37.8%	37.8%
Maximum Green (s)	44.0	44.0	44.0	45.0	45.0		12.4	69.0	69.0	12.4	69.0	69.0
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4		4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8		2.2	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	0.0	0.0
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2		6.6	6.6	6.6	6.6	6.6	6.6
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	3.0	3.0	3.0
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		7.0	7.0
Flash Dont Walk (s)	37.0	37.0	37.0	38.0	38.0			10.0	10.0		17.0	17.0
Pedestrian Calls (#/hr)	1	1	1	2	2			4	4		0	0
Act Effct Green (s)	42.1	42.1	42.1	34.0	34.0		25.3	69.0	69.0	25.3	69.0	69.0
Actuated g/C Ratio	0.21	0.21	0.21	0.17	0.17		0.13	0.34	0.34	0.13	0.34	0.34
v/c Ratio	0.52	0.94	0.35	0.56	0.84		0.89	1.07	0.19	0.89	1.52	0.15
Control Delay	75.3	109.7	22.0	82.2	99.5		101.0	103.6	16.5	115.5	280.4	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	12.7	0.0	0.0	0.0	0.0
Total Delay	75.3	109.7	22.0	82.2	99.5		101.0	116.4	16.5	115.5	280.4	4.7
LOS	E	F	C	F	F		F	F	B	F	F	A
Approach Delay		81.6			92.7			109.7			260.7	
Approach LOS		F			F			F			F	

Intersection Summary	
Area Type: Other	
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 170	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.52	
Intersection Signal Delay: 177.0	Intersection LOS: F
Intersection Capacity Utilization 114.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: Dale Mabry & Spruce Street



Appendix D – Phase 1 Technical Memorandum

M E M O R A N D U M

DATE: August 24, 2015

TO: Ben Money, PE, City of Tampa

FROM: Brian Kirkpatrick, PE, RS&H

SUBJECT: Intersection of Dale Mabry Highway at Target/Walmart Entrance – Phase I Alternatives Evaluation

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Introduction

This memorandum has been prepared based on comments received from the City of Tampa, the Florida Department of Transportation and stakeholders regarding proposed improvements at the study intersection of Dale Mabry Highway at the Target/Walmart entrance.

As part of the Spruce Street study from Hesperides Street to Himes Avenue, the City of Tampa is evaluating modifications at the intersection of Dale Mabry Highway and the Target/Walmart entrance for safety and operational improvements. The improvements to the commercial development will be completed in two phases, Phase 1 and Phase 2. Phase 1 will consist of a minor, interim improvement at the Dale Mabry entrance intersection. Phase 2 will contain more extensive improvements to the entirety of the shopping complex. Seven alternatives for Phase 1 have been evaluated: Alternatives 1A, 1B, 1C, 1D, 1E, 1F, and 1G. These will be discussed and evaluated within this memorandum.

This memorandum utilizes the traffic count data acquired by Albeck Gerken in 2013. Traffic counts conducted in 2014 showed a significant increase in traffic volume, which can be attributed to the temporary closures of on and off ramps along nearby Interstate 275; therefore it was decided that the 2014 count data is not representative of actual traffic volumes and conditions.

Existing Conditions

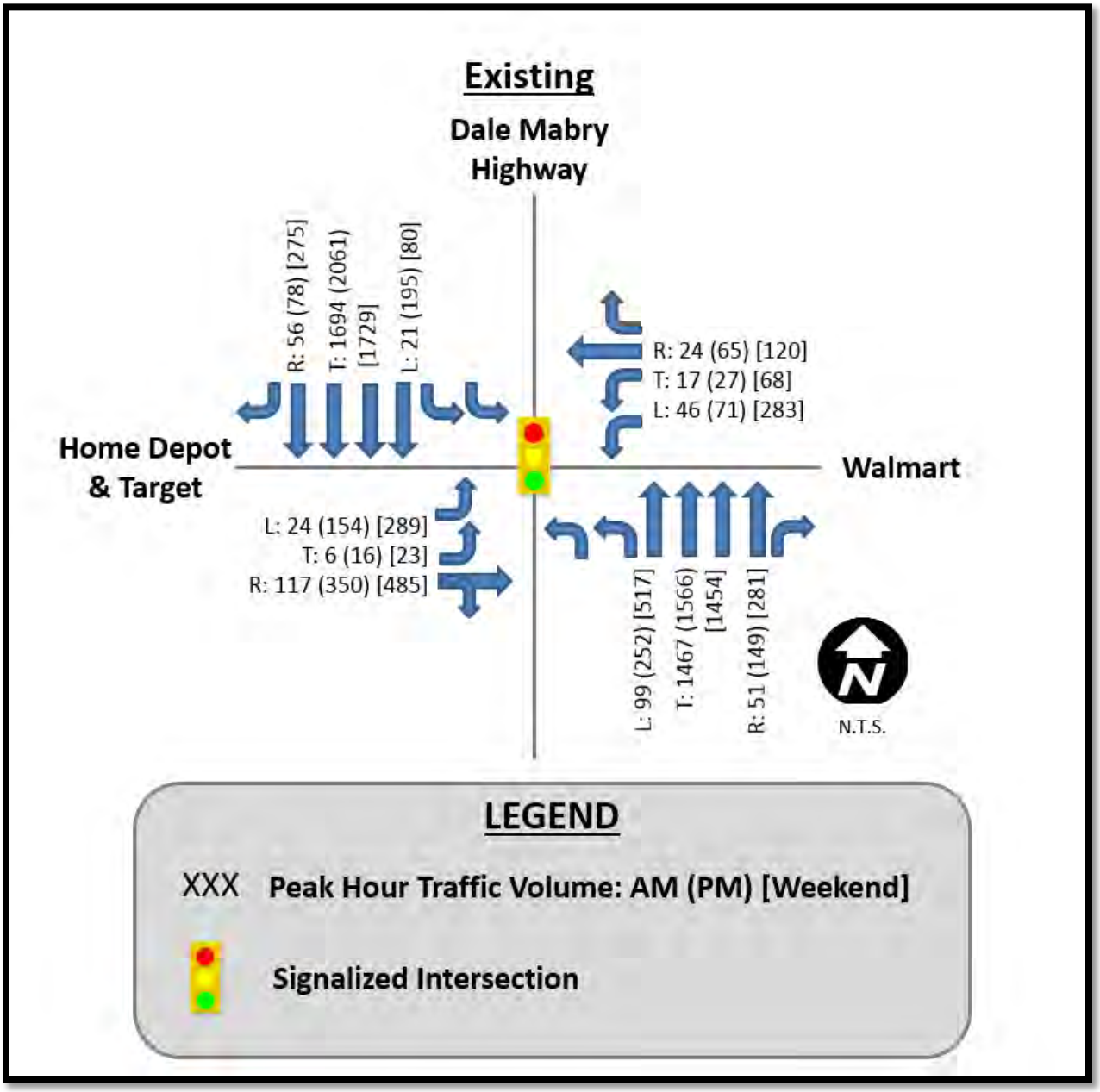
The entrances, exits and internal traffic circulation of the commercial development are currently operating at an unacceptable level during peak periods. There is currently an entrance/exit on Spruce Street, to the north of the development that allows left-in, right-in, and right-out movements. Due to the queuing that occurs west of the intersection of Spruce Street and Dale Mabry Highway, vehicles entering and exiting the complex can be impeded.

The primary entrance on Dale Mabry Highway allows all movements for ingress and egress. Due to the existing shared through/right lane on the eastbound intersection approach at the Dale Mabry Highway intersection, congestion occurs when vehicles making a through movement prevent others from executing a right-on-red movement.

MEMORANDUM
August 24, 2015

Study Area

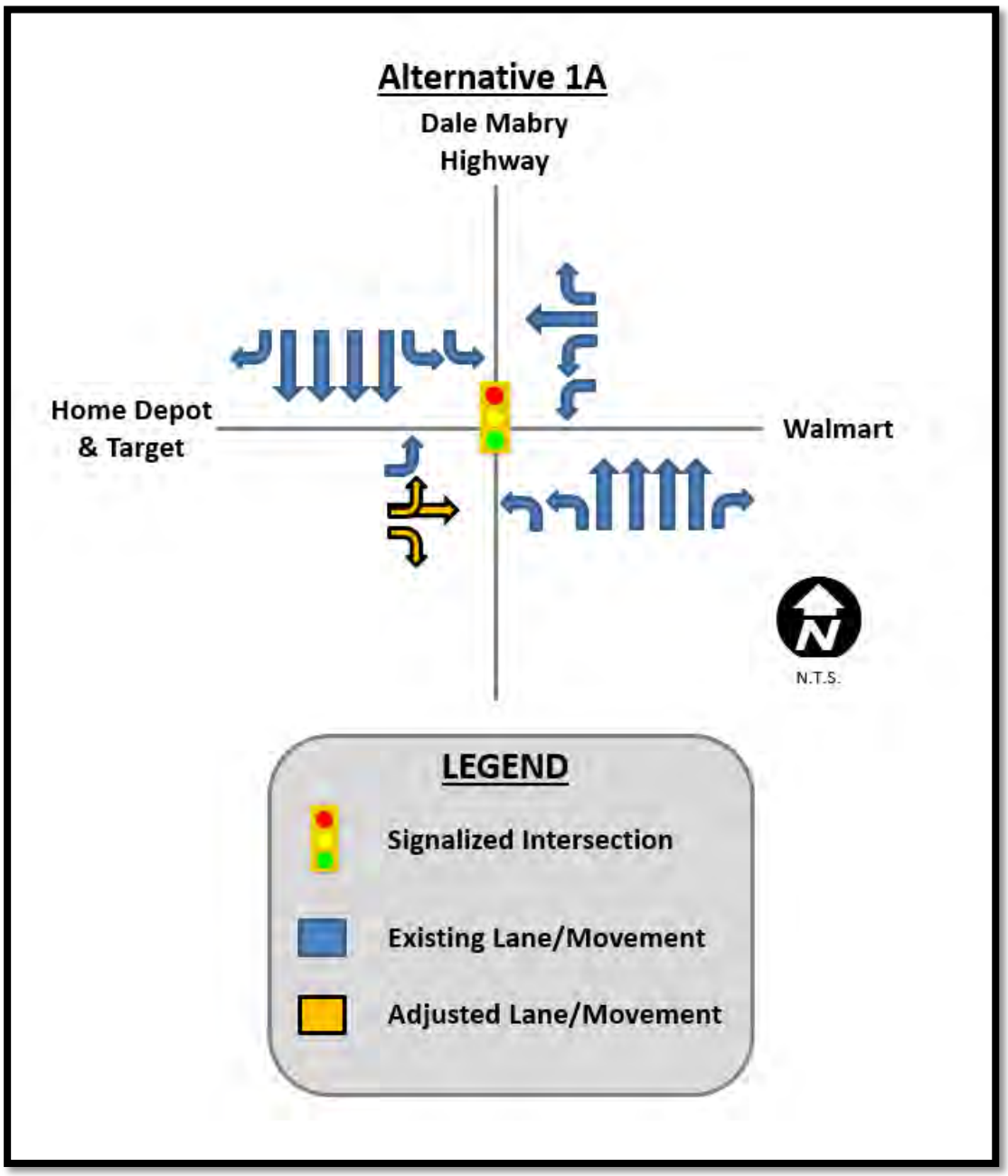
Existing Lane Diagram & Turning Movement Count Data – AM (PM) [Weekend]



MEMORANDUM
August 24, 2015

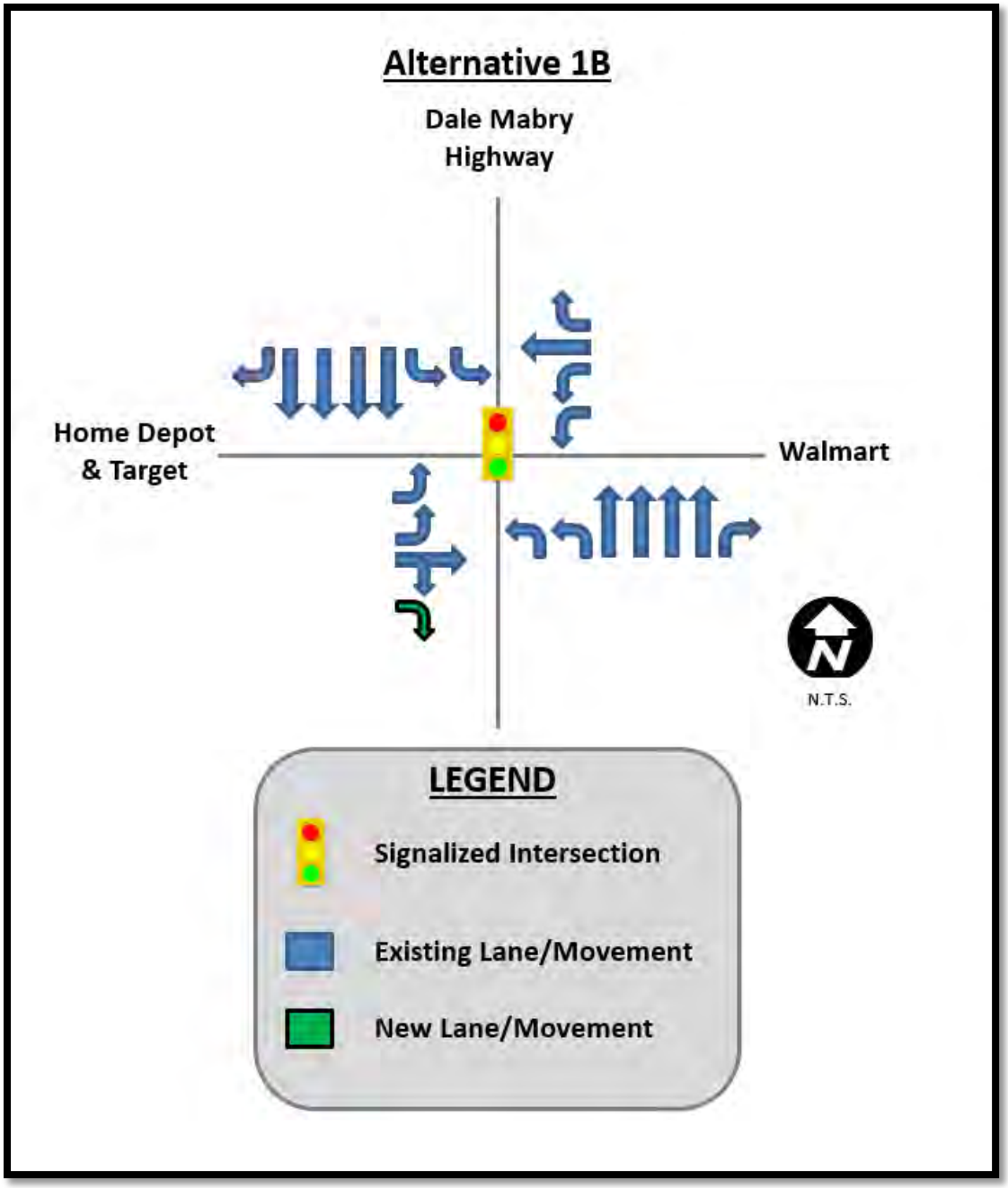
Proposed Improvement Alternatives

Alternative 1A
Alternative 1A includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to one left-turn, one shared through-left, and one right-turn lane. Signal timing and phasing is also adjusted accordingly. Due to the shared through-left eastbound movement, split phasing is required for the east-west movements since the eastbound left and through movements must occur simultaneously. This alternative would not require any roadway widening.



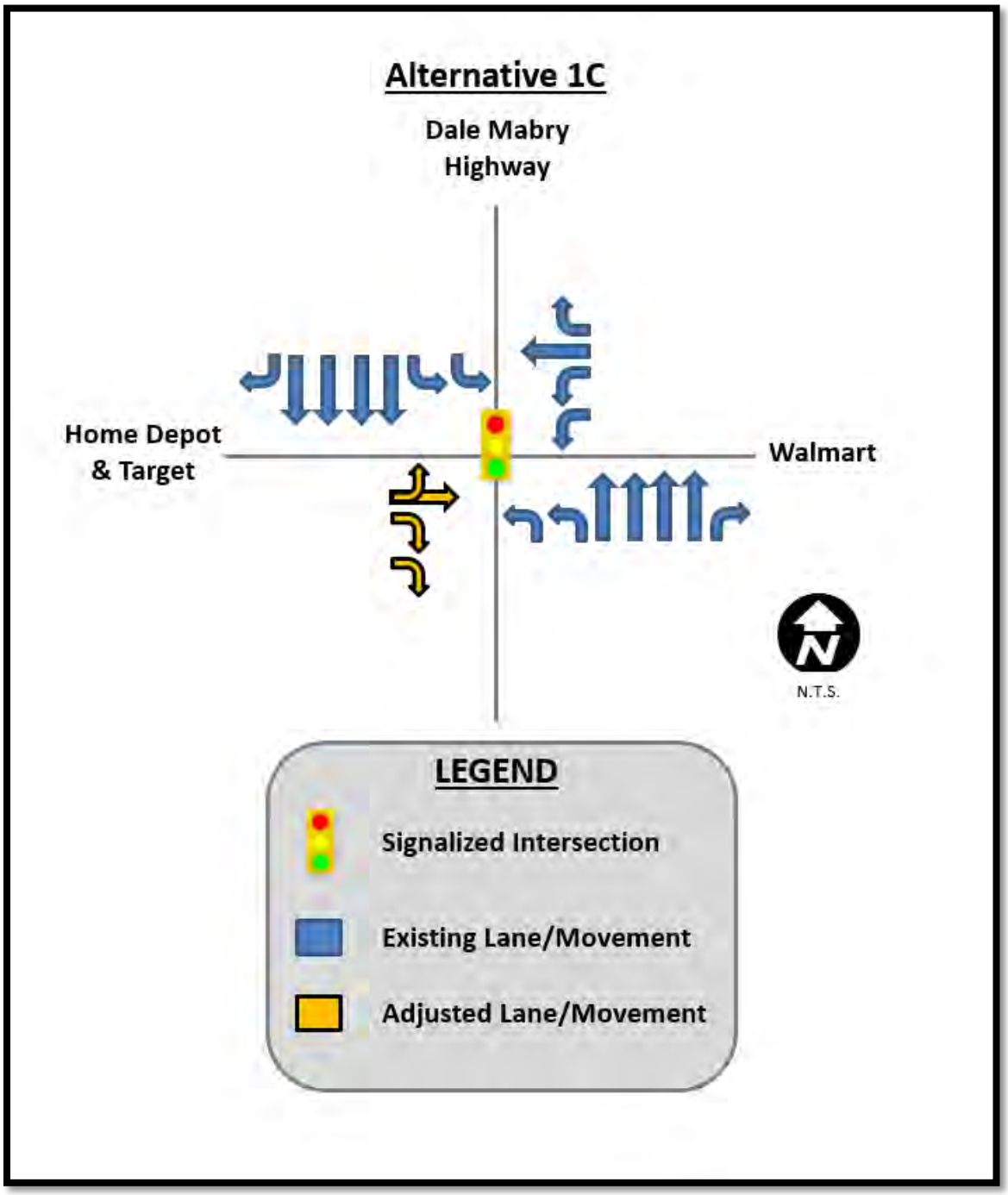
Alternative 1B

Alternative 1B includes a change to the exiting lanes on the eastbound intersection approach. The existing exit lane configuration is changed to a dual left-turn, one shared through-right, and one right-turn lane. This alternative requires the widening of the roadway in order to add an additional right-turn lane. Signal timing and phasing is also adjusted accordingly; however, split phasing for the east/west movements is not required.



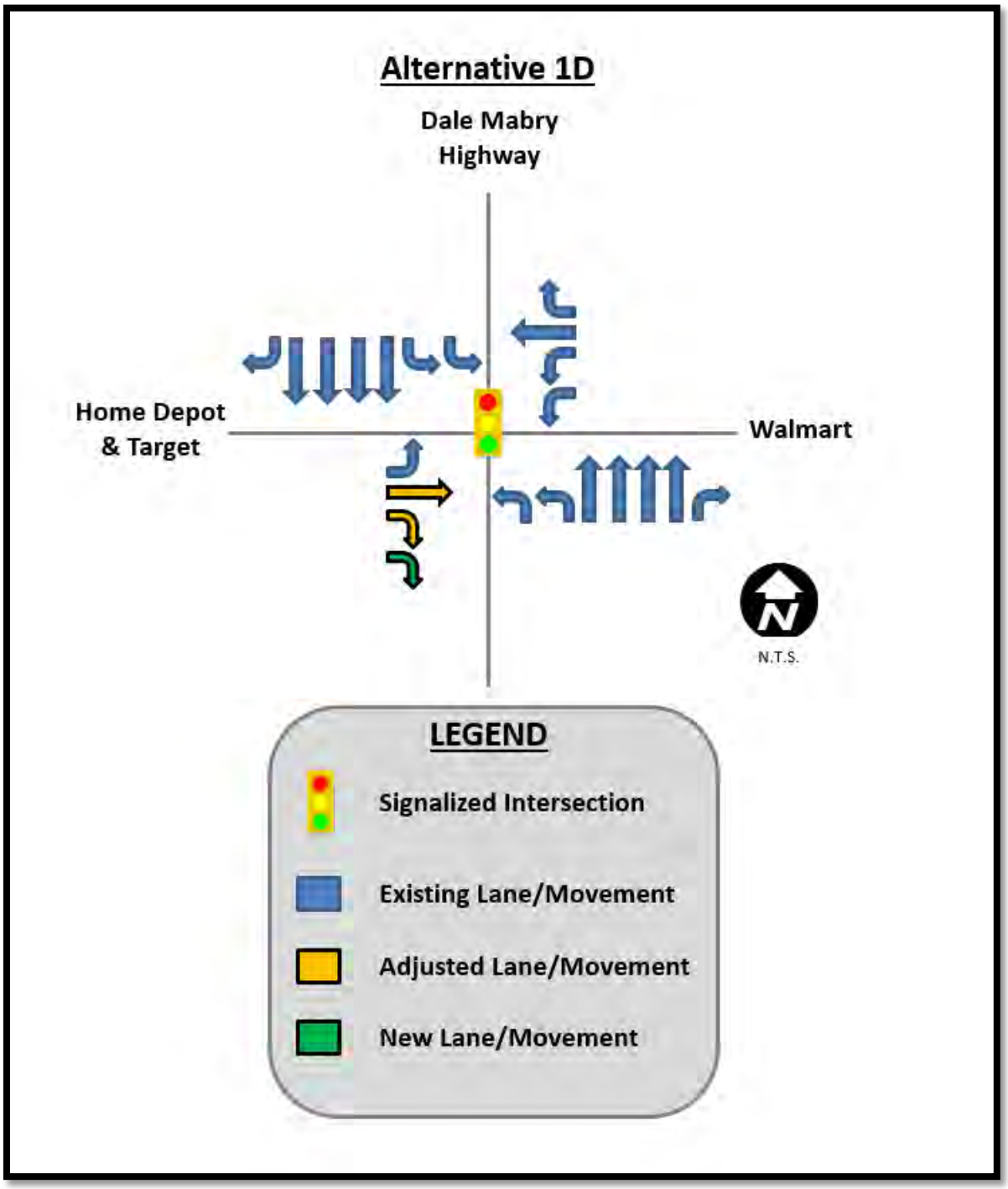
Alternative 1C

Alternative 1C includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to one shared through-left and two right-turn lanes. Signal timing and phasing is also adjusted accordingly. Due to the shared through-left eastbound movement, split phasing is required for the east-west movements since the eastbound left and through movements must occur simultaneously. This alternative requires the widening of the roadway in order to add an additional right-turn lane.



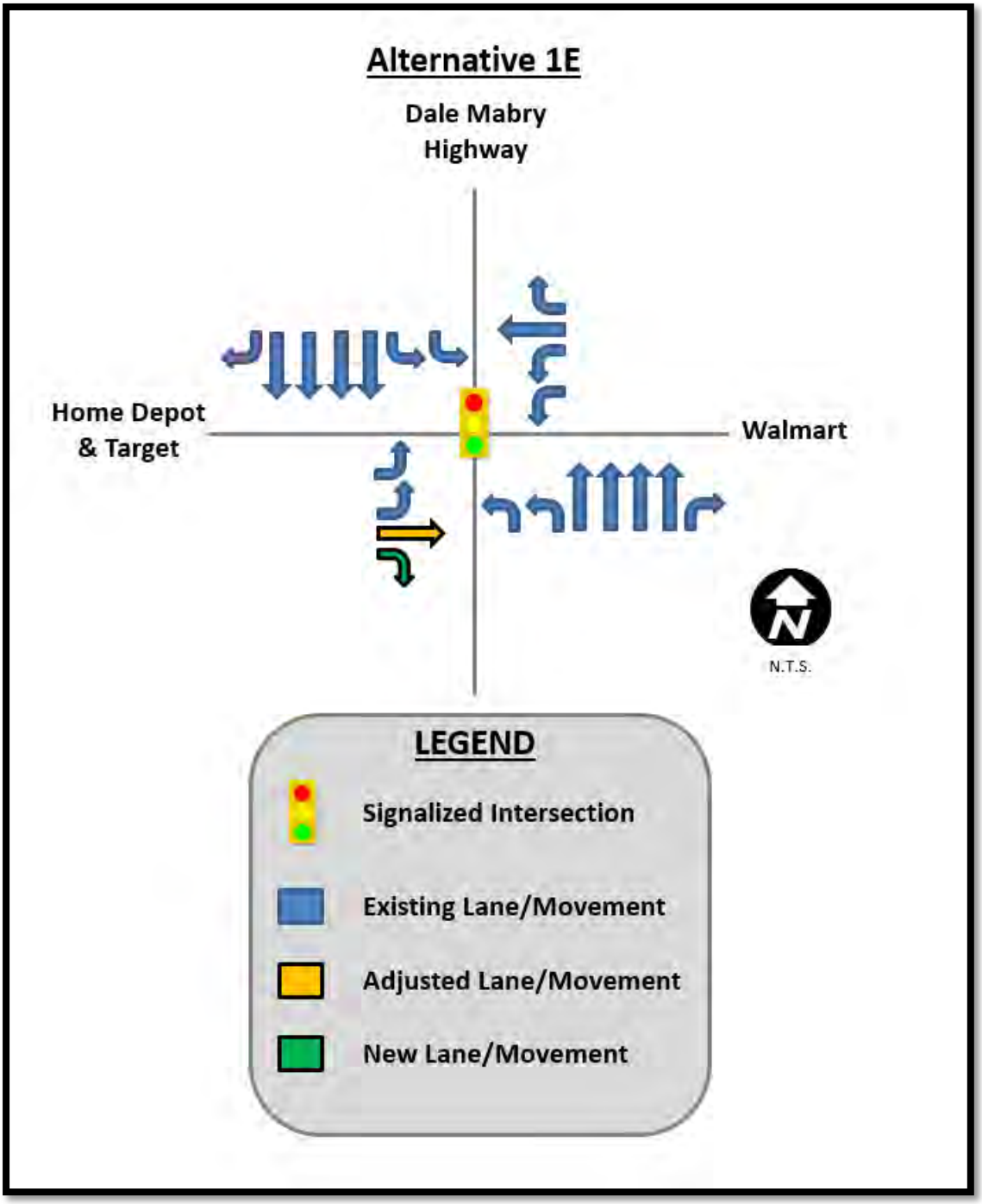
Alternative 1D

Alternative 1D includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to one left-turn lane, one through lane, and two right-turn lanes. This alternative requires the widening of the roadway in order to add an additional right-turn lane. Signal timing and phasing is also adjusted accordingly; however, split phasing for the east/west movements is not required.



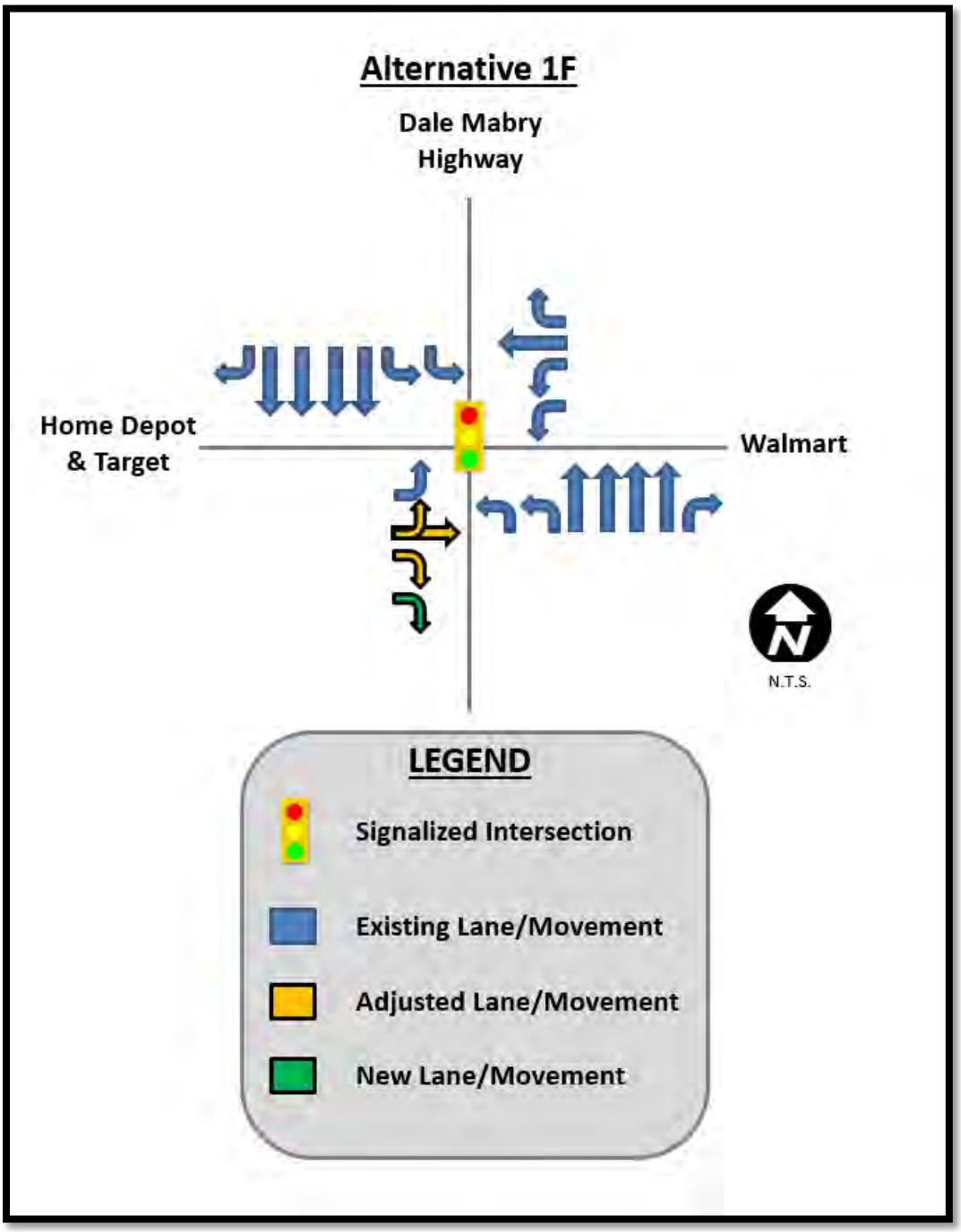
Alternative 1E

Alternative 1E includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to a dual left-turn, one through lane, and one right-turn lane. This alternative requires the widening of the roadway in order to add an additional right-turn lane. Signal timing and phasing is also adjusted accordingly; however, split phasing for the east/west movements is not required.



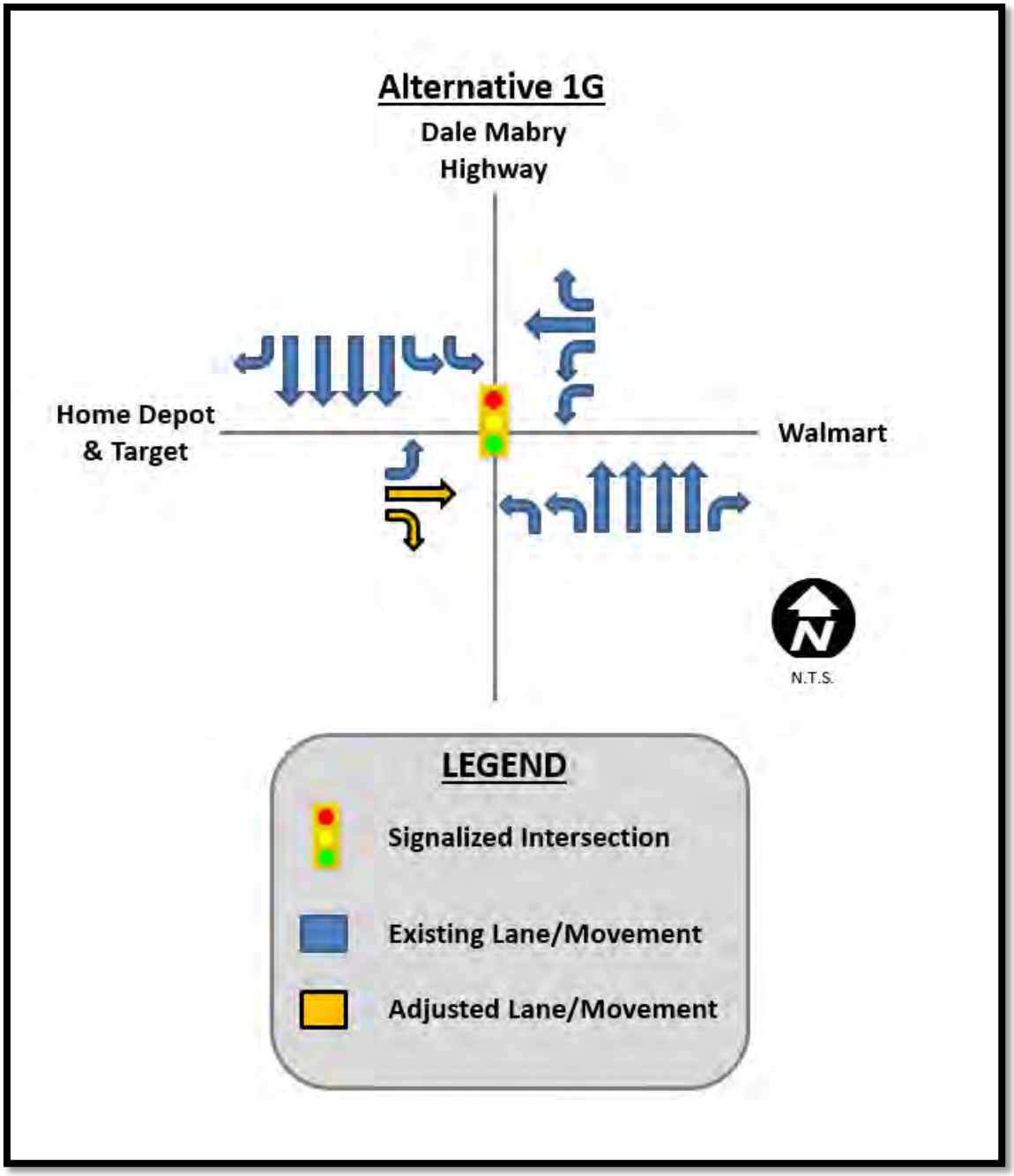
Alternative 1F

Alternative 1F includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to one left-turn, one shared through-left, and two right-turn lanes. This alternative requires the widening of the roadway in order to add an additional right-turn lane. Signal timing and phasing is also adjusted accordingly. Due to the shared through-left eastbound movement, split phasing is required for the east-west movements since the eastbound left and through movements must occur simultaneously.



Alternative 1G

Alternative 1G includes a reconfiguration of the lanes on the eastbound intersection approach. The existing exit lane configuration is changed to one left-turn, one through lane, and one right-turn lane. Signal timing and phasing is also adjusted accordingly; however, split phasing for the east/west movements is not required. This alternative would not require any roadway widening.



Evaluation of Alternatives

The existing conditions and proposed alternatives were analyzed using Trafficware Synchro 8. The existing Turning Movement Count data was acquired from previous counts conducted in 2013 by Albeck Gerken, Inc. The evaluation of alternatives was conducted using existing peak hour traffic volumes. The existing signal timing and phasing was put together using a combination of the timing plans provided by the City and present-day conditions observed in the field.

In this study, the north-south green time was maintained as similar as possible to existing due to the coordinated nature of the intersections along Dale Mabry Highway. Alternative 1B assumes right-on-red ability for both the shared through-right lane and the dedicated right-turn lane; all other alternatives assume right-on-red ability for all dedicated right-turn lanes. The results of the traffic analysis can be found below, displayed as average vehicular delay and level of service (LOS). The tables below show a comparison of overall intersection performance as well as the performance of the eastbound intersection approach for typical AM and PM peak hours and a weekend peak hour. Synchro reports for each Alternative are included in Appendix A.

Dale Mabry Highway & Target/Walmart Entrance Overall Intersection Delay and LOS						
	AM		**PM**		**Weekend**	
	Delay (s)	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**
Existing	18.1	B	37.6	D	78.4	E
Alternative 1A	18.1	B	23.8	C	48.2	D
Alternative 1B	13.4	B	26.4	C	46.8	D
Alternative 1C	18.4	B	29.3	C	63.5	E
Alternative 1D	14.4	B	28.2	C	45.0	D
Alternative 1E	13.8	B	28.5	C	42.8	D
Alternative 1F	18.3	B	27.0	C	44.6	D
Alternative 1G	14.4	B	30.9	C	47.3	D

Eastbound Intersection Approach Delay & LOS						
	AM		**PM**		**Weekend**	
	Delay (s)	**LOS**	**Delay (s)**	**LOS**	**Delay (s)**	**LOS**
Existing	30.2	C	82.7	F	165.0	F
Alternative 1A	27.9	C	56.2	E	73.1	E
Alternative 1B	36.7	D	56.4	E	57.5	E
Alternative 1C	26.5	C	42.3	D	52.6	D
Alternative 1D	51.7	D	53.4	D	71.3	E
Alternative 1E	46.2	D	72.3	E	69.5	E
Alternative 1F	25.2	C	42.1	D	52.0	D
Alternative 1G	63.5	E	78.3	E	86.0	F

Cost Estimates
Quantities were prepared for each Alternative and unit costs supplied by the City of Tampa were applied. Percentages for Maintenance of Traffic, Mobilization and Utility Relocation were applied to the subtotal. A contingency amount of 15% was applied to cover unforeseen costs. The detailed cost esetimates are included in Appendix B.

	Estimated Cost	Duration to Complete
Alternative 1A	$8,818	3 days
Alternative 1B	$68,848	8 days
Alternative 1C	$11,033	3 days
Alternative 1D	$68,848	8 days
Alternative 1E	$68,848	8 days
Alternative 1F	$68,848	8 days
Alternative 1G	$8,818	3 days

Design Recommendation
After reviewing several important characteristics, Alternative 1E is recommended as the most well-rounded and effective design. Alternative 1E retains a dual left-turn movement, creates a dedicated through movement and adds a dedicated right-turn lane. The double left allows the high left-turn volume present during the PM and weekend periods to proceed within one cycle while also adding twice the storage to help prevent traffic from backing up into the upstream intersection within the commercial development.

While not offering much in the way of storage space, the dedicated through lane will not experience enough traffic to prevent drivers from accessing the right-turn bay. The addition of a dedicated right-turn lane will allow better flow due to right-on-red ability as well as an overlap (green arrow) occurring during the protected northbound left movement. These two features can only be implemented effectively with a single dedicated right-turn lane.

In terms of performance, Alternative 1E has the lowest overall intersection delay for both the weekday AM and Weekend peak hour conditions. It also performs significantly better than the existing configuration in every scenario. While some alternatives appear on paper to perform better than Alternative 1E, the analysis assumes right-on-red capability for all scenarios (including dual-rights) which would be difficult to implement in reality. Therefore, Alternative 1E is the best overall and recommended design alternative for the Phase 1 improvements.

APPENDIX A

SYNCHRO REPORTS

Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	1.00	0.99	1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1734	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (perm)	1679	1733	1562	3428	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			165			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)	30%											
Lane Group Flow (vph)	28	29	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	1	4	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			3			4			6			2
Detector Phase	3	3	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	15.0	46.5	46.5	46.5	15.0	72.0	72.0	15.0	72.0	72.0
Total Split (%)	25.8%	25.8%	8.3%	25.8%	25.8%	25.8%	8.3%	40.0%	40.0%	8.3%	40.0%	40.0%
Maximum Green (s)	38.0	38.0	7.6	38.0	38.0	38.0	7.6	64.6	64.6	7.6	64.6	64.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	1	1		1	1	1		0	0		0	0
Act Effct Green (s)	13.8	13.8	23.6	14.0	14.0	14.0	10.1	119.5	119.5	6.2	113.1	113.1
Actuated g/C Ratio	0.08	0.08	0.13	0.08	0.08	0.08	0.06	0.66	0.66	0.03	0.63	0.63
v/c Ratio	0.22	0.22	0.47	0.23	0.21	0.13	0.64	0.36	0.08	0.26	0.45	0.08
Control Delay	76.6	76.5	11.0	76.2	75.9	1.2	96.5	18.9	0.8	103.2	8.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	76.5	11.0	76.2	75.9	1.2	96.5	18.9	0.8	103.2	8.5	0.1
LOS	E	E	B	E	E	A	F	B	A	F	A	A
Approach Delay		27.9			57.1			23.5			9.7	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)	34	35	0	36	35	0	73	200	0	19	100	0
Queue Length 95th (ft)	41	24	16	44	39	0	#115	490	0	m28	190	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	354	366	349	724	393	426	192	4254	1094	144	4026	1043
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	403	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.08	0.08	0.47	0.08	0.08	0.07	0.64	0.36	0.08	0.22	0.50	0.08

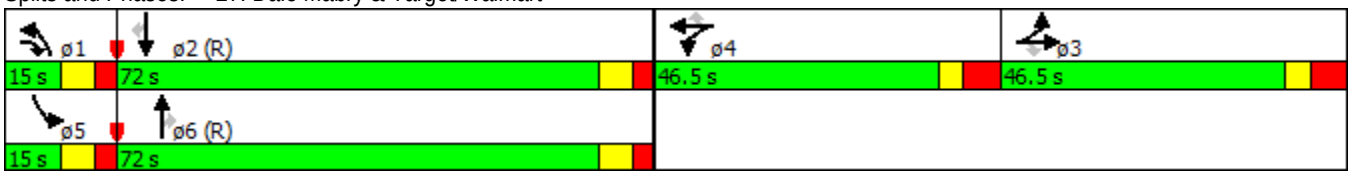
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 51 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 165
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 18.1 Intersection LOS: B
Intersection Capacity Utilization 56.9% 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.

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

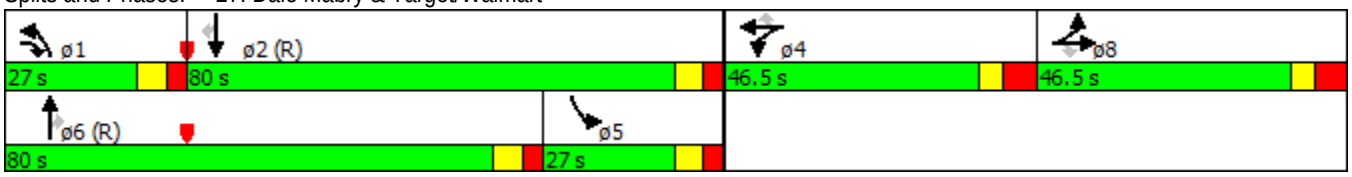
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	1.00				0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1701	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (perm)	1679	1698	1583	3433	1863	1562	3431	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243			151			117			117
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			15.5	
Confl. Peds. (#/hr)	1					1	5		1	1		5
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
Adj. Flow (vph)	162	17	368	75	28	68	265	1648	157	205	2169	82
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	89	90	368	75	28	68	265	1648	157	205	2169	82
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	1	4	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	8	8	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	27.0	46.5	46.5	46.5	27.0	80.0	80.0	27.0	80.0	80.0
Total Split (%)	23.3%	23.3%	13.5%	23.3%	23.3%	23.3%	13.5%	40.0%	40.0%	13.5%	40.0%	40.0%
Maximum Green (s)	38.0	38.0	19.6	38.0	38.0	38.0	19.6	72.6	72.6	19.6	72.6	72.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag			Lead				Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0		0	0
Act Effct Green (s)	16.0	16.0	44.1	10.7	10.7	10.7	19.6	121.9	121.9	19.6	121.9	121.9
Actuated g/C Ratio	0.08	0.08	0.22	0.05	0.05	0.05	0.10	0.61	0.61	0.10	0.61	0.61
v/c Ratio	0.66	0.66	0.68	0.41	0.28	0.30	0.79	0.42	0.16	0.61	0.56	0.08
Control Delay	111.7	111.3	29.2	98.3	98.0	3.4	104.8	21.3	5.6	57.8	3.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Total Delay	111.7	111.3	29.2	98.3	98.0	3.4	104.8	21.3	5.6	57.8	3.7	0.0
LOS	F	F	C	F	F	A	F	C	A	E	A	A
Approach Delay		56.2			60.5			30.8			8.1	
Approach LOS		E			E			C			A	
Queue Length 50th (ft)	122	123	156	50	36	0	178	319	20	137	56	0
Queue Length 95th (ft)	191	191	270	81	77	0	230	384	61	m136	m55	m0
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	319	323	547	652	353	419	358	3907	997	336	3906	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	1054	0
Spillback Cap Reductn	0	0	0	0	0	4	0	227	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.28	0.67	0.12	0.08	0.16	0.74	0.45	0.16	0.61	0.76	0.08

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 23 (12%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 91.9%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor			0.99	1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.960		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1699	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.960		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1699	1560	3425	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			160			169			160
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	185	183	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7	1	4	4		1	6		5	2	

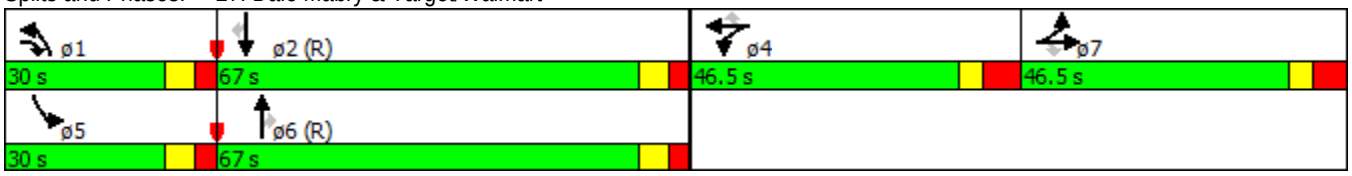
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			7			4			6			2
Detector Phase	7	7	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	30.0	46.5	46.5	46.5	30.0	67.0	67.0	30.0	67.0	67.0
Total Split (%)	24.5%	24.5%	15.8%	24.5%	24.5%	24.5%	15.8%	35.3%	35.3%	15.8%	35.3%	35.3%
Maximum Green (s)	38.0	38.0	22.6	38.0	38.0	38.0	22.6	59.6	59.6	22.6	59.6	59.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	2	2		0	0	0		2	2		3	3
Act Effct Green (s)	26.9	26.9	76.3	23.4	23.4	23.4	48.3	98.2	98.2	9.7	59.6	59.6
Actuated g/C Ratio	0.14	0.14	0.40	0.12	0.12	0.12	0.25	0.52	0.52	0.05	0.31	0.31
v/c Ratio	0.78	0.76	0.86	0.72	0.44	0.48	0.69	0.46	0.34	0.55	0.98	0.54
Control Delay	99.7	97.8	56.9	89.7	82.2	13.7	68.6	31.3	14.0	108.7	40.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0
Total Delay	99.7	97.8	56.9	89.7	82.2	13.7	68.6	31.3	14.0	108.7	47.0	4.3
LOS	F	F	E	F	F	B	E	C	B	F	D	A
Approach Delay		73.1			66.8			38.5			43.7	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	240	236	557	192	118	0	351	339	86	63	571	16
Queue Length 95th (ft)	303	245	#691	239	133	31	#522	464	198	m69	m591	m18
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	336	339	676	686	372	444	873	3313	888	408	2010	598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	64	0
Spillback Cap Reductn	0	0	0	0	0	6	0	261	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.54	0.86	0.44	0.27	0.37	0.69	0.50	0.34	0.24	1.01	0.54

Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 164 (86%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 48.2	Intersection LOS: D
Intersection Capacity Utilization 99.4%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	0.99	0.99	1.00		0.99						
Frt		0.877	0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1535	1504	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3428	1535	1484	3429	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76	123			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)			46%									
Lane Group Flow (vph)	40	93	89	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

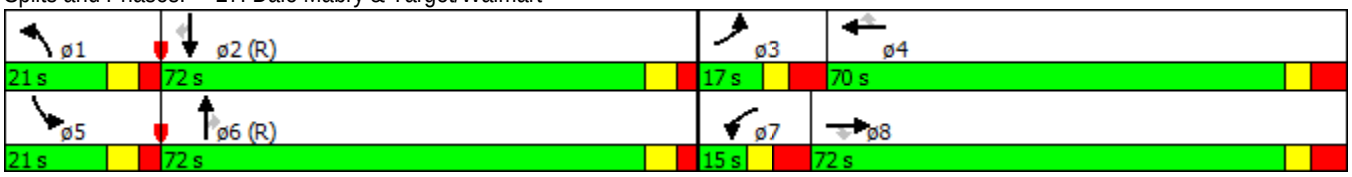
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	46.5	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	17.0	72.0	72.0	15.0	70.0	70.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	9.4%	40.0%	40.0%	8.3%	38.9%	38.9%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	8.5	63.5	63.5	6.5	61.5	61.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	8.5	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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	7.0
Flash Dont Walk (s)		31.0	31.0		31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	7.3	9.6	9.6	6.5	11.5	11.5	10.8	128.5	128.5	6.2	121.4	121.4
Actuated g/C Ratio	0.04	0.05	0.05	0.04	0.06	0.06	0.06	0.71	0.71	0.03	0.67	0.67
v/c Ratio	0.29	0.61	0.46	0.50	0.25	0.14	0.60	0.34	0.07	0.26	0.42	0.07
Control Delay	88.6	39.0	11.0	99.3	87.1	1.4	94.2	10.6	0.3	116.8	3.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	88.6	39.0	11.0	99.3	87.1	1.4	94.2	10.6	0.3	116.8	3.2	0.1
LOS	F	D	B	F	F	A	F	B	A	F	A	A
Approach Delay		36.7			71.4			15.9			4.9	
Approach LOS		D			E			B			A	
Queue Length 50th (ft)	24	21	0	37	35	0	73	195	0	19	37	0
Queue Length 95th (ft)	31	0	0	54	46	0	98	243	0	m28	42	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	162	590	603	123	636	614	261	4574	1167	259	4322	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	1327	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.25	0.16	0.15	0.50	0.05	0.05	0.47	0.34	0.07	0.12	0.61	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 93 (52%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

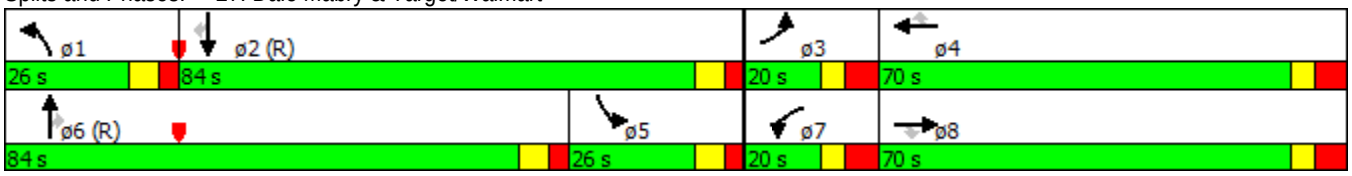
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt		0.868	0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1536	1504	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3428	1536	1504	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		193	218			151			117			117
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)			47%									
Lane Group Flow (vph)	177	236	235	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	18.5	46.5	46.5	18.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	20.0	70.0	70.0	20.0	70.0	70.0	26.0	84.0	84.0	26.0	84.0	84.0
Total Split (%)	10.0%	35.0%	35.0%	10.0%	35.0%	35.0%	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%
Maximum Green (s)	11.5	61.5	61.5	11.5	61.5	61.5	18.6	76.6	76.6	18.6	76.6	76.6
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	8.5	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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	7.0
Flash Dont Walk (s)		31.0	31.0		31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0	0		1	1		1	1		5	5
Act Effct Green (s)	11.5	18.3	18.3	10.6	17.4	17.4	21.3	120.7	120.7	18.6	118.0	118.0
Actuated g/C Ratio	0.06	0.09	0.09	0.05	0.09	0.09	0.11	0.60	0.60	0.09	0.59	0.59
v/c Ratio	0.90	0.75	0.70	0.53	0.19	0.30	0.77	0.42	0.21	0.70	0.61	0.09
Control Delay	133.2	32.4	22.7	103.2	82.7	2.8	100.9	22.5	9.4	54.2	8.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	133.2	32.4	22.7	103.2	82.7	2.8	100.9	22.6	9.4	54.2	8.5	0.1
LOS	F	C	C	F	F	A	F	C	A	D	A	A
Approach Delay		56.4			60.8			31.6			12.1	
Approach LOS		E			E			C			B	
Queue Length 50th (ft)	122	58	23	64	40	0	188	296	46	139	135	0
Queue Length 95th (ft)	#191	3	61	81	67	0	239	446	73	m137	m141	m0
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	197	605	613	197	572	584	373	3867	989	319	3780	965
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	549	0
Spillback Cap Reductn	0	0	0	0	0	5	0	280	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.39	0.38	0.49	0.05	0.14	0.75	0.45	0.21	0.70	0.72	0.09

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 190 (95%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 92.8%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

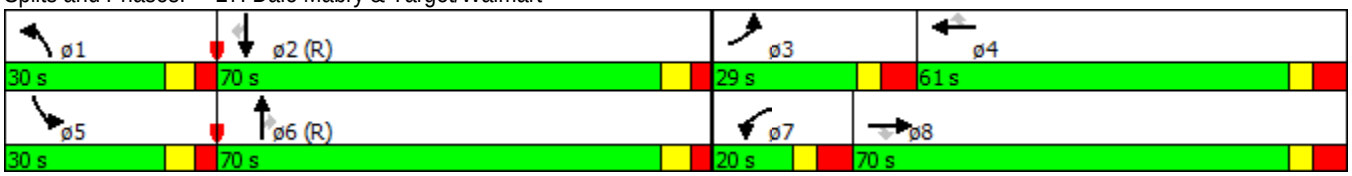
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor		0.99	0.99	1.00			1.00		0.99	1.00		0.98
Frt		0.865	0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1510	1504	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1510	1482	3426	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		245	255			165			173			172
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)			48%									
Lane Group Flow (vph)	336	312	304	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5	69.5	13.5	60.5	60.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	29.0	70.0	70.0	20.0	61.0	61.0	30.0	70.0	70.0	30.0	70.0	70.0
Total Split (%)	15.3%	36.8%	36.8%	10.5%	32.1%	32.1%	15.8%	36.8%	36.8%	15.8%	36.8%	36.8%
Maximum Green (s)	20.5	61.5	61.5	11.5	52.5	52.5	22.6	62.6	62.6	22.6	62.6	62.6
Yellow Time (s)	3.4	3.4	3.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	8.5	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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	7.0
Flash Dont Walk (s)		31.0	31.0		31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		2	2		0	0		2	2		3	3
Act Effct Green (s)	20.1	25.8	25.8	11.5	17.2	17.2	51.3	111.2	111.2	9.7	69.6	69.6
Actuated g/C Ratio	0.11	0.14	0.14	0.06	0.09	0.09	0.27	0.59	0.59	0.05	0.37	0.37
v/c Ratio	0.93	0.75	0.72	1.47	0.60	0.55	0.65	0.40	0.30	0.55	0.84	0.47
Control Delay	114.3	29.0	24.1	289.7	96.2	15.4	66.7	22.7	9.7	97.7	25.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Total Delay	114.3	29.0	24.1	289.7	96.2	15.5	66.7	22.7	9.7	97.7	26.9	2.8
LOS	F	C	C	F	F	B	E	C	A	F	C	A
Approach Delay		57.5			177.6			32.1			26.5	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	218	85	58	~266	124	0	357	286	69	63	164	14
Queue Length 95th (ft)	#288	81	127	#375	134	25	414	383	159	m68	m458	m16
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	370	654	652	207	514	556	927	3750	985	408	2346	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	196	0
Spillback Cap Reductn	0	0	0	0	0	10	0	413	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.48	0.47	1.47	0.19	0.29	0.65	0.45	0.30	0.24	0.91	0.47

Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 155	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.47	
Intersection Signal Delay: 46.8	Intersection LOS: D
Intersection Capacity Utilization 103.7%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	0		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor		1.00	0.99	1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.966		0.950			0.950			0.950		
Satd. Flow (prot)	0	1799	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted		0.966		0.950			0.950			0.950		
Satd. Flow (perm)	0	1798	2749	3429	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			165			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	1	4	4		1	6		5	2	

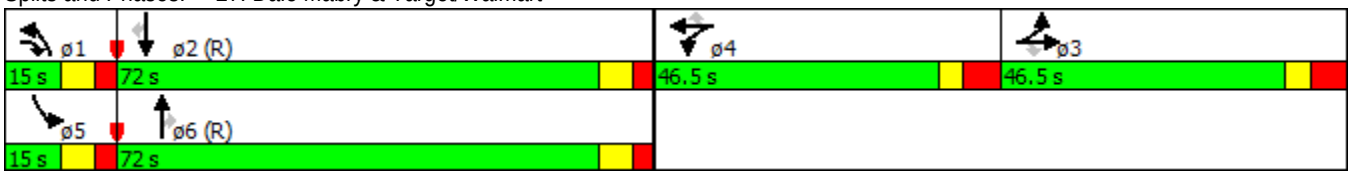
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			3			4			6			2
Detector Phase	3	3	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	15.0	46.5	46.5	46.5	15.0	72.0	72.0	15.0	72.0	72.0
Total Split (%)	25.8%	25.8%	8.3%	25.8%	25.8%	25.8%	8.3%	40.0%	40.0%	8.3%	40.0%	40.0%
Maximum Green (s)	38.0	38.0	7.6	38.0	38.0	38.0	7.6	64.6	64.6	7.6	64.6	64.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)		8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	1	1		1	1	1		0	0		0	0
Act Effct Green (s)		15.6	25.2	14.0	14.0	14.0	10.1	117.9	117.9	6.2	111.5	111.5
Actuated g/C Ratio		0.09	0.14	0.08	0.08	0.08	0.06	0.66	0.66	0.03	0.62	0.62
v/c Ratio		0.37	0.31	0.23	0.21	0.13	0.64	0.37	0.08	0.26	0.46	0.08
Control Delay		80.5	7.8	76.2	75.9	1.2	96.5	19.6	0.8	103.6	8.7	0.1
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		80.5	7.8	76.2	75.9	1.2	96.5	19.6	0.8	103.6	8.7	0.1
LOS		F	A	E	E	A	F	B	A	F	A	A
Approach Delay		26.5			57.1			24.1			9.9	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)		67	0	36	35	0	73	211	0	19	102	0
Queue Length 95th (ft)		39	9	44	39	0	#115	490	0	m28	189	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)		379	529	724	393	426	192	4197	1081	144	3969	1030
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	388	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		0.15	0.31	0.08	0.08	0.07	0.64	0.37	0.08	0.22	0.51	0.08

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 Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 57.2%	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.

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	0		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor		1.00				0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.959		0.950			0.950			0.950		
Satd. Flow (prot)	0	1786	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted		0.959		0.950			0.950			0.950		
Satd. Flow (perm)	0	1784	2787	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			350			151			118			117
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			15.5	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	205	443	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	1	4	4		1	6		5	2	

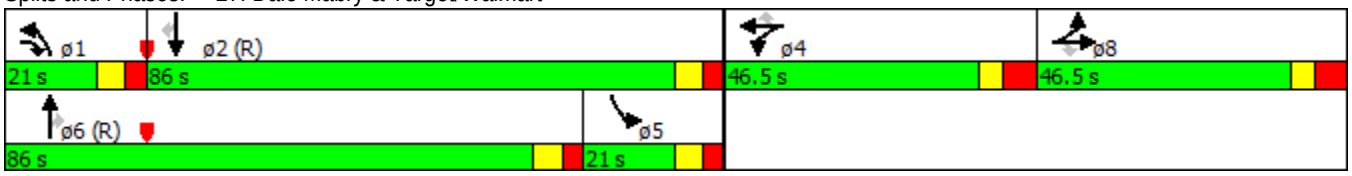
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	8	8	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	21.0	46.5	46.5	46.5	21.0	86.0	86.0	21.0	86.0	86.0
Total Split (%)	23.3%	23.3%	10.5%	23.3%	23.3%	23.3%	10.5%	43.0%	43.0%	10.5%	43.0%	43.0%
Maximum Green (s)	38.0	38.0	13.6	38.0	38.0	38.0	13.6	78.6	78.6	13.6	78.6	78.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)		8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag			Lead				Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	0	0		1	1	1		1	1		5	5
Act Effct Green (s)		28.2	61.1	16.3	16.3	16.3	24.4	110.1	110.1	13.6	99.3	99.3
Actuated g/C Ratio		0.14	0.31	0.08	0.08	0.08	0.12	0.55	0.55	0.07	0.50	0.50
v/c Ratio		0.82	0.40	0.34	0.21	0.31	0.67	0.46	0.23	0.96	0.73	0.11
Control Delay		107.1	12.3	87.8	84.7	3.0	90.2	29.6	12.6	77.7	13.3	0.1
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay		107.1	12.3	87.8	84.7	3.0	90.2	29.6	12.6	77.7	13.7	0.1
LOS		F	B	F	F	A	F	C	B	E	B	A
Approach Delay		42.3			54.1			36.0			18.7	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)		267	50	64	40	0	184	347	53	148	141	0
Queue Length 95th (ft)		211	64	70	67	0	#321	542	89	m146	m522	m1
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)		339	1094	652	353	419	418	3528	913	233	3182	831
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	385	0
Spillback Cap Reductn		0	0	0	0	3	0	169	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.60	0.40	0.15	0.09	0.20	0.67	0.49	0.23	0.96	0.83	0.11

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 193 (97%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 84.3%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

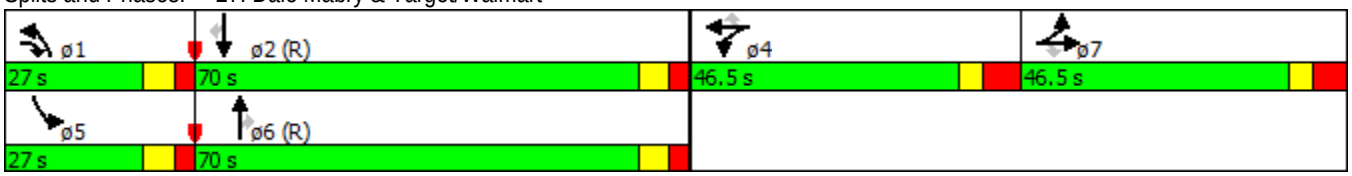
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	0		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor			0.99	1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.956		0.950			0.950			0.950		
Satd. Flow (prot)	0	1781	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted		0.956		0.950			0.950			0.950		
Satd. Flow (perm)	0	1781	2745	3427	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			160			173			163
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	368	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7	1	4	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			7			4			6			2
Detector Phase	7	7	1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5	12.4	46.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5	27.0	46.5	46.5	46.5	27.0	70.0	70.0	27.0	70.0	70.0
Total Split (%)	24.5%	24.5%	14.2%	24.5%	24.5%	24.5%	14.2%	36.8%	36.8%	14.2%	36.8%	36.8%
Maximum Green (s)	38.0	38.0	19.6	38.0	38.0	38.0	19.6	62.6	62.6	19.6	62.6	62.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)		8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	2	2		0	0	0		2	2		3	3
Act Effct Green (s)		48.7	73.3	23.4	23.4	23.4	23.5	76.4	76.4	9.7	62.6	62.6
Actuated g/C Ratio		0.26	0.39	0.12	0.12	0.12	0.12	0.40	0.40	0.05	0.33	0.33
v/c Ratio		0.81	0.52	0.72	0.44	0.48	1.41	0.59	0.41	0.55	0.93	0.51
Control Delay		80.6	34.9	89.7	82.2	13.7	253.2	46.3	18.8	125.8	33.0	3.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay		80.6	34.9	89.7	82.2	13.7	253.2	46.3	18.8	125.8	36.6	3.6
LOS		F	C	F	F	B	F	D	B	F	D	A
Approach Delay		52.6			66.8			94.4			35.8	
Approach LOS		D			E			F			D	
Queue Length 50th (ft)		433	247	192	118	0	~523	433	108	64	492	15
Queue Length 95th (ft)		439	293	239	133	31	#654	499	209	m69	m504	m18
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)		456	1124	686	372	444	425	2577	731	354	2111	622
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	97	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		0.81	0.52	0.44	0.27	0.36	1.41	0.59	0.41	0.27	0.98	0.51

Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.41	
Intersection Signal Delay: 63.5	Intersection LOS: E
Intersection Capacity Utilization 100.2%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

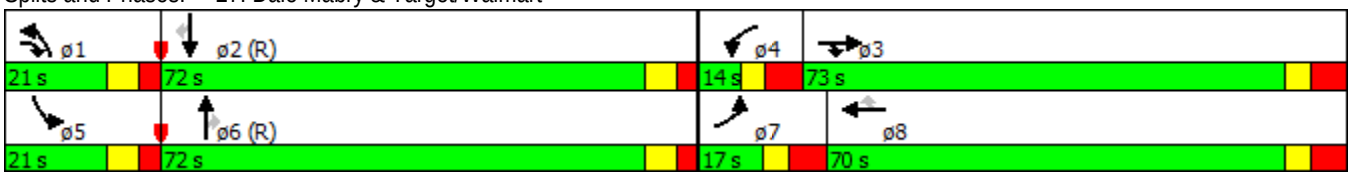
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00			1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1767	1863	2787	3428	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	3	3 1	4	8		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						8			6			2
Detector Phase	7	3	3 1	4	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5		13.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	17.0	73.0		14.0	70.0	70.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	9.4%	40.6%		7.8%	38.9%	38.9%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	8.5	64.5		5.5	61.5	61.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.9	10.9	29.0	5.5	11.4	11.4	10.8	128.1	128.1	6.2	121.1	121.1
Actuated g/C Ratio	0.04	0.06	0.16	0.03	0.06	0.06	0.06	0.71	0.71	0.03	0.67	0.67
v/c Ratio	0.52	0.15	0.32	0.59	0.26	0.15	0.60	0.34	0.07	0.26	0.42	0.07
Control Delay	107.3	81.5	35.2	108.3	87.5	1.4	94.2	10.7	0.3	116.0	3.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	107.3	81.5	35.2	108.3	87.5	1.4	94.2	10.7	0.3	116.0	3.1	0.1
LOS	F	F	D	F	F	A	F	B	A	F	A	A
Approach Delay		51.7			76.0			16.0			4.8	
Approach LOS		D			E			B			A	
Queue Length 50th (ft)	47	19	51	37	35	0	73	200	0	19	38	0
Queue Length 95th (ft)	62	18	60	55	46	0	98	240	0	m27	43	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	83	667	1048	104	636	614	261	4561	1164	259	4309	1107
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	1298	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.48	0.03	0.16	0.59	0.05	0.05	0.47	0.34	0.07	0.12	0.61	0.07

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 92 (51%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1767	1863	2787	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			303			151			163			163
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

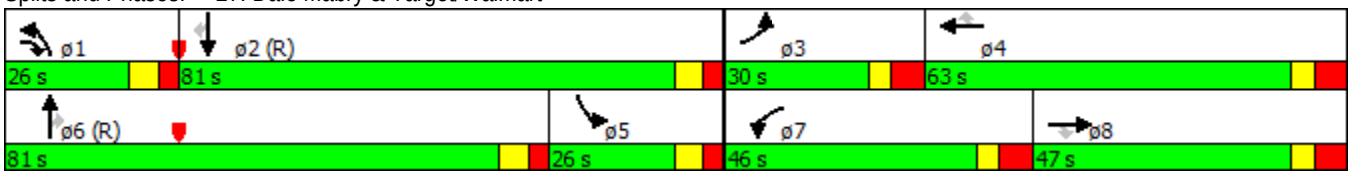
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	18.5	46.5	12.4	18.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	30.0	47.0	26.0	46.0	63.0	63.0	26.0	81.0	81.0	26.0	81.0	81.0
Total Split (%)	15.0%	23.5%	13.0%	23.0%	31.5%	31.5%	13.0%	40.5%	40.5%	13.0%	40.5%	40.5%
Maximum Green (s)	21.5	38.5	18.6	37.5	54.5	54.5	18.6	73.6	73.6	18.6	73.6	73.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			1	1		1	1		5	5
Act Effct Green (s)	21.3	23.3	49.4	17.3	15.6	15.6	21.3	112.7	112.7	18.6	110.0	110.0
Actuated g/C Ratio	0.11	0.12	0.25	0.09	0.08	0.08	0.11	0.56	0.56	0.09	0.55	0.55
v/c Ratio	0.94	0.13	0.48	0.32	0.21	0.31	0.77	0.45	0.22	0.70	0.66	0.10
Control Delay	136.9	75.2	18.7	91.8	85.7	3.1	100.9	27.2	6.9	54.2	10.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	136.9	75.2	18.7	91.8	85.7	3.1	100.9	27.2	6.9	54.2	10.9	0.1
LOS	F	E	B	F	F	A	F	C	A	D	B	A
Approach Delay		53.4			56.1			34.9			14.2	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	236	34	85	64	40	0	188	335	26	139	138	0
Queue Length 95th (ft)	#381	39	79	80	67	0	239	493	43	m137	m393	m0
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	190	371	922	649	507	535	373	3609	951	319	3523	928
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	465	0
Spillback Cap Reductn	0	0	0	0	0	4	0	203	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.08	0.48	0.15	0.06	0.15	0.75	0.48	0.22	0.70	0.76	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 193 (97%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 83.5%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

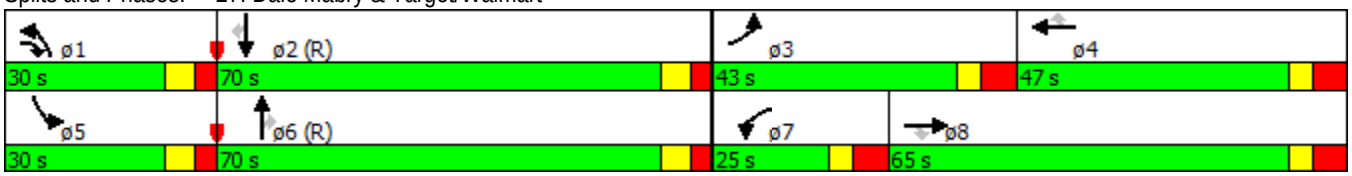
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor			0.99	1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	2745	3423	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			165			173			172
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	43.0	65.0	30.0	25.0	47.0	47.0	30.0	70.0	70.0	30.0	70.0	70.0
Total Split (%)	22.6%	34.2%	15.8%	13.2%	24.7%	24.7%	15.8%	36.8%	36.8%	15.8%	36.8%	36.8%
Maximum Green (s)	34.5	56.5	22.6	16.5	38.5	38.5	22.6	62.6	62.6	22.6	62.6	62.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	34.5	29.1	74.4	23.8	15.6	15.6	45.5	98.4	98.4	9.7	62.6	62.6
Actuated g/C Ratio	0.18	0.15	0.39	0.13	0.08	0.08	0.24	0.52	0.52	0.05	0.33	0.33
v/c Ratio	1.05	0.11	0.52	0.71	0.66	0.57	0.73	0.46	0.34	0.55	0.93	0.51
Control Delay	134.5	64.6	35.3	88.7	103.9	17.0	73.2	30.1	12.4	105.4	33.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	3.6	0.0
Total Delay	134.5	64.6	35.3	88.7	103.9	17.1	73.2	30.1	12.4	105.4	36.6	3.2
LOS	F	E	D	F	F	B	E	C	B	F	D	A
Approach Delay		71.3			71.0			38.6			34.9	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	~453	34	243	~206	124	0	361	343	84	63	492	14
Queue Length 95th (ft)	#624	55	269	#315	141	26	428	411	171	m68	m504	m16
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	321	553	1130	429	377	452	822	3319	892	408	2111	628
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	97	0
Spillback Cap Reductn	0	0	0	0	0	8	0	361	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.06	0.52	0.71	0.27	0.36	0.73	0.51	0.34	0.24	0.98	0.51

Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 45.0	Intersection LOS: D
Intersection Capacity Utilization 99.1%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00		0.99	1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3428	1863	1562	3428	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			168			181			181
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

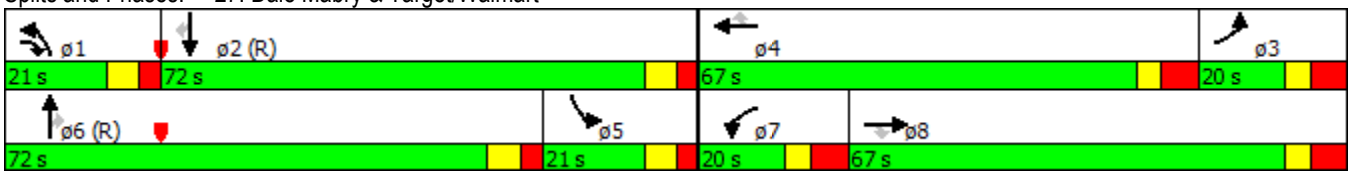
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	20.0	67.0	21.0	20.0	67.0	67.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	11.1%	37.2%	11.7%	11.1%	37.2%	37.2%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	11.5	58.5	13.6	11.5	58.5	58.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.6	7.5	16.6	11.5	8.4	8.4	10.8	125.6	125.6	11.9	124.2	124.2
Actuated g/C Ratio	0.04	0.04	0.09	0.06	0.05	0.05	0.06	0.70	0.70	0.07	0.69	0.69
v/c Ratio	0.28	0.22	0.64	0.28	0.35	0.13	0.60	0.35	0.07	0.14	0.41	0.07
Control Delay	87.8	89.3	31.7	84.0	93.4	1.2	94.2	12.6	0.1	55.6	2.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	87.8	89.3	31.7	84.0	93.4	1.2	94.2	12.6	0.1	55.6	2.5	0.1
LOS	F	F	C	F	F	A	F	B	A	E	A	A
Approach Delay		46.2			65.3			17.7			3.3	
Approach LOS		D			E			B			A	
Queue Length 50th (ft)	24	20	44	37	35	0	73	226	0	18	41	0
Queue Length 95th (ft)	30	18	62	53	46	0	98	269	0	m26	53	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	219	605	280	260	605	621	261	4471	1159	259	4422	1148
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	963	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.18	0.03	0.59	0.23	0.05	0.05	0.47	0.35	0.07	0.12	0.53	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 78 (43%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3428	1863	1583	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			197			163			163
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

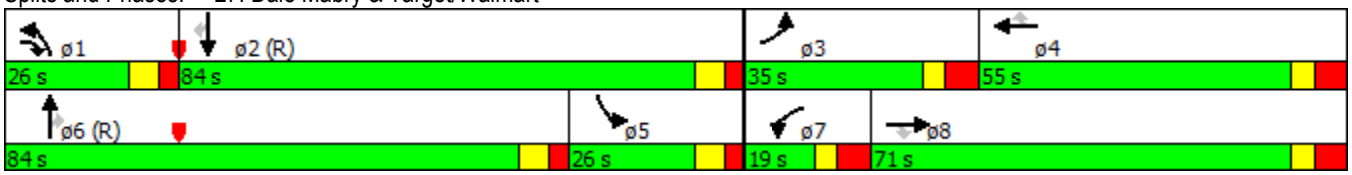
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	18.5	46.5	12.4	18.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	35.0	71.0	26.0	19.0	55.0	55.0	26.0	84.0	84.0	26.0	84.0	84.0
Total Split (%)	17.5%	35.5%	13.0%	9.5%	27.5%	27.5%	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%
Maximum Green (s)	26.5	62.5	18.6	10.5	46.5	46.5	18.6	76.6	76.6	18.6	76.6	76.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			1	1		1	1		5	5
Act Effct Green (s)	14.7	20.0	59.2	14.0	15.6	15.6	34.4	119.3	119.3	18.6	103.5	103.5
Actuated g/C Ratio	0.07	0.10	0.30	0.07	0.08	0.08	0.17	0.60	0.60	0.09	0.52	0.52
v/c Ratio	0.70	0.15	0.81	0.40	0.21	0.27	0.47	0.43	0.21	0.70	0.70	0.10
Control Delay	105.2	78.2	58.8	96.3	85.7	2.2	78.2	23.7	6.3	54.2	11.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Total Delay	105.2	78.2	58.8	96.3	85.7	2.2	78.2	23.7	6.3	54.2	11.7	0.1
LOS	F	E	E	F	F	A	E	C	A	D	B	A
Approach Delay		72.3			57.8			29.2			14.9	
Approach LOS		E			E			C			B	
Queue Length 50th (ft)	119	35	423	64	40	0	171	305	23	139	140	0
Queue Length 95th (ft)	158	39	389	82	67	0	239	481	42	m137	m314	m0
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	454	582	546	243	433	514	591	3822	997	319	3315	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	423	0
Spillback Cap Reductn	0	0	0	0	0	6	0	225	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.05	0.81	0.40	0.07	0.16	0.47	0.45	0.21	0.70	0.80	0.10

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 190 (95%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 28.5 Intersection LOS: C
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor			0.99	1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1560	3423	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			165			173			172
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	39.0	71.0	30.0	19.0	51.0	51.0	30.0	70.0	70.0	30.0	70.0	70.0
Total Split (%)	20.5%	37.4%	15.8%	10.0%	26.8%	26.8%	15.8%	36.8%	36.8%	15.8%	36.8%	36.8%
Maximum Green (s)	30.5	62.5	22.6	10.5	42.5	42.5	22.6	62.6	62.6	22.6	62.6	62.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		2			0	0		2	2		3	3
Act Effct Green (s)	22.9	25.7	77.9	15.5	15.6	15.6	52.4	110.0	110.0	9.7	67.4	67.4
Actuated g/C Ratio	0.12	0.14	0.41	0.08	0.08	0.08	0.28	0.58	0.58	0.05	0.35	0.35
v/c Ratio	0.81	0.13	0.85	1.09	0.66	0.57	0.64	0.41	0.31	0.55	0.86	0.48
Control Delay	97.0	67.4	53.9	148.0	104.0	17.0	65.6	23.5	10.1	98.8	27.3	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
Total Delay	97.0	67.4	53.9	148.0	104.0	17.1	65.6	23.5	10.1	98.8	29.1	2.9
LOS	F	E	D	F	F	B	E	C	B	F	C	A
Approach Delay		69.5			103.1			32.3			28.4	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	214	35	555	~278	124	0	355	296	71	63	245	14
Queue Length 95th (ft)	253	55	572	#387	141	26	410	384	159	m68	m504	m16
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	551	612	689	280	416	482	946	3711	976	408	2272	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	167	0
Spillback Cap Reductn	0	0	0	0	0	10	0	411	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.05	0.85	1.09	0.24	0.34	0.64	0.46	0.31	0.24	0.93	0.48

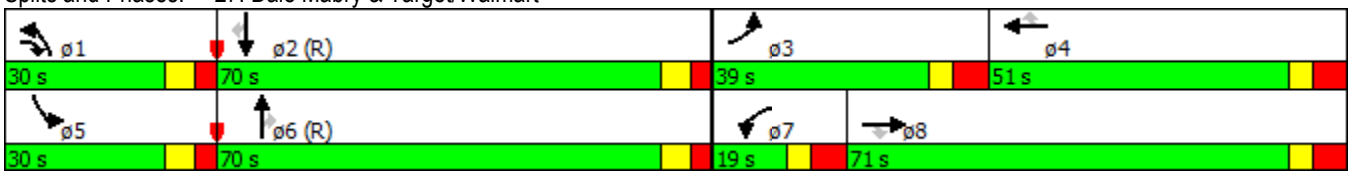
Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 42.8	Intersection LOS: D
Intersection Capacity Utilization 99.4%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	1.00		1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1734	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (perm)	1679	1733	2787	3428	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			165			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)	30%											
Lane Group Flow (vph)	28	29	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pt+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	3 1	4	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	3	3 1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5		46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5		46.5	46.5	46.5	15.0	72.0	72.0	15.0	72.0	72.0
Total Split (%)	25.8%	25.8%		25.8%	25.8%	25.8%	8.3%	40.0%	40.0%	8.3%	40.0%	40.0%
Maximum Green (s)	38.0	38.0		38.0	38.0	38.0	7.6	64.6	64.6	7.6	64.6	64.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	1	1		1	1	1		0	0		0	0
Act Effct Green (s)	13.8	13.8	31.2	14.0	14.0	14.0	10.1	116.7	116.7	6.2	110.3	110.3
Actuated g/C Ratio	0.08	0.08	0.17	0.08	0.08	0.08	0.06	0.65	0.65	0.03	0.61	0.61
v/c Ratio	0.22	0.22	0.27	0.23	0.21	0.13	0.64	0.37	0.08	0.26	0.46	0.08
Control Delay	76.6	76.5	7.5	76.2	75.9	1.2	96.5	19.4	0.8	102.4	8.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	76.5	7.5	76.2	75.9	1.2	96.5	19.4	0.8	102.4	8.9	0.1
LOS	E	E	A	E	E	A	F	B	A	F	A	A
Approach Delay		25.2			57.1			23.9			10.0	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)	34	35	0	36	35	0	73	200	0	19	98	0
Queue Length 95th (ft)	41	24	9	44	39	0	#115	490	0	m28	189	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	354	366	762	724	393	426	192	4155	1072	144	3927	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	403	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.08	0.08	0.22	0.08	0.08	0.07	0.64	0.37	0.08	0.22	0.52	0.08

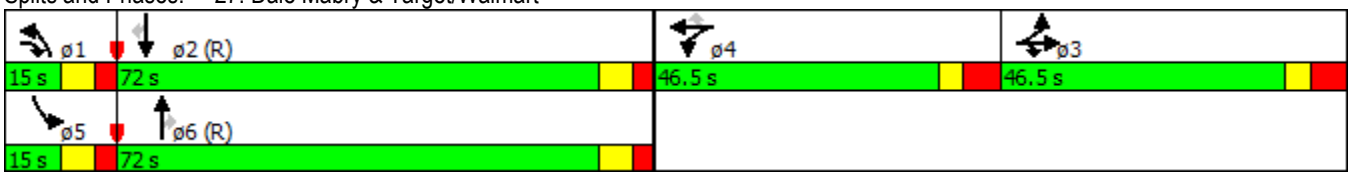
Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 51 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 165
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 56.9% 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.

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	1.00				0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.965		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1708	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.965		0.950			0.950			0.950		
Satd. Flow (perm)	1679	1706	2787	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			350			151			118			117
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			15.5	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)	42%											
Lane Group Flow (vph)	103	102	443	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pt+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8	8 1	4	4		1	6		5	2	

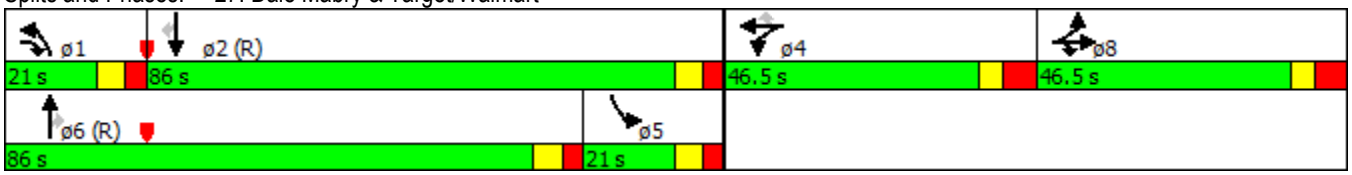
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	8	8	8 1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5		46.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5		46.5	46.5	46.5	21.0	86.0	86.0	21.0	86.0	86.0
Total Split (%)	23.3%	23.3%		23.3%	23.3%	23.3%	10.5%	43.0%	43.0%	10.5%	43.0%	43.0%
Maximum Green (s)	38.0	38.0		38.0	38.0	38.0	13.6	78.6	78.6	13.6	78.6	78.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag							Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	0	0		1	1	1		1	1		5	5
Act Effct Green (s)	19.1	19.1	52.9	16.3	16.3	16.3	26.4	119.3	119.3	13.6	106.5	106.5
Actuated g/C Ratio	0.10	0.10	0.26	0.08	0.08	0.08	0.13	0.60	0.60	0.07	0.53	0.53
v/c Ratio	0.64	0.63	0.45	0.34	0.21	0.31	0.62	0.43	0.21	0.96	0.68	0.10
Control Delay	104.4	102.9	13.7	87.8	84.7	3.0	89.2	24.1	10.4	77.7	12.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	104.4	102.9	13.7	87.8	84.7	3.0	89.2	24.1	10.4	77.7	12.4	0.1
LOS	F	F	B	F	F	A	F	C	B	E	B	A
Approach Delay		42.1			54.1			31.3			17.5	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	140	137	53	64	40	0	184	309	47	148	140	0
Queue Length 95th (ft)	203	127	64	70	67	0	241	495	81	m146	m522	m1
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	319	324	993	652	353	419	452	3821	979	233	3411	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	438	0
Spillback Cap Reductn	0	0	0	0	0	4	0	171	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.31	0.45	0.15	0.09	0.20	0.62	0.45	0.21	0.96	0.78	0.10

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 193 (97%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 165
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 27.0 Intersection LOS: C
Intersection Capacity Utilization 83.3% ICU Level of Service E
Analysis Period (min) 15

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	1		2	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.88	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor				1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.960		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1699	2787	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950	0.960		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1699	2787	3425	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			160			173			163
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	185	183	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pt+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	7	7 1	4	4		1	6		5	2	

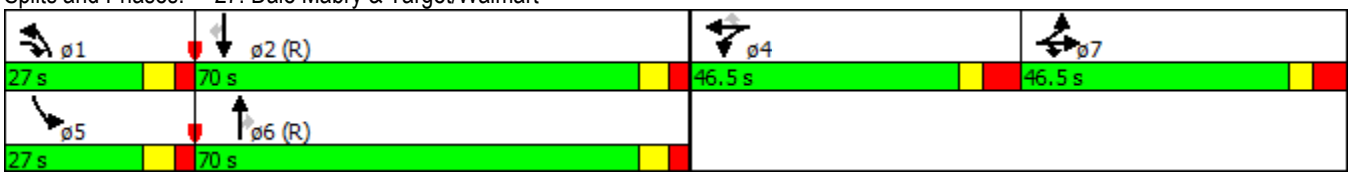
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	7	7	7 1	4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	46.5	46.5		46.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	46.5	46.5		46.5	46.5	46.5	27.0	70.0	70.0	27.0	70.0	70.0
Total Split (%)	24.5%	24.5%		24.5%	24.5%	24.5%	14.2%	36.8%	36.8%	14.2%	36.8%	36.8%
Maximum Green (s)	38.0	38.0		38.0	38.0	38.0	19.6	62.6	62.6	19.6	62.6	62.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
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	2.0	3.0	3.0	2.0	3.0	3.0
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		7.0	7.0
Flash Dont Walk (s)	31.0	31.0		31.0	31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)	2	2		0	0	0		2	2		3	3
Act Effct Green (s)	34.1	34.1	79.6	23.4	23.4	23.4	38.1	91.0	91.0	9.7	62.6	62.6
Actuated g/C Ratio	0.18	0.18	0.42	0.12	0.12	0.12	0.20	0.48	0.48	0.05	0.33	0.33
v/c Ratio	0.61	0.60	0.48	0.72	0.44	0.48	0.87	0.49	0.36	0.55	0.93	0.51
Control Delay	79.5	78.8	34.9	89.7	82.2	13.7	83.7	36.5	15.8	115.4	33.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay	79.5	78.8	34.9	89.7	82.2	13.7	83.7	36.5	15.8	115.4	36.6	3.6
LOS	E	E	C	F	F	B	F	D	B	F	D	A
Approach Delay		52.0			66.8			45.7			35.3	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	228	225	249	192	118	0	378	369	91	63	492	15
Queue Length 95th (ft)	286	231	297	239	133	31	#654	499	209	m69	m504	m18
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			250	180		180	400		200	350		233
Base Capacity (vph)	352	355	1212	686	372	444	688	3068	837	354	2111	622
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	97	0
Spillback Cap Reductn	0	0	0	0	0	4	0	198	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.52	0.48	0.44	0.27	0.36	0.87	0.53	0.36	0.27	0.98	0.51

Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 165	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 44.6	Intersection LOS: D
Intersection Capacity Utilization 92.2%	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: 27: Dale Mabry & Target/Walmart



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00		0.99	1.00		0.99						
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1767	1863	1562	3428	1863	1562	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			123			130			130
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	3	1	4	8		1	6		5	2	

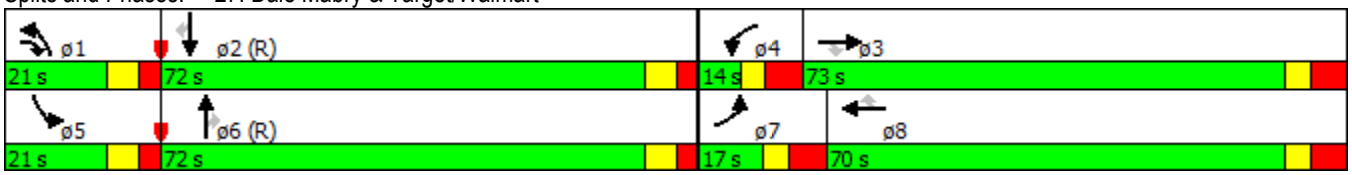
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			3			8			6			2
Detector Phase	7	3	1	4	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	17.0	73.0	21.0	14.0	70.0	70.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	9.4%	40.6%	11.7%	7.8%	38.9%	38.9%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	8.5	64.5	13.6	5.5	61.5	61.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.9	10.0	19.4	9.1	8.4	8.4	11.1	131.1	131.1	6.2	123.7	123.7
Actuated g/C Ratio	0.04	0.06	0.11	0.05	0.05	0.05	0.06	0.73	0.73	0.03	0.69	0.69
v/c Ratio	0.52	0.17	0.69	0.35	0.35	0.16	0.58	0.33	0.07	0.26	0.41	0.07
Control Delay	107.3	82.5	50.9	89.5	93.4	1.9	92.7	10.1	0.3	115.8	2.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	107.3	82.5	50.9	89.5	93.4	1.9	92.7	10.1	0.3	115.8	2.7	0.1
LOS	F	F	D	F	F	A	F	B	A	F	A	A
Approach Delay		63.5			68.2			15.4			4.4	
Approach LOS		E			E			B			A	
Queue Length 50th (ft)	47	19	93	37	35	0	73	200	0	19	38	0
Queue Length 95th (ft)	62	18	111	55	46	0	98	238	0	m27	42	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	83	667	260	173	636	614	261	4668	1188	259	4403	1128
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	1299	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.48	0.03	0.63	0.35	0.05	0.05	0.47	0.33	0.07	0.12	0.59	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 92 (51%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 14.4 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1767	1863	1583	3433	1863	1562	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			151			163			163
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.87	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	28	443	96	31	82	280	1631	210	224	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

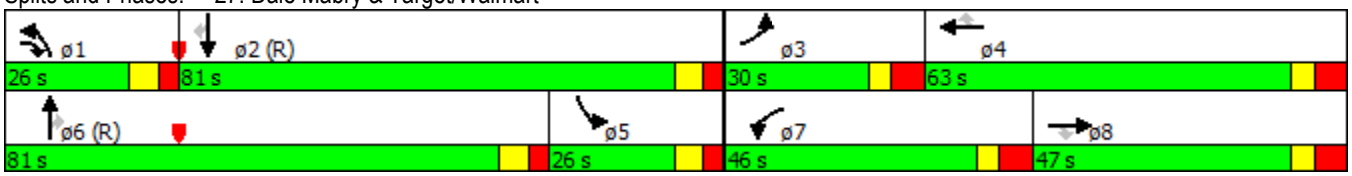
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	18.5	46.5	12.4	18.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	30.0	47.0	26.0	46.0	63.0	63.0	26.0	81.0	81.0	26.0	81.0	81.0
Total Split (%)	15.0%	23.5%	13.0%	23.0%	31.5%	31.5%	13.0%	40.5%	40.5%	13.0%	40.5%	40.5%
Maximum Green (s)	21.5	38.5	18.6	37.5	54.5	54.5	18.6	73.6	73.6	18.6	73.6	73.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			1	1		1	1		5	5
Act Effct Green (s)	21.3	23.3	50.8	17.3	15.6	15.6	22.7	112.7	112.7	18.6	108.6	108.6
Actuated g/C Ratio	0.11	0.12	0.25	0.09	0.08	0.08	0.11	0.56	0.56	0.09	0.54	0.54
v/c Ratio	0.94	0.13	0.84	0.32	0.21	0.31	0.72	0.45	0.22	0.70	0.67	0.10
Control Delay	136.9	75.2	55.0	91.8	85.7	3.1	96.9	27.2	6.9	54.2	10.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	136.9	75.2	55.0	91.8	85.7	3.1	96.9	27.2	6.9	54.2	11.1	0.1
LOS	F	E	E	F	F	A	F	C	A	D	B	A
Approach Delay		78.3			56.1			34.4			14.4	
Approach LOS		E			E			C			B	
Queue Length 50th (ft)	236	34	369	64	40	0	190	335	26	139	138	0
Queue Length 95th (ft)	#381	39	322	80	67	0	240	493	43	m137	m375	m0
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	190	371	530	649	507	535	389	3609	951	319	3478	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	477	0
Spillback Cap Reductn	0	0	0	0	0	4	0	203	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.08	0.84	0.15	0.06	0.15	0.72	0.48	0.22	0.70	0.77	0.10

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 193 (97%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 91.1% 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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

8/20/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	180		180	400		200	350		233
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor			0.99	1.00			1.00		0.99	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1560	3423	1863	1583	3432	6408	1561	3431	6408	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74			165			173			172
Link Speed (mph)		30			30			45			30	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			15.8	
Confl. Peds. (#/hr)			2	2			3		2	2		3
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	46.5	12.4	13.5	46.5	46.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	43.0	65.0	30.0	25.0	47.0	47.0	30.0	70.0	70.0	30.0	70.0	70.0
Total Split (%)	22.6%	34.2%	15.8%	13.2%	24.7%	24.7%	15.8%	36.8%	36.8%	15.8%	36.8%	36.8%
Maximum Green (s)	34.5	56.5	22.6	16.5	38.5	38.5	22.6	62.6	62.6	22.6	62.6	62.6
Yellow Time (s)	3.4	3.4	4.4	3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1	3.0	5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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	0.0
Total Lost Time (s)	8.5	8.5	7.4	8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	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)		31.0			31.0	31.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	34.5	29.1	74.4	23.8	15.6	15.6	45.5	98.4	98.4	9.7	62.6	62.6
Actuated g/C Ratio	0.18	0.15	0.39	0.13	0.08	0.08	0.24	0.52	0.52	0.05	0.33	0.33
v/c Ratio	1.05	0.11	0.88	0.71	0.66	0.57	0.73	0.46	0.34	0.55	0.93	0.51
Control Delay	134.5	64.6	59.3	88.7	103.9	17.0	73.2	30.1	12.4	105.4	33.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	3.6	0.0
Total Delay	134.5	64.6	59.3	88.7	103.9	17.1	73.2	30.1	12.4	105.4	36.6	3.2
LOS	F	E	E	F	F	B	E	C	B	F	D	A
Approach Delay		86.0			71.0			38.6			34.9	
Approach LOS		F			E			D			C	
Queue Length 50th (ft)	~453	34	536	~206	124	0	361	343	84	63	492	14
Queue Length 95th (ft)	#624	55	610	#315	141	26	428	411	171	m68	m504	m16
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)			200	180		180	400		200	350		233
Base Capacity (vph)	321	553	661	429	377	452	822	3319	892	408	2111	628
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	97	0
Spillback Cap Reductn	0	0	0	0	0	8	0	361	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.06	0.88	0.71	0.27	0.36	0.73	0.51	0.34	0.24	0.98	0.51

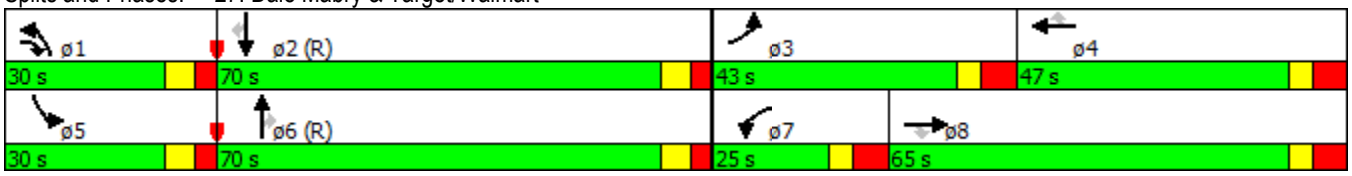
Intersection Summary	
Area Type:	Other
Cycle Length: 190	
Actuated Cycle Length: 190	
Offset: 161 (85%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 47.3	Intersection LOS: D
Intersection Capacity Utilization 99.4%	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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

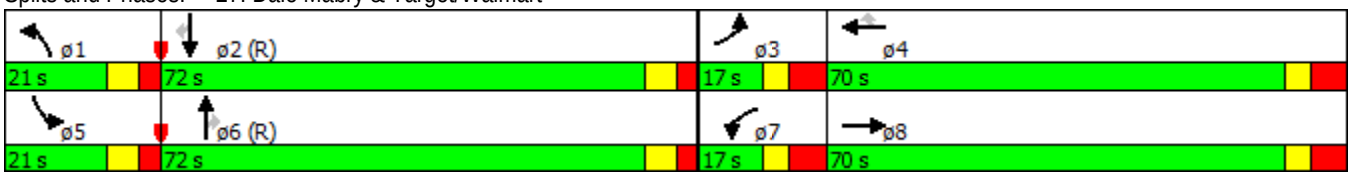
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	6	117	46	17	24	99	1467	51	21	1694	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00	0.99		1.00		0.99						
Frt		0.864				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1591	0	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3430	1591	0	3431	1863	1563	3433	6408	1583	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		165				123			130			130
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		411			333			867			697	
Travel Time (s)		9.3			7.6			13.1			10.6	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.60	0.35	0.71	0.75	0.57	0.77	0.81	0.95	0.61	0.68	0.93	0.71
Adj. Flow (vph)	40	17	165	61	30	31	122	1544	84	31	1822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	182	0	61	30	31	122	1544	84	31	1822	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5		13.5	69.5	69.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	17.0	70.0		17.0	70.0	70.0	21.0	72.0	72.0	21.0	72.0	72.0
Total Split (%)	9.4%	38.9%		9.4%	38.9%	38.9%	11.7%	40.0%	40.0%	11.7%	40.0%	40.0%
Maximum Green (s)	8.5	61.5		8.5	61.5	61.5	13.6	64.6	64.6	13.6	64.6	64.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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)		54.0			45.0	45.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		1			1	1		0	0		0	0
Act Effct Green (s)	6.6	20.5		7.3	24.0	24.0	10.8	116.7	116.7	6.2	109.6	109.6
Actuated g/C Ratio	0.04	0.11		0.04	0.13	0.13	0.06	0.65	0.65	0.03	0.61	0.61
v/c Ratio	0.32	0.56		0.44	0.12	0.10	0.60	0.37	0.08	0.26	0.47	0.08
Control Delay	90.8	16.9		93.8	65.1	0.6	94.2	18.6	0.7	103.7	8.2	0.1
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	90.8	16.9		93.8	65.1	0.6	94.2	18.6	0.7	103.7	8.2	0.1
LOS	F	B		F	E	A	F	B	A	F	A	A
Approach Delay		30.2			63.1			23.0			9.4	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)	24	20		37	34	0	73	203	0	19	88	0
Queue Length 95th (ft)	31	0		54	32	0	98	461	0	m28	261	m0
Internal Link Dist (ft)		331			253			787			617	
Turn Bay Length (ft)				180		180	400		200	350		233
Base Capacity (vph)	162	652		162	636	615	261	4153	1071	259	3901	1014
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	405	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	0.25	0.28		0.38	0.05	0.05	0.47	0.37	0.08	0.12	0.52	0.08

Intersection Summary	
Area Type: Other	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 50 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 155	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	16	350	71	27	65	252	1566	149	195	2061	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt		0.859				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1600	0	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3429	1600	0	3433	1863	1563	3432	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		218				151			117			117
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.87	0.57	0.79	0.74	0.86	0.79	0.90	0.96	0.71	0.78	0.89	0.86
Adj. Flow (vph)	177	28	443	96	31	82	280	1631	210	250	2316	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	471	0	96	31	82	280	1631	210	250	2316	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5		13.5	60.5	60.5	12.4	54.4	54.4	12.4	57.4	57.4
Total Split (s)	20.0	70.0		20.0	70.0	70.0	26.0	84.0	84.0	26.0	84.0	84.0
Total Split (%)	10.0%	35.0%		10.0%	35.0%	35.0%	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.5	42.7		9.7	40.9	40.9	20.3	97.2	97.2	18.6	95.6	95.6
Actuated g/C Ratio	0.06	0.21		0.05	0.20	0.20	0.10	0.49	0.49	0.09	0.48	0.48
v/c Ratio	0.90	0.92		0.58	0.08	0.19	0.80	0.52	0.26	0.78	0.76	0.11
Control Delay	133.2	63.7		106.9	58.4	0.9	105.3	37.9	15.8	57.3	15.4	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	133.2	63.7		106.9	58.4	0.9	105.3	38.0	15.8	57.3	15.9	0.2
LOS	F	E		F	E	A	F	D	B	E	B	A
Approach Delay		82.7			58.1			44.6			19.3	
Approach LOS		F			E			D			B	
Queue Length 50th (ft)	122	363		64	33	0	188	431	67	158	146	0
Queue Length 95th (ft)	#191	153		81	58	0	#248	547	91	m156	m589	m2
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)				180		180	400		200	350		233
Base Capacity (vph)	197	642		197	572	585	356	3115	819	319	3061	804
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	316	0
Spillback Cap Reductn	0	0		0	0	2	0	137	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.73		0.49	0.05	0.14	0.79	0.55	0.26	0.78	0.84	0.11

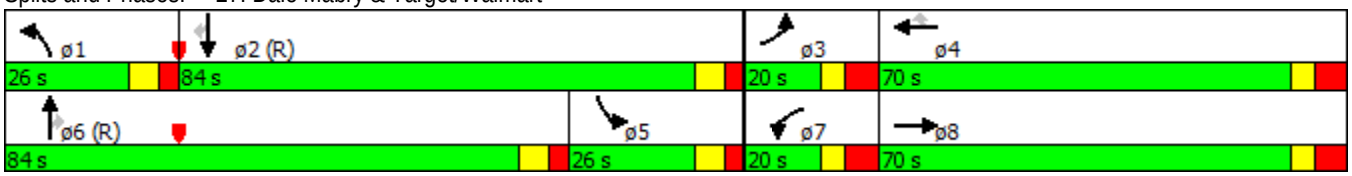
Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 200
Offset: 168 (84%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 99.1% 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: 27: Dale Mabry & Target/Walmart



Lanes, Volumes, Timings
27: Dale Mabry & Target/Walmart

7/17/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	23	485	283	68	120	517	1454	281	80	1729	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	180		180	400		200	350		233
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Ped Bike Factor	1.00					0.99	1.00		0.99	1.00		0.98
Frt		0.858				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1598	0	3433	1863	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3430	1598	0	3433	1863	1563	3431	6408	1562	3432	6408	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255				160			173			163
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		394			333			867			682	
Travel Time (s)		9.0			7.6			13.1			10.3	
Confl. Peds. (#/hr)	1					1	5		1	1		5
Peak Hour Factor	0.86	0.72	0.83	0.93	0.68	0.75	0.86	0.96	0.94	0.83	0.88	0.86
Adj. Flow (vph)	336	32	584	304	100	160	601	1515	299	96	1965	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	616	0	304	100	160	601	1515	299	96	1965	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	

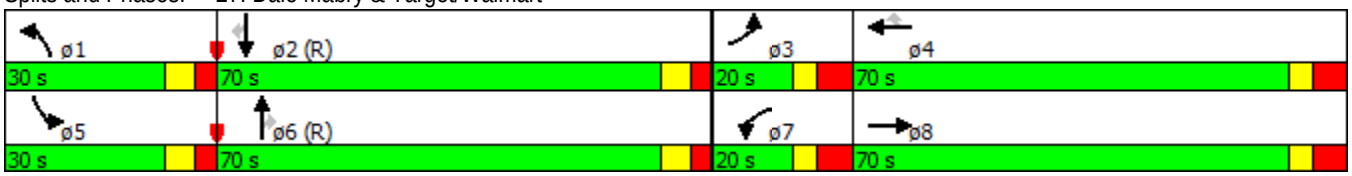
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						4			6			2
Detector Phase	3	8		7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	13.5	69.5		13.5	69.5	69.5	12.4	57.4	57.4	12.4	57.4	57.4
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	70.0	70.0	30.0	70.0	70.0
Total Split (%)	10.5%	36.8%		10.5%	36.8%	36.8%	15.8%	36.8%	36.8%	15.8%	36.8%	36.8%
Maximum Green (s)	11.5	61.5		11.5	61.5	61.5	22.6	62.6	62.6	22.6	62.6	62.6
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	5.1	5.1		5.1	5.1	5.1	3.0	3.0	3.0	3.0	3.0	3.0
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)	8.5	8.5		8.5	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0
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)		54.0			45.0	45.0		40.0	40.0		43.0	43.0
Pedestrian Calls (#/hr)		0			1	1		1	1		5	5
Act Effct Green (s)	11.5	54.9		11.5	54.9	54.9	29.2	82.1	82.1	9.7	62.6	62.6
Actuated g/C Ratio	0.06	0.29		0.06	0.29	0.29	0.15	0.43	0.43	0.05	0.33	0.33
v/c Ratio	1.62	0.96		1.47	0.19	0.28	1.14	0.55	0.39	0.55	0.93	0.52
Control Delay	349.6	64.3		289.7	49.9	6.9	148.5	42.2	17.6	121.5	33.2	3.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay	349.6	64.3		289.7	49.9	6.9	148.5	42.3	17.6	121.5	36.8	3.6
LOS	F	E		F	D	A	F	D	B	F	D	A
Approach Delay		165.0			167.0			65.6			35.7	
Approach LOS		F			F			E			D	
Queue Length 50th (ft)	~309	492		~266	92	0	~501	425	106	64	484	15
Queue Length 95th (ft)	#396	404		#375	106	24	#618	486	203	m69	m504	m18
Internal Link Dist (ft)		314			253			787			602	
Turn Bay Length (ft)				180		180	400		200	350		233
Base Capacity (vph)	207	689		207	603	614	527	2769	773	408	2111	621
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	97	0
Spillback Cap Reductn	0	0		0	0	2	0	139	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.62	0.89		1.47	0.17	0.26	1.14	0.58	0.39	0.24	0.98	0.52

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 190
Offset: 155 (82%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 155
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.62
Intersection Signal Delay: 78.4 Intersection LOS: E
Intersection Capacity Utilization 122.2% ICU Level of Service H
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: 27: Dale Mabry & Target/Walmart



APPENDIX B

COST ESTIMATES

ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1a					
Issue Date: June 12, 2015					
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Project Total***
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-17	6	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 960.00
711-17	450	SF	Thermoplastic Removal	$ 5.00	$ 2,250.00
Pay Item Subtotal					**$ 6,389.96**
			10% Maintenance of Traffic		**$ 639.00**
			10% Mobilization		**$ 639.00**
Subtotal:					**$ 7,667.95**
			15% Contingency		**$ 1,150.19**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 8,818.14**

Total Duration: 3 Days

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

SPRUCE STREET PHASE 1A

SHEET NO. 1

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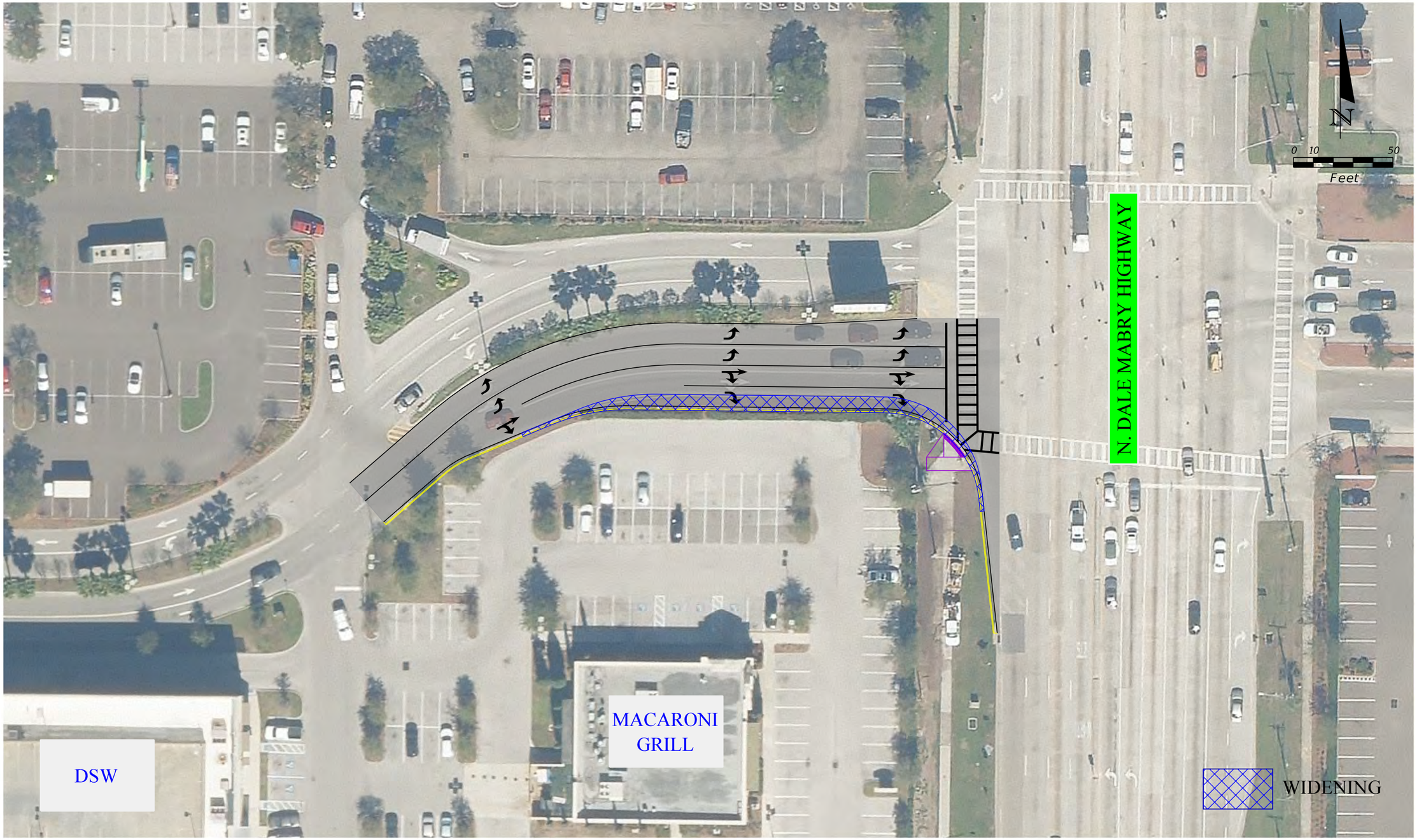
ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1b					
Issue Date: June 12, 2015					
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Project Total***
104-18	2	EA	Inlet Protection System	$ 200.00	$ 400.00
110-1-1	0.038	AC	Clearing & Grubbing	$ 10,000.00	$ 380.00
120-1	122	CY	Regular Excavation	$ 20.00	$ 2,440.00
160-4-1	183	SY	12" Thick Type B Stabilization (LBR-40)	$ 7.00	$ 1,278.90
285-704	183	SY	Base Optional (Base Group 04) (6")	$ 15.00	$ 2,740.50
327-70-1	1,449	SY	Milling Existing Pavement 1" Th. Ave.	$ 5.00	$ 7,245.00
334-1-13	30.2	TN	Superpave Asphaltic Concrete Traffic C (3")	$ 160.00	$ 4,832.00
337-7-54	10.1	TN	Asphalt Concrete FC-9.5 Type C (1")	$ 170.00	$ 1,717.00
520-1-10	410	LF	Standard Concrete Curb & Gutter Type F	$ 32.00	$ 13,132.80
575-2	25	SY	Sodding (St. Augustine)	$ 5.00	$ 125.00
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
660-2-102	4	EA	Loop Assembly Type B	$ 700.00	$ 2,800.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-123	288	LF	Solid Traffic Stripe, 12" White (Thermoplastic)	$ 5.00	$ 1,441.00
711-11-125	50	LF	Solid Traffic Stripe, 24" White (Thermoplastic)	$ 10.00	$ 500.00
711-11-17	11	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 1,760.00
711-11-111	665.3	LF	Solid Traffic Stripe 6" White (Thermoplastic)	$ 2.00	$ 1,330.56
SP-9.09	1	EA	Pedestrian Ramp	$ 750.00	$ 750.00
Pay Item Subtotal					**$ 46,052.72**
			10% Maintenance of Traffic		**$ 4,605.27**
			10% Mobilization		**$ 4,605.27**
			10% Utility Relocation		**$ 4,605.27**
Subtotal:					**$ 59,868.54**
			15% Contingency		**$ 8,980.28**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 68,848.82**

Total Duration: 8 Days



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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SPRUCE STREET PHASE 1B

SHEET NO. 1

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ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1c					
Issue Date: July 17, 2015					
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Project Total***
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-17	9	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 1,440.00
711-17	675	SF	Thermoplastic Removal	$ 5.00	$ 3,375.00
Pay Item Subtotal					**$ 7,994.96**
			10% Maintenance of Traffic		**$ 799.50**
			10% Mobilization		**$ 799.50**
Subtotal:					**$ 9,593.95**
			15% Contingency		**$ 1,439.09**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 11,033.04**

Total Duration: 3 Days

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

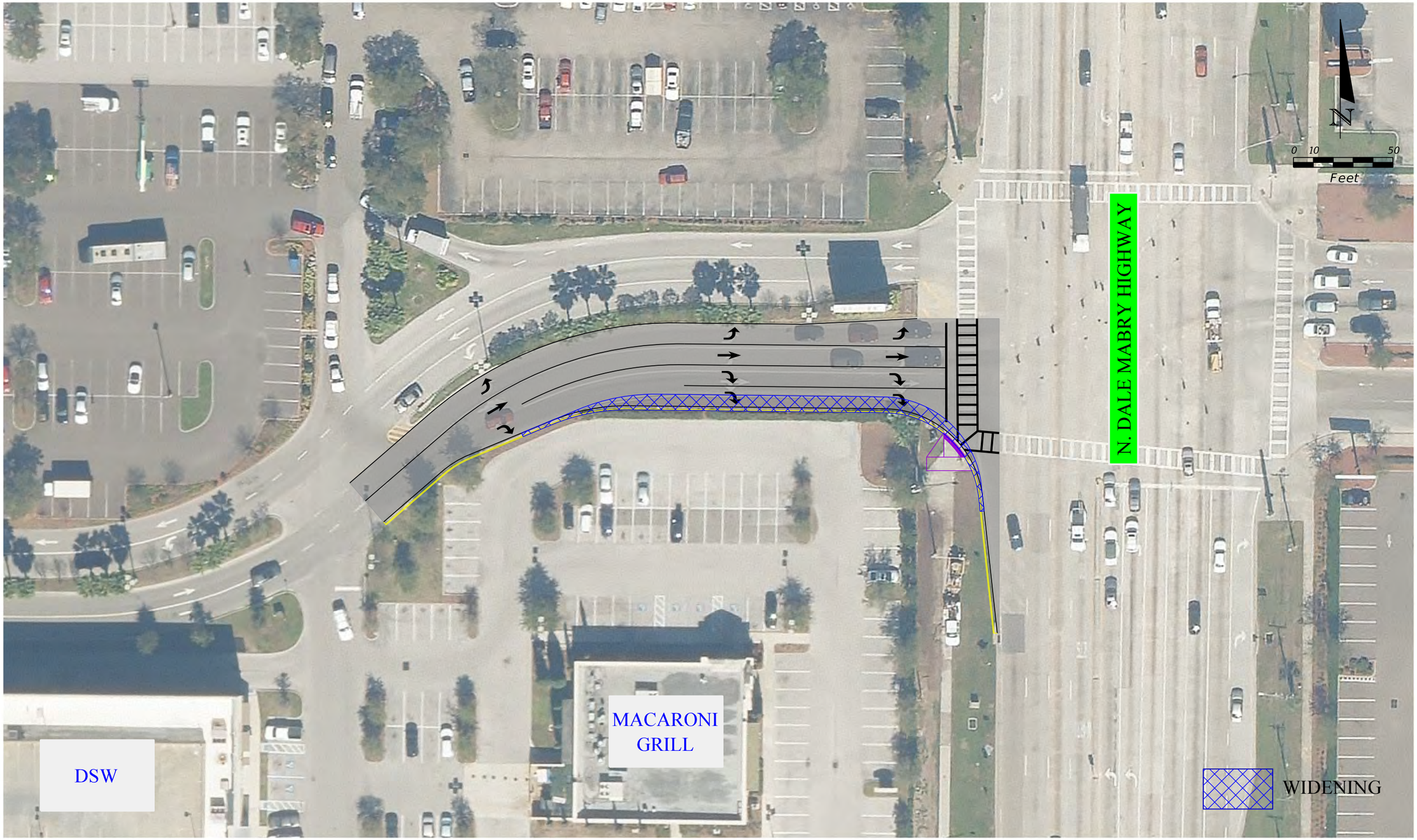
SPRUCE STREET PHASE 1C

SHEET NO. 1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1d					
Issue Date: July 17, 2015					
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Project Total***
104-18	2	EA	Inlet Protection System	$ 200.00	$ 400.00
110-1-1	0.038	AC	Clearing & Grubbing	$ 10,000.00	$ 380.00
120-1	122	CY	Regular Excavation	$ 20.00	$ 2,440.00
160-4-1	183	SY	12" Thick Type B Stabilization (LBR-40)	$ 7.00	$ 1,278.90
285-704	183	SY	Base Optional (Base Group 04) (6")	$ 15.00	$ 2,740.50
327-70-1	1,449	SY	Milling Existing Pavement 1" Th. Ave.	$ 5.00	$ 7,245.00
334-1-13	30.2	TN	Superpave Asphaltic Concrete Traffic C (3")	$ 160.00	$ 4,832.00
337-7-54	10.1	TN	Asphalt Concrete FC-9.5 Type C (1")	$ 170.00	$ 1,717.00
520-1-10	410	LF	Standard Concrete Curb & Gutter Type F	$ 32.00	$ 13,132.80
575-2	25	SY	Sodding (St. Augustine)	$ 5.00	$ 125.00
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
660-2-102	4	EA	Loop Assembly Type B	$ 700.00	$ 2,800.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-123	288	LF	Solid Traffic Stripe, 12" White (Thermoplastic)	$ 5.00	$ 1,441.00
711-11-125	50	LF	Solid Traffic Stripe, 24" White (Thermoplastic)	$ 10.00	$ 500.00
711-11-17	11	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 1,760.00
711-11-111	665.3	LF	Solid Traffic Stripe 6" White (Thermoplastic)	$ 2.00	$ 1,330.56
SP-9.09	1	EA	Pedestrian Ramp	$ 750.00	$ 750.00
Pay Item Subtotal					**$ 46,052.72**
			10% Maintenance of Traffic		**$ 4,605.27**
			10% Mobilization		**$ 4,605.27**
			10% Utility Relocation		**$ 4,605.27**
Subtotal:					**$ 59,868.54**
			15% Contingency		**$ 8,980.28**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 68,848.82**

Total Duration: 8 Days



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

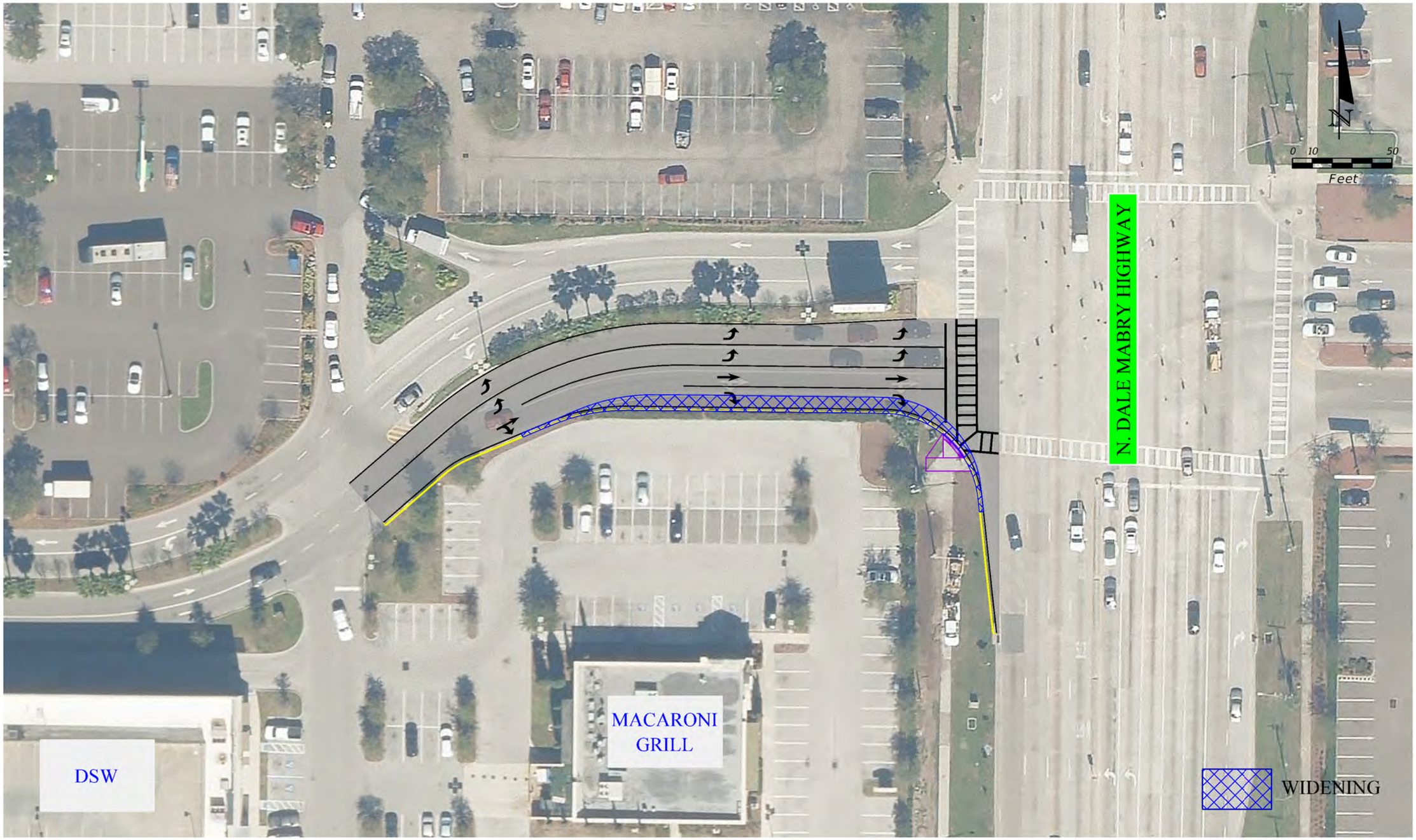
SPRUCE STREET PHASE 1D

SHEET NO. 1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1e					
Issue Date:August 20, 2015					
					Project
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Total***
104-18	2	EA	Inlet Protection System	$ 200.00	$ 400.00
110-1-1	0.038	AC	Clearing & Grubbing	$ 10,000.00	$ 380.00
120-1	122	CY	Regular Excavation	$ 20.00	$ 2,440.00
160-4-1	183	SY	12" Thick Type B Stabilization (LBR-40)	$ 7.00	$ 1,278.90
285-704	183	SY	Base Optional (Base Group 04) (6")	$ 15.00	$ 2,740.50
327-70-1	1,449	SY	Milling Existing Pavement 1" Th. Ave.	$ 5.00	$ 7,245.00
334-1-13	30.2	TN	Superpave Asphaltic Concrete Traffic C (3")	$ 160.00	$ 4,832.00
337-7-54	10.1	TN	Asphalt Concrete FC-9.5 Type C (1")	$ 170.00	$ 1,717.00
520-1-10	410	LF	Standard Concrete Curb & Gutter Type F	$ 32.00	$ 13,132.80
575-2	25	SY	Sodding (St. Augustine)	$ 5.00	$ 125.00
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
660-2-102	4	EA	Loop Assembly Type B	$ 700.00	$ 2,800.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-123	288	LF	Solid Traffic Stripe, 12" White (Thermoplastic)	$ 5.00	$ 1,441.00
711-11-125	50	LF	Solid Traffic Stripe, 24" White (Thermoplastic)	$ 10.00	$ 500.00
711-11-17	11	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 1,760.00
711-11-111	665.3	LF	Solid Traffic Stripe 6" White (Thermoplastic)	$ 2.00	$ 1,330.56
SP-9.09	1	EA	Pedestrian Ramp	$ 750.00	$ 750.00
Pay Item Subtotal					**$ 46,052.72**
			10% Maintenance of Traffic		**$ 4,605.27**
			10% Mobilization		**$ 4,605.27**
			10% Utility Relocation		**$ 4,605.27**
Subtotal:					**$ 59,868.54**
			15% Contingency		**$ 8,980.28**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 68,848.82**

Total Duration: 8 Days



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005630
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

SPRUCE STREET PHASE 1E

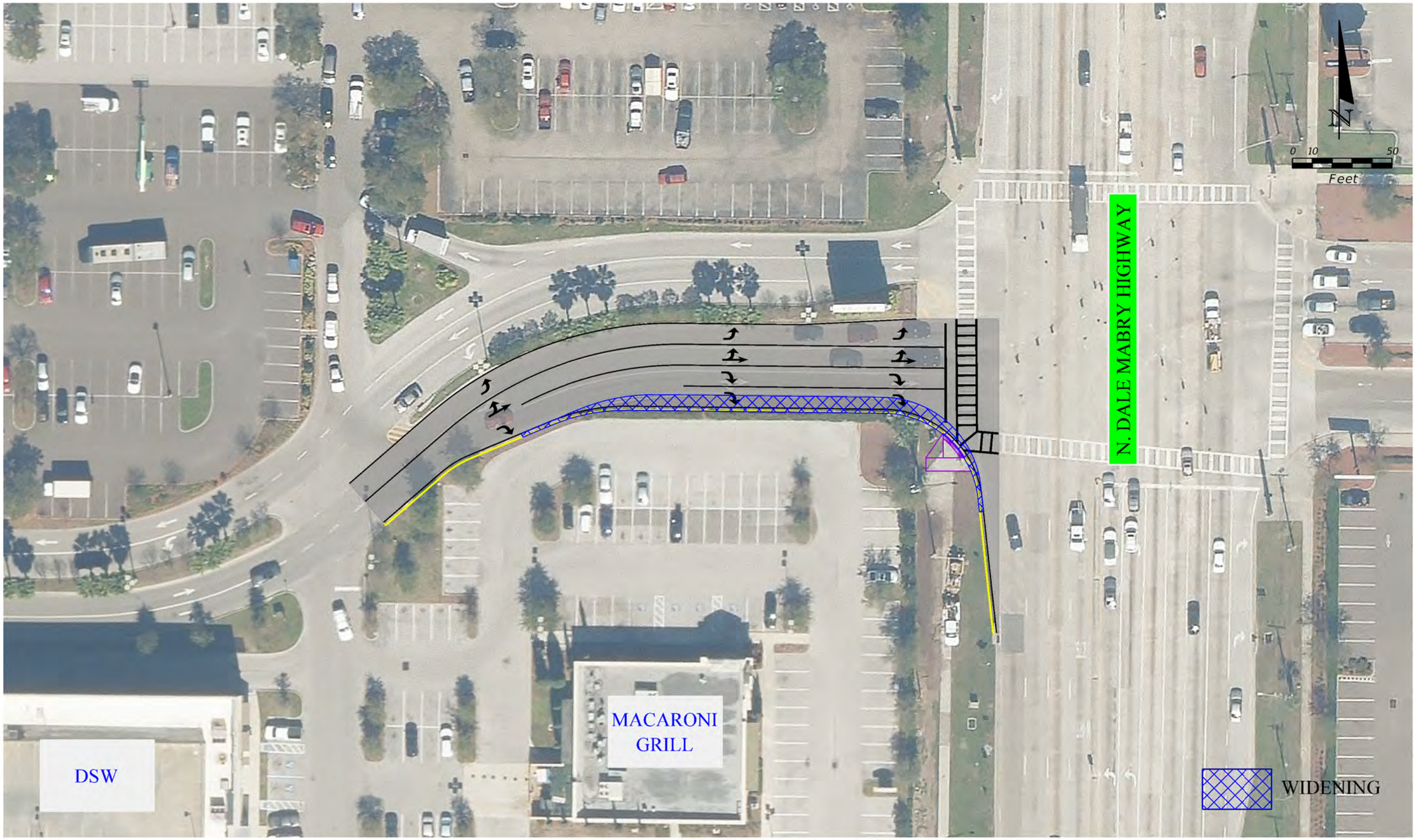
SHEET NO. 1

$USERS $DATES $TIMES $FILES

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1f					
Issue Date: August 20, 2015					
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Project Total***
104-18	2	EA	Inlet Protection System	$ 200.00	$ 400.00
110-1-1	0.038	AC	Clearing & Grubbing	$ 10,000.00	$ 380.00
120-1	122	CY	Regular Excavation	$ 20.00	$ 2,440.00
160-4-1	183	SY	12" Thick Type B Stabilization (LBR-40)	$ 7.00	$ 1,278.90
285-704	183	SY	Base Optional (Base Group 04) (6")	$ 15.00	$ 2,740.50
327-70-1	1,449	SY	Milling Existing Pavement 1" Th. Ave.	$ 5.00	$ 7,245.00
334-1-13	30.2	TN	Superpave Asphaltic Concrete Traffic C (3")	$ 160.00	$ 4,832.00
337-7-54	10.1	TN	Asphalt Concrete FC-9.5 Type C (1")	$ 170.00	$ 1,717.00
520-1-10	410	LF	Standard Concrete Curb & Gutter Type F	$ 32.00	$ 13,132.80
575-2	25	SY	Sodding (St. Augustine)	$ 5.00	$ 125.00
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
660-2-102	4	EA	Loop Assembly Type B	$ 700.00	$ 2,800.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-123	288	LF	Solid Traffic Stripe, 12" White (Thermoplastic)	$ 5.00	$ 1,441.00
711-11-125	50	LF	Solid Traffic Stripe, 24" White (Thermoplastic)	$ 10.00	$ 500.00
711-11-17	11	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 1,760.00
711-11-111	665.3	LF	Solid Traffic Stripe 6" White (Thermoplastic)	$ 2.00	$ 1,330.56
SP-9.09	1	EA	Pedestrian Ramp	$ 750.00	$ 750.00
Pay Item Subtotal					**$ 46,052.72**
			10% Maintenance of Traffic		**$ 4,605.27**
			10% Mobilization		**$ 4,605.27**
			10% Utility Relocation		**$ 4,605.27**
Subtotal:					**$ 59,868.54**
			15% Contingency		**$ 8,980.28**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 68,848.82**

Total Duration: 8 Days



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005630
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

SPRUCE STREET PHASE 1F

SHEET NO. 1

$USERS $DATES $TIMES $FILES

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

ENGINEER'S ESTIMATE (PRELIMINARY)					
Spruce Street					
Phase 1g					
Issue Date: August 20, 2015					
					Project
Item No.	***Quantity***	***Unit***	***Item Description***	***Unit Price***	***Total***
650-1-513	1	EA	Traffic Signal (5 Sections, 1 Way) Programable	$ 1,500.00	$ 1,500.00
650-1-60	1	AS	Traffic Signal, Remove - Poles to Remain	$ 125.77	$ 125.77
659-106	1	EA	Signal Head Auxiliary (12" LED Module Std.)	$ 130.00	$ 130.00
670-5400	1	AS	Traffic Controller Assembly, Modify	$ 1,424.19	$ 1,424.19
711-11-17	6	EA	Directional Arrows (Thermoplastic)	$ 160.00	$ 960.00
711-17	450	SF	Thermoplastic Removal	$ 5.00	$ 2,250.00
Pay Item Subtotal					**$ 6,389.96**
			10% Maintenance of Traffic		**$ 639.00**
			10% Mobilization		**$ 639.00**
Subtotal:					**$ 7,667.95**
			15% Contingency		**$ 1,150.19**
			PRELIMINARY PLANNING COST ESTIMATE:		**$ 8,818.14**

Total Duration: 3 Days

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005630
Architectural, Engineering, Planning and Environmental Services

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

SPRUCE STREET PHASE 1G

SHEET NO.
1

$USERS $DATES $TIMES $FILES

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

Appendix E – Cost Estimates

ENGINEER'S ESTIMATE

Office of Engineering & Technical Support

PROJECT ID # :	114210879
PROJECT DESCRIPTION:	Spruce Street Improvements from Hesperides Street to Himes Avenue
PAY ITEM SPEC YEAR:	2015
SUBMITTAL TYPE:	Engineers Estimate (Other)
COUNTY:	Hillsborough
DATE:	December 18, 2015
ENGINEERING CONSULTANT FIRM:	RS&H
CONTACT NAME:	Lee Dowden, PE
PHONE NUMBER:	(813) 636-2601
FILE VERSION:	
PAGE NUMBER:	1 of 1

COMPONENT GROUPS

100 - STRUCTURES	*NOT USED*		
200 - ROADWAY			$342,949.25
300 - SIGNING & PAVEMENT MARKINGS			$26,256.49
400 - LIGHTING	*NOT USED*		
500 - SIGNALIZATION			$1,798.08
550 - ITS	*NOT USED*		
600 - LANDSCAPE / PERIPHERALS	*NOT USED*		
700 - UTILITIES	*NOT USED*		
800 - ARCHITECTURAL	*NOT USED*		
900 - MASS TRANSIT	*NOT USED*		
1000 - INVALID & OTHER ITEMS	*NOT USED*		
	COMPONENT SUB-TOTAL		$371,003.82
(102-1) MOT (Maintenance of Traffic)		10%	$37,100.38
	SUB-TOTAL		$408,104.20
(101-1) MOB (Mobilization)		10%	$40,810.42
	SUB-TOTAL		$448,914.62
PU (Project Unknowns)		20%	$89,782.92
	SUB-TOTAL		$538,697.55
(999-25) Initial Contingency (Do Not Bid)			
	PROJECT GRAND TOTAL		**$538,697.55**

NOTES:

ENGINEER'S ESTIMATE

Office of Engineering & Technical Support

PROJECT ID:	114210879
FILE VERSION:	EE_09-12_Rev16
PAGE NUMBER:	

200-Roadway

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0101 1	MOBILIZATION	LS	10%	See Summary Sheet	
0102 1	MAINTENANCE OF TRAFFIC	LS	10%	See Summary Sheet	
0110 1 1	CLEARING & GRUBBING	LS	1	$5,000.00	$5,000.00
0160 4	TYPE B STABILIZATION	SY	728	$3.63	$2,643.85
0285701	OPTIONAL BASE, BASE GROUP 01	SY		$18.19	
0285706	OPTIONAL BASE, BASE GROUP 06	SY	728	$20.47	$14,908.98
0327 70 5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	SY	10536	$2.89	$30,449.36
0334 1 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	328	$84.82	$27,799.76
0400 0 11	CONCRETE CLASS NS, GRAVITY WALL	CY		$589.83	
0425 1361	INLETS, CURB, TYPE P-6, <10'	EA	2	$5,029.30	$10,058.60
0425 1544	INLETS, DITCH BOTTOM, TYPE D, J BOT, >10'	EA		$6,992.55	
0425 1711	INLETS, GUTTER, TYPE V, <10'	EA		$2,553.33	
0425 2 92	MANHOLES, J-8, >10'	EA	3	$6,154.06	$18,462.18
0430174118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"SD	LF	1488	$66.65	$99,175.20
0430175172	PIPE CULVERT, OPT MATERIAL, ROUND, 72"S/CD	LF		$244.14	
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	570	$14.34	$8,173.80
0520 3	VALLEY GUTTER- CONCRETE	LF		$24.15	
0520 5 11	TRAFFIC SEPARATOR CONCRETE-TYPE I, 4' WIDE	LF	850	$33.03	$28,075.50
0520 70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY		$50.27	
0522 1	SIDEWALK CONCRETE, 4" THICK	SY	2011	$30.21	$60,742.24
0522 2	SIDEWALK CONCRETE, 6" THICK	SY	206	$39.93	$8,225.58
0524 2 2	CONCRETE SLOPE PAVEMENT,NON REINFORCED, 4"	SY		$72.00	
0536 1 1	GUARDRAIL -ROADWAY	LF	1330	$16.34	$21,732.20
0570 1 2	PERFORMANCE TURF, SOD	SY	3100	$2.42	$7,502.00
200-Roadway		**COMPONENT TOTAL**			**$342,949.25**

ENGINEER'S ESTIMATE

Office of Engineering & Technical Support

FINANCIAL PROJECT ID:	114210879
FILE VERSION:	EE_09-12_Rev16
PAGE NUMBER:	

300-Signing & Pavement Markings

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0700 1 12	SINGLE POST SIGN, F&I GM, 12-20 SF	AS	12	$958.63	$11,503.56
0711 11122	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8"	LF	5830	$1.06	$6,179.80
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	LF	270	$2.17	$585.90
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	96	$4.06	$389.76
0711 11131	THERMOPLASTIC, STANDARD, WHITE, SKIP, 6",	GM	0.055	$848.30	$46.27
0711 11151	THERMOPLASTIC, STANDARD, WHITE, DOTTED/GUIDELINE/	LF	288	$0.84	$241.92
0711 11170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	24	$51.92	$1,246.08
0711 11222	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 8"	LF	5830	$1.04	$6,063.20
300-Signing & Pavement Markings		**COMPONENT TOTAL**			**$26,256.49**

ENGINEER'S ESTIMATE

Office of Engineering & Technical Support

FINANCIAL PROJECT ID:	1142-1-08-79
FILE VERSION:	EE_09-12_Rev16
PAGE NUMBER:	

500-Signalization

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0649 31201	MAST ARM,F&I, WIND SPEED-130,SINGLE ARM,W/0 LUMINAIRE-36	EA		$23,289.17	
0650 1311	TRAFFIC SIGNAL, F&I, 3 SECTION, 1 WAY, ALUMINUM	AS	2	$899.04	$1,798.08
0653111	SIGNAL PEDESTRIAN, F&I, LED COUNT, 1 WAY	AS		$575.10	
0653112	SIGNAL PEDESTRIAN, F&I, LED COUNT, 2 WAY	AS		$958.86	
0670 5110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS		$24,500.00	
500-Signalization		**COMPONENT TOTAL**			**$1,798.08**

Appendix F – Public Involvement

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Sign in Sheet
Tuesday, June 14, 2016

PRINT NAME	ADDRESS (No., street, zip)	PHONE NUMBER	EMAIL
MARGARET VIZZI	2135 S. SHERRILL ST. 33609	813-2860980	—
Steve Zaritsky	403 1st Ave S. - Tierra Verde	(813) 404-7300	SRZ@BAYWAY.COM
ANN KULIG	3109 W. DR. MLK Tpa #140 33607	813-289-5488	Kulig@westshorealliance.org
Maryann Barkett	4504 W. Spruce St #409 Tampa, FL 33609	813-767-1794	mbarkett311@gmail.com
Thelma Davis	1602 N. Lois Ave	813-7586833	thelmadavis@hotmail.com
DORIS WILLIAMS	4315 GRACE ST	813-8775085	
Lorraine Wiley	4201 W. Nassau St	813 871 2874	
Annie G. Young Fluker	4007 W. La Salle St	(813) 876-7460	
Nancy Sutton	4116 W. Laurel St.	813-875-3890	
Veronica Sutton	4203 W Union St	813 801-9107	vsutton97@yahoo.com

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Sign in Sheet
Tuesday, June 14, 2016

PRINT NAME	ADDRESS (No., street, zip)	PHONE NUMBER	EMAIL
Edna Jones	3917 WALNUT ST 33607	(813) 876-8068	
Delores Sims	3916 WALNUT ST 33607	(813) 876-5505	
Mike Woolsey	1800 old Okeechobee Rd S100 WPB, FL 33409	561-504-3672	mike@rrema.com
Katherine Worley	4221 W Spruce #2221	727-443-8642	Kdesign214@yahoo.com
Valerie Fields	4221 W Spruce	813-877-8899	vfields@castlegroup.com
Dustin Milk	4400 W. Spruce	813-872-9010-	millenniummgr@lincolnapts.com
Maurice Hall	4024 W. Lemon St	(813) 281-1053	Bentharleah@yahoo.com
Chris James	2015 Shore Crest Dr	813 281 2470	chris32550@aol.com
For Home Depot Edward Allen	1420 W. Peachtree St. Atlanta GA 30309	(404) 601 4000	eallen@greenbergfarrow.com
Albert Alvarez	3924 W. Spruce ST Tampa FL 33607	646-240 2250	al@CigarCityBrewing.com

Kenya Sutton	4202 Union St.	813-876-8721	vividkiss@yahoo.com
Mark Miller	611 W. Bay St. Tampa, Fl. 33606	813-786-3999	mem@bayway.com

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway

J. Y. Vonne Lucas-Herriveaux	1606 N. Lois Ave 33607 Phy. Add. 4032 Alta Lorraine Wy. N. Highlands CA. 95660	916-821-1584	Consultyvonne@hotmail.com

Call with any questions.
727-643-8642

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Katherine Worley
Address: 4221 W Spruce St Unit 2221
Relationship to project: Owner @ Villa Sonoma
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

1) - Can you add looking @ Villa Sonoma's (VS) Side walk? - It's falling apart.

2) - Can you add into looking @ the ditch in front of VS? It floods and is SLOW to drain causing people to be trapped inside VS.

3) - With the connection of Boy Scout to Spruce St, can you add speed tables on Spruce? ~~[illegible]~~ People FLY down Spruce and will more so with the new opening by ~~[illegible]~~ teco sub station.

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

(over)

(4) - Maybe add 4 way stop to the Spruce/Manhatten intersection to maybe slow down traffic. Too much speed.

(5) - Pond side of Manhatten/Spruce ~~[illegible]~~ corner is falling apart. Its all eroding.

Happy you're dealing w/ Dale Mabry & Spruce. Thats been an issue since day one.

I LOVE the idea of more sidewalks! Look great! Happy to see the progress & thank you for the opp. to add input.

-Katherine (owner)

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Steve Lopez

Address: 4221 W. Spruce St. #1115 TAMPA FL 33607

Relationship to project: VILLA SONOMA OWNER
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

Dale Mabry + Spruce light needs to allow the cross traffic to go first then the left turn lanes can be utilized in the same cycle

speed tables need to be installed on Spruce between Manhattan + Lois

any median installed should be planted not just concrete when possible

fix the ditch, overflows very often

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Kenya Sutton

Address: 4202 Union St.

Relationship to project: property owner
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

1. Main concern are the exits to the Home Depot shopping area. There is no way to get out and get back to the ~~Cover~~ Carver City/ ~~Westshore~~ Westshore Allaiance Area without getting back into traffic. Major concerns on "game days". The community is already boxed in.

2. Fill the ditches on Grady or put a guard rail. Seem very dangerous. Especially with all of the new traffic.

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Maryann Barnett

Address: 4504 W. Spruce St. #409 Tampa, FL 33609

Relationship to project: resident
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

I strongly support the new plan to improve safety on Spruce Street, however I am a resident at Modera and find it very difficult to get home in a timely fashion even though I live a few blocks away. & Taking further action to prevent left turn on Spruce when exiting Home Depot will only exacerbate this issue. I hope that you will consider putting an exit behind Home Depot / Whole Foods to accomodate all parties in the area.

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Alberto Alvarez

Address: 3924 W. Spruce St

Relationship to project: Tenant
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

Looking forward to getting the Cross walk / Side Walk Started for the Safety of Our Guests.

Also the Traffic Separator would be great to Stop Drivers from using the Middle Lane at dangerous Speeds.

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: MARK MILLER – BayWay DMH & Spruce, LLC

Address: 611 W. Bay St. Suit A, TAMPA, FL-33606

Relationship to project: Owner of Denny's Property at Dale Mabry & Spruce
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

We are concerned about the extended median from DM Hwy further west on Spruce Street. We would like to discuss granting land to City for widening Spruce from corner to edge of Denny's property in exchange for median cut aligning with Denny's driveway which driveway could be relocated further west within property. Extra Land = Extra lane for width of Denny's.

Mark Miller
(813) 786-3999

Spoke with Brian Kirkpatrick at 6/14/2016 Meeting.

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: J.Y. Vonne Herivaux

Address:

Relationship to project: Property Owner
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

I request a copy of informational Materials shown at the Spruce St. Public Meeting
My email address is Consultyvonne@hotmail.com

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Ann Kulig

Address: 3109 W DR. MLK JR. BLVD #140 TAMPA, FL 33607

Relationship to project: Westshore Alliance - DRI for Westshore
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

Extend Spruce to Hesperides
Added sidewalks are good.
Find a way to narrow the ditch & add sidewalks on North side from Lois east to Cigar City Lot!

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Veronica Sutton

Address: 4203 Union St Tampa 33607

Relationship to project: property owner
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

① Fill in ditches on Spruce between Lois Ave and Grady. or Put up ~~safe~~ guard rails.
② Additional exit access from homedepot & target on to Grady.
③ I agree with the additional right turn only lane onto dalemabry from Target/home depot area

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Nancy Sutton

Address: 4116 W. Laurel St.

Relationship to project: Property Owner
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

The entire area now has traffic problems starting with the new exit from I275 onto Cypress St. It's an accident waiting to happen. There is a blind spot for those coming off the interstate on to Cypress.

* Spruce Street is too narrow to handle the volumn of traffic exiting the Home Depot, etc. The new exit will be an improvement.

* East of Dale Mabry on Spruce, the two banks on the corner of Spruce and Dale Mabry along with MacDonald's and Staples traffic is horrible.
What used to be pleasant driving is a mess!

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Edward Allen (678) 412-6007
Address: 1430 W. Peachtree St, NW, Atlanta, GA 30309
Relationship to project: Home Depot Rep
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

HD's Concerns:
- If Spruce St is relocated to front of HD
  - Seperate Exit movements
  - Wayfinding signage for outparcels
  - Additional striping & speed bumps on HD front drive to reduce speed/conflicts w/ped traffic @ Gardenia
- In support of Grady Drive access if left-out is not allowed on Spruce from HD

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Spruce Street Corridor Improvements
From Hesperides Street to Dale Mabry Highway
Public Information Meeting
Comment Sheet
Tuesday, June 14, 2016

Name: Valerie Fields

Address: 4221 W. Spruce St.

Relationship to project: Property Manager
(i.e. property owner, tenant, landowner abutting project)

Please provide any comments below.

I would like to see a change in the light cycle @ Dale Mabry & Spruce. Until such time as the lane re-organization takes place, I suggest that all traffic crossing Dale Mabry get the first green light in order to clear the intersection allowing turning traffic to enter the turn lanes. Once all straight traffic clears, then left turn lanes will be full and can make one light cycle clearing Spruce St.

Also need Speed control devices on Spruce between Lois & manhattan

Continue comments on back, if necessary. Thank you.

Please drop "Comment Forms" into receptacle boxes.
Or mail to:
City of Tampa Transportation Division
306 E. Jackson Street
Tampa, Florida 33602

Appendix G – Concept Plans

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS

SHEET NO.
1

$USER$ $DATE$ $TIME$ $FILE$

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
813-289-5550
FL Cert No. EB0005620
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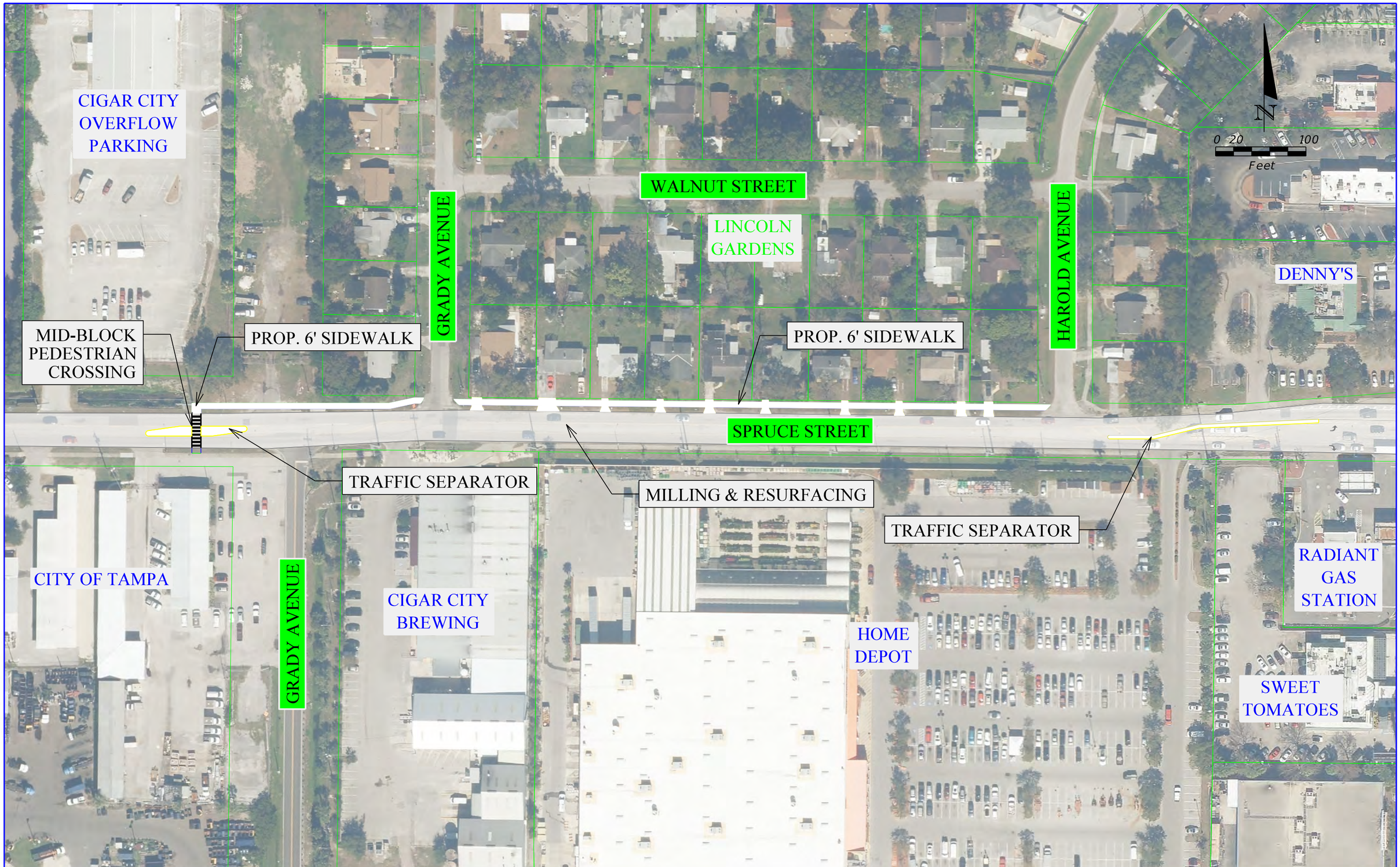
CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS

SHEET NO. 2

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS					
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RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
Tampa, Florida 33607-3999
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FL Cert No. EB0005620
Architectural, Engineering, Planning and Environmental Services

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS

SHEET NO. 3

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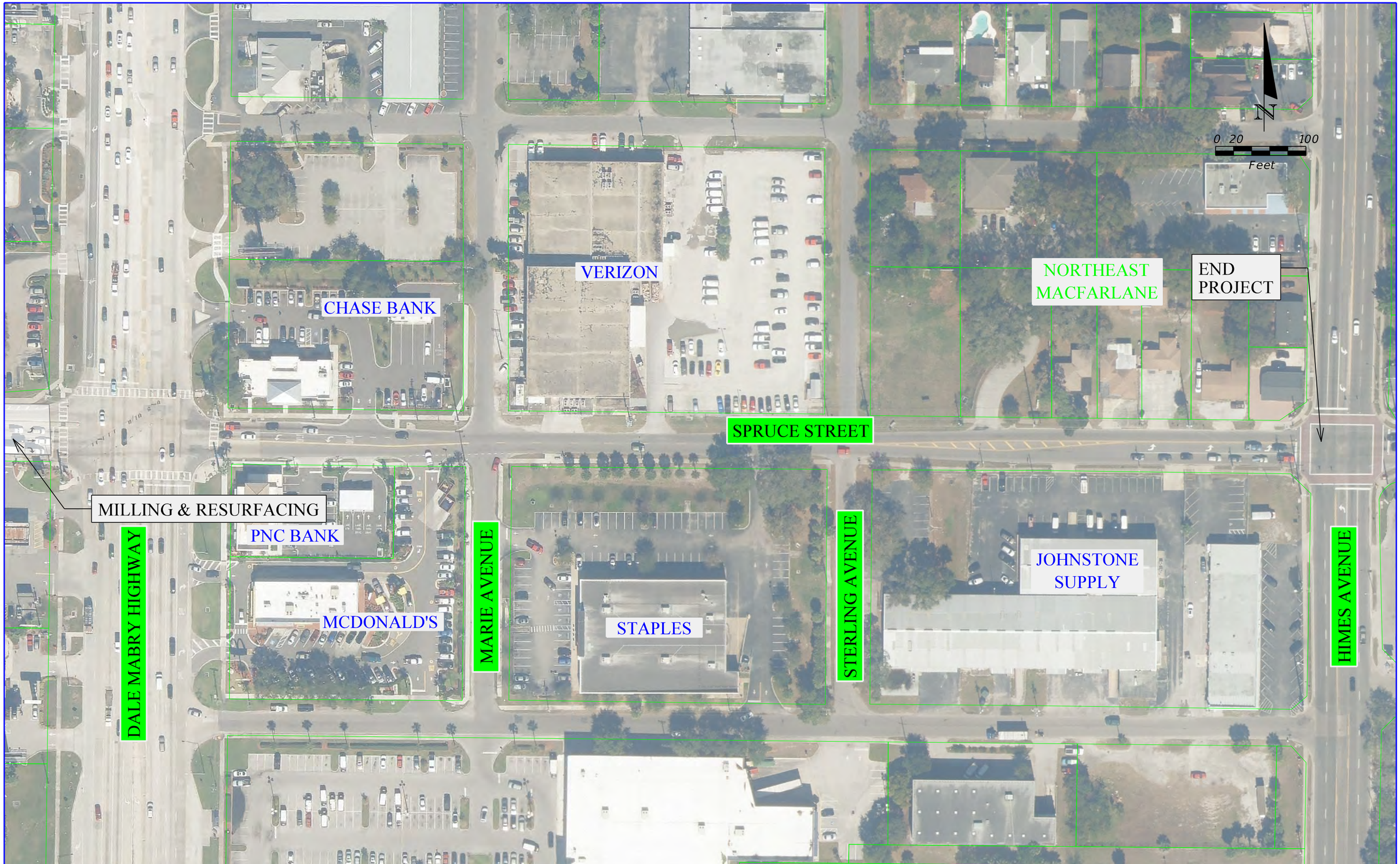

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS&H, Inc.
1715 N. Westshore Boulevard, Suite 500
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CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SPRUCE	HILLSBOROUGH	

SPRUCE STREET IMPROVEMENTS

SHEET NO. 4

$USER$ $DATE$ $TIME$ $FILE$

City of Tampa, Florida

Arterial Capacity Analysis
Spruce Street between Lois Avenue and Himes Avenue

Technical Memorandum

Prepared for:

Prepared by:

Albeck Gerken, Inc.
Transportation Engineers

1911 North US 301, Suite 410
Tampa, Florida 33619

May 2013

Kenneth K. Siu, P.E.
Florida Professional Engineer #74527

Introduction

The City of Tampa, Florida, has included a development plan to identify safety and operational improvements for the Spruce Street corridor, between Hesperdies Avenue and Himes Avenue, in its current Capital Improvement Program. This technical memorandum details proposed capacity improvement alternatives along Spruce Street between Lois Avenue and Himes Avenue.

The City has requested Albeck Gerken, Inc. to review various improvement scenarios and perform capacity analyses to determine the most effective approach to addressing these concerns. The tasks involved in this assignment include:

- Qualitative assessment of existing conditions.
- Field inventory of key elements as needed for a capacity modeling effort.
- Development of an operational analysis for various scenarios using Synchro and SimTraffic modeling software.
- Summary of analysis and recommendations.

The intersections analyzed as part of this study include:

No.	Intersection
1	Spruce St & Lois Avenue
2	Spruce St & Home Depot Entrance/Exit
3	Spruce St & Dale Mabry Hwy
4	Spruce St & Himes Avenue
5	Dale Mabry Hwy & Home Depot-Walmart

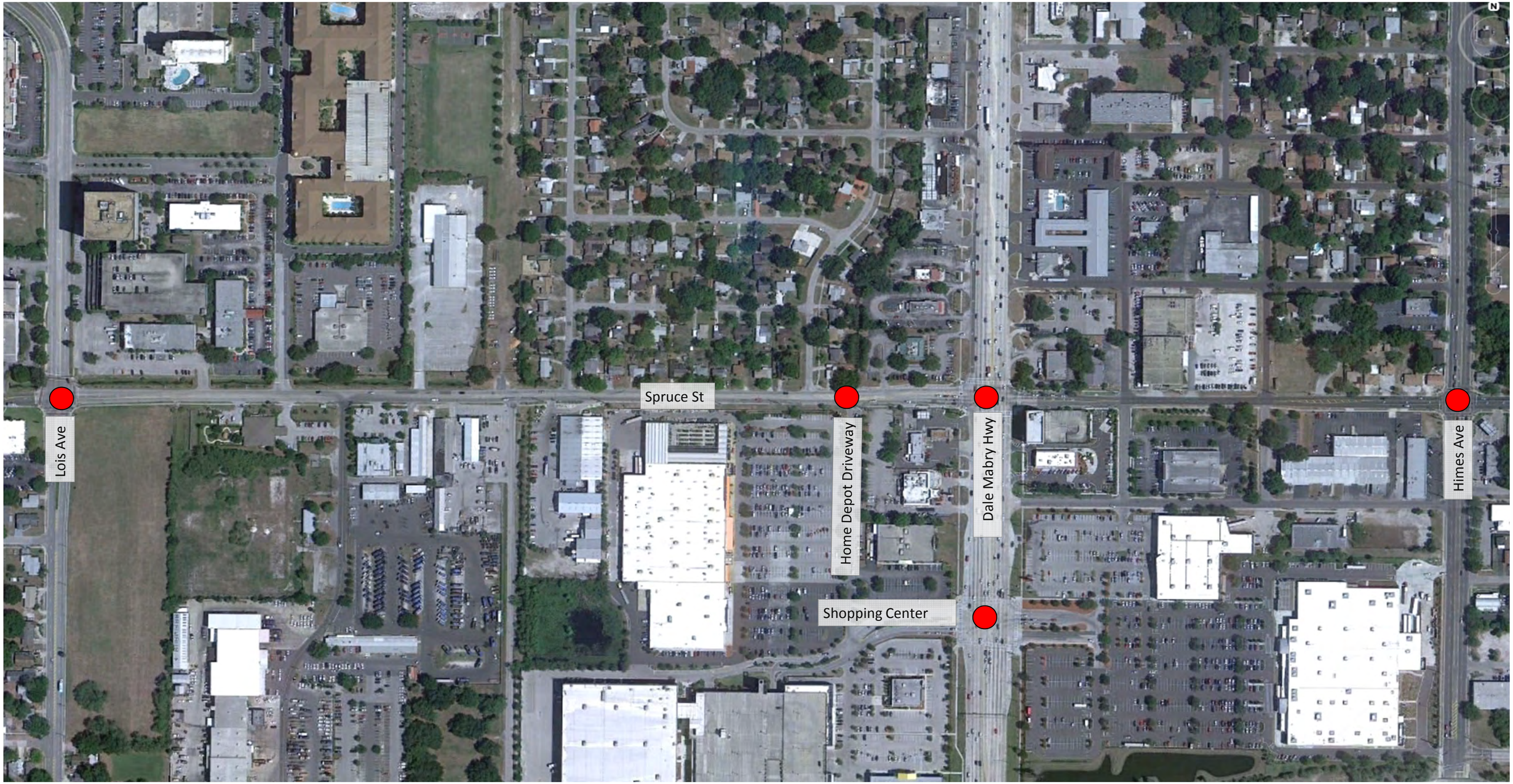
Spruce Street is currently a two-lane undivided roadway with a shared left turn lane from Lois Avenue to Dale Mabry Highway, and a two-lane undivided roadway between Dale Mabry Highway and Himes Avenue. An aerial photograph of the intersection is shown in Figure 1 on page 2.

Data Collection

The City of Tampa provided the following data for the analyses:

- Signal timing data for Spruce Street & Lois Avenue, revised March 14, 2004.
- Signal timing data for Spruce Street & Dale Mabry Highway, revised October 18, 2010.
- Signal timing data for Spruce Street & Himes Avenue, revised December 1, 2008.
- Signal timing data for Dale Mabry Highway & Home Depot–Walmart, revised October 1, 2008.

In addition, Albeck Gerken, Inc. staff conducted turning movement counts (TMC's) at the above intersections in February, 2013. TMCs were collected from 7:00 am – 10:00 am, 11:00 am – 1:00 pm and 3:00 pm – 6:00 pm on a weekday. Detailed information for the signal timing data and TMCs are included in the Appendix.



TMC Locations

Albeck Gerken, Inc.
Transportation Engineers

Figure 1
Study Corridor
Spruce St

Qualitative Assessment

The corridor was observed during the peak periods of the day by Albeck Gerken, Inc., engineers. Primary observations (shown in Figures 2 and 3) of note were as follows:

Spruce Street & Home Depot Entrance/Exit - (Figure 2)

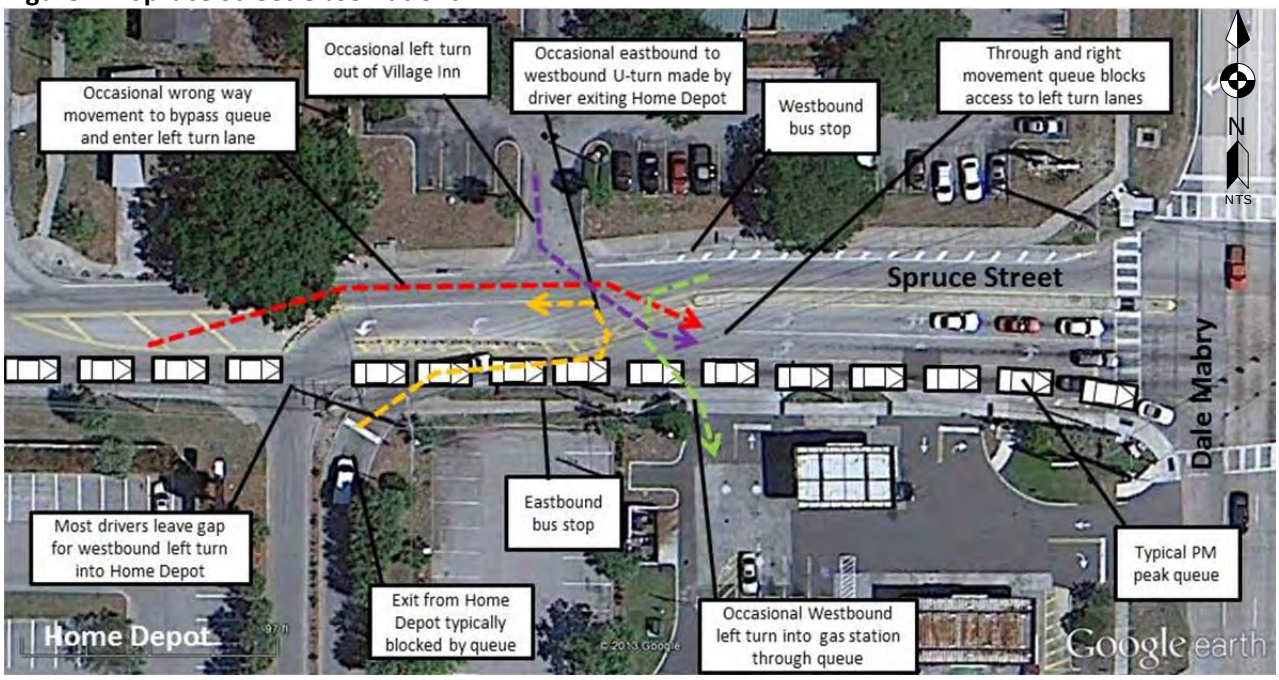
- During the PM Peak period, heavy eastbound traffic (in addition to the short spacing between the driveway and Dale Mabry Highway) on Spruce Street blocked northbound right turning traffic at the Home Depot Entrance/Exit. In addition, the large eastbound queues frequently blocked the driveway preventing westbound left turning vehicles from entering the Home Depot shopping center. Because of the short storage lengths, left turning vehicles were observed spilling into the through lane blocking westbound traffic on Spruce Street.

- There appears to be insufficient turning radius for large trucks to make the northbound right turn movement at this intersection. Trucks were observed crossing over the flexible median separators and into the westbound through lanes in order to complete the northbound right turn.

- There is currently a bus stop (westbound)located on the north side of Spruce Street directly across from the Home Depot Entrance/Exit. During bus pickup and dropoff, westbound queues prevented vehicles from accessing the westbound left turn bay into the Home Depot shopping center.

- Vehicles were observed making illegal u-turns (eastbound to westbound) between the Home Depot Entrance/Exit and Dale Mabry Highway. Southbound left turning vehicles exiting the Denny's parcel located on the northwest corner of the intersection occasionally blocked westbound traffic on Spruce Street into the Dale Mabry Highway intersection.

Figure 2 – Spruce Street Observations



Spruce Street & Dale Mabry Highway – (Figure 2)

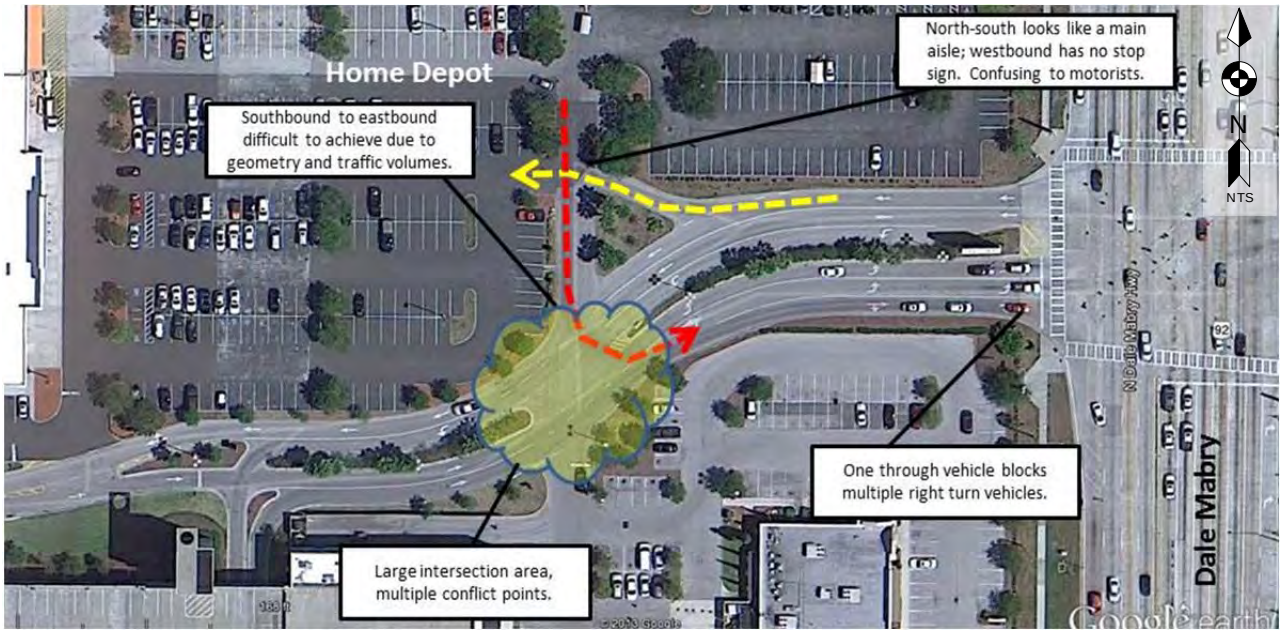
- During the PM Peak period the dual left turn lanes were frequently underutilized due to the eastbound through traffic blocking vehicles from entering the left turn storage bays. In addition, there is considerable turbulence in this area resulting from traffic (on Spruce Street) attempting to enter and exit the gas station located on the southwest corner of the intersection.

- Long queues in the eastbound direction (which blocked access to the eastbound left turning movement at Dale Mabry Highway) resulted in multiple drivers utilizing the westbound through lanes and driving around the median separators at the Home Depot Entrance/Exit driveway to access the eastbound left turn lanes at Dale Mabry Highway. Eastbound queues at this intersection extended past Grady Avenue (approximately 1,100 feet west of the intersection).

Dale Mabry Highway & Home Depot-Walmart – (Figure 3)

- Based on field observations there appeared to be unused green time at this intersection, specifically in the eastbound and westbound directions. West of the intersection (internal to the shopping center) there is a large 2-way stop controlled intersection which affects westbound traffic, due to its skew and alignment

Figure 3 – Dale Mabry Highway & Home Depot-Walmart.



Analysis Scenarios

In addition to the base condition, four build conditions for the proposed intersection improvements were developed and analyzed. All future scenarios assume a 20-year build-out date, with a traffic growth rate of 0.80 percent per year.

Base Condition: Existing configuration (No Build Option).

Build 1: Full-width widening of Spruce Street between Lois Avenue and Himes Avenue to a five lane cross-section. Bicycle lanes and sidewalks would be included.

Build 2: Reconfiguration of the eastbound approach at the intersection of Spruce Street & Dale Mabry Highway from left/left/through-right to left/through-left/right. Eastbound and westbound approaches would also be converted to split phase operation. This would include restriping the eastbound approach to accommodate the configuration change.

Build 3: Relocation of the Home Depot entrance/exit to align with Harold Street to the west, and signalization (assuming it is warranted).

Build 4: Reroute 25% of exiting traffic from the Home Depot entrance/exit on Spruce Street to the intersection of Dale Mabry Highway & Home Depot-Walmart. This would include possible changes to internal site circulation to encourage traffic to utilize the currently underutilized traffic signal.

In addition to the four proposed build scenarios, two additional scenarios were analyzed based on a meeting with City of Tampa staff on April 10, 2013.

Build 5: Signalization of the current Home Depot entrance/exit. This signal would operate in conjunction with the signal at the intersection of Spruce Street & Dale Mabry Highway and allow the northbound right turning vehicles, at the Home Depot entrance/exit, to operate under signal control.

Build 6: Related to Build 4, this option looks at the possible signalization or stop-control at the onsite intersection just west of the Dale Mabry Highway & Home Depot/Walmart intersection. This could reduce driver confusion due to the skewed alignment of the intersection.

Synchro Macroscopic Analysis and SimTraffic Microscopic Analysis

The intersection was modeled with Synchro (v7) and a microscopic analysis was performed for the network using SimTraffic (v7) to evaluate each of the scenarios for existing and future conditions. The following tables combine and summarize four performance measures for all intersections in the network: total delay, total stops, total travel time, and total fuel consumption. The tables also summarize the percent reduction of each measure, which illustrates the overall changes to the network between the no-build scenario and each of the build alternatives.

Build 1 (Full five lane widening) shows a significant decrease in delay between no-build and build conditions for all periods. This alternative would consist of adding an additional outside lane for both eastbound and westbound directions on Spruce Street (between Lois Avenue and Himes Avenue).

Build 2 (Reconfiguration of eastbound approach and split phasing east and west) shows an increase in delay between no-build and build conditions for all periods. Although eastbound and westbound left turn movements have reduced delay, the overall intersection experiences slightly higher delay.

Build 3 (Driveway realignment and signalization) shows a slight decrease in delay between no-build and build conditions for most periods. This alternative would consist of closing the existing Home Depot Entrance/Exit and relocating it to align with Harold Avenue to the east. Internal circulation and parking changes would also need to be made to the Home Depot Parcel.

Build 4 (Internal circulation changes) shows a decrease in delay between no-build and build conditions for most periods. This alternative would require working in conjunction with the shopping center tenants to improve internal traffic circulation to increase utilization of the Dale Mabry Highway & Home Depot-Walmart intersection.

Build 5 (Home Depot Exit signalization) shows a slight increase in delay between no-build and build conditions for most periods. This alternative would consist of adding a traffic signal (which would work in conjunction with the traffic signal at Dale Mabry Highway) at the Home Depot Exit on Spruce Street.

Build 6 (Internal signalization/stop control) was not analyzed using Synchro or Simtraffic because this intersection is internal to the shopping center and would have little to no effect on the Spruce Street corridor. This build alternative is discussed in greater detail below.

Table 1 on page 7 summarizes the data for the Spruce Street corridor from Lois Avenue to Himes Avenue.

Table 1 – SimTraffic Network Performance Measures

AM Peak Hour

Existing	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	55	46	-15.0%	61	11.4%	54	-1.1%	55	0.6%	56	2.2%
Total Stops	4,502	4,080	-9.4%	4,766	5.9%	4,509	0.2%	4,527	0.6%	4599	2.2%
Total Travel Time (hr)	96	87	-8.8%	102	6.7%	95	-0.3%	96	0.5%	97	1.4%
Fuel Consumed (gal)	54	52	-3.7%	55	3.0%	54	0.2%	54	0.4%	54	0.7%
Future	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	78	63	-19.3%	111	41.8%	77	-1.5%	78	-0.3%	79	1.2%
Total Stops	6,015	5,319	-11.6%	6,954	15.6%	6,026	0.2%	6,007	-0.1%	6138	2.0%
Total Travel Time (hr)	126	111	-12.2%	158	25.5%	125	-0.6%	126	-0.2%	127	0.7%
Fuel Consumed (gal)	66	63	-5.4%	73	10.9%	66	-0.2%	66	0.0%	66	0.5%

MD Peak Hour

Existing	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	80	65	-17.7%	88	10.6%	76	-4.2%	76	-4.7%	80	0.9%
Total Stops	5,411	5,031	-7.0%	5,683	5.0%	5,345	-1.2%	5,247	-3.0%	5543	2.4%
Total Travel Time (hr)	127	113	-11.2%	136	6.7%	124	-2.5%	123	-3.5%	128	0.6%
Fuel Consumed (gal)	67	63	-4.8%	69	3.0%	66	-0.9%	65	-2.3%	67	0.5%
Future	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	236	216	-8.5%	292	23.8%	249	5.4%	242	2.6%	238	0.6%
Total Stops	7,608	7,503	-1.4%	8,138	7.0%	7,289	-4.2%	7,732	1.6%	7623	0.2%
Total Travel Time (hr)	289	269	-7.0%	345	19.2%	302	4.3%	296	2.1%	291	0.4%
Fuel Consumed (gal)	108	104	-4.2%	121	11.5%	111	2.7%	110	1.3%	108	-0.1%

PM Peak Hour

Existing	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	151	79	-47.9%	215	42.3%	116	-23.4%	141	-6.9%	169	11.5%
Total Stops	7,868	6,272	-20.3%	8,435	7.2%	7,495	-4.7%	7,896	0.4%	8302	5.5%
Total Travel Time (hr)	207	135	-34.9%	271	30.8%	172	-16.8%	197	-4.9%	225	8.6%
Fuel Consumed (gal)	91	75	-17.8%	105	15.5%	83	-8.4%	89	-2.3%	95	4.3%
Future	Existing	Widen to 5-Lanes		Split Phase @ Dale Mabry + Geometry Change (EB Only)		Driveway Realignment + Signalization		Internal Circulation Changes		HD Exit Signalization	
Volumes	No-Build	Build 1		Build 2		Build 3		Build 4		Build 5	
Total Delay (hr)	565	305	-46.1%	741	31.2%	554	-2.0%	549	-2.9%	619	9.5%
Total Stops	11,925	9,524	-20.1%	11,934	0.1%	11,572	-3.0%	11,218	-5.9%	13105	9.9%
Total Travel Time (hr)	626	369	-41.1%	801	27.9%	616	-1.6%	610	-2.6%	681	8.7%
Fuel Consumed (gal)	192	136	-29.4%	231	19.9%	190	-1.0%	189	-1.9%	205	6.4%

Benefit/Cost Analysis

The benefits of the analysis scenarios were estimated based on two key components – total network delay (and therefore reductions in the value of time spent in the system) and operating cost reductions (fuel savings). Travel time benefits were determined by modeling the delay for both the no build and build scenarios, identifying a difference in time travel, and multiplying the difference by an average value-of-time and vehicle occupancy.

Costs of the proposed project alternatives (Build 2 and Build 5 omitted because of increased delay between existing and proposed conditions) were based upon current costs defined in the FDOT's Roadway Costs for Long Range Transportation Planning and increased by 12% for engineering design and another 12% for construction engineering and inspection. In addition, right of way costs were estimated for each alternative, assuming the need for stormwater treatment and considering the significance of business damages for adjacent properties. A cost of $15 per square foot was used as an estimate for right of way. Benefit / cost ratios were developed for each build scenario; the present value of the project costs were determined based upon a 4% discount rate and a 20 year life of project. Table 2 shows a summary of the benefit-cost analysis.

Table 2 – Benefit-Cost Analysis

	ROW Costs	Construction Costs	Design and CEI	Total Project Costs	Calculated Benefits over Life of Project	B/C Ratio
Build 1 Five Lane Widening	$ 1,920,000	$ 5,342,513	$ 1,282,203	$ 8,544,717	$ 5,211,099	< 1:1
Build 3 Realignment + Signal*	-	$ 486,440	$ 116,746	$ 603,186	$ 2,160,098	3.6:1
Build 4 Internal Changes	-	-	-	N/A**	$ 782,211	N/A

*Total Project costs reflect an estimated cost (equal to 100% of signalization cost) to close the existing driveway and relocate/realign with Harold Avenue.
** Costs associated with Build 4 would need to be coordinated with property owners based upon any internal site changes .

Findings and Recommendations

Build Scenarios

Build scenarios 1, 3 and 4 provide varying levels of improvement to the Spruce Street corridor between Lois Avenue and Himes Avenue. Although Build 1 (widening to five lanes) provides the largest improvement in delay, costs of this improvement are significant due to the necessary right of way as well as the need to relocate current utility and electrical lines. In addition, there has also been past neighborhood opposition to this design. Therefore this alternative is not recommended at this time; however, based on the projected level of growth in this area (discussed below) this alternative may need to be a consideration in the future.

Build scenario 2 (eastbound configuration change and split phase operation) is anticipated to operate with increased delay during all peak periods, therefore it is not recommended.

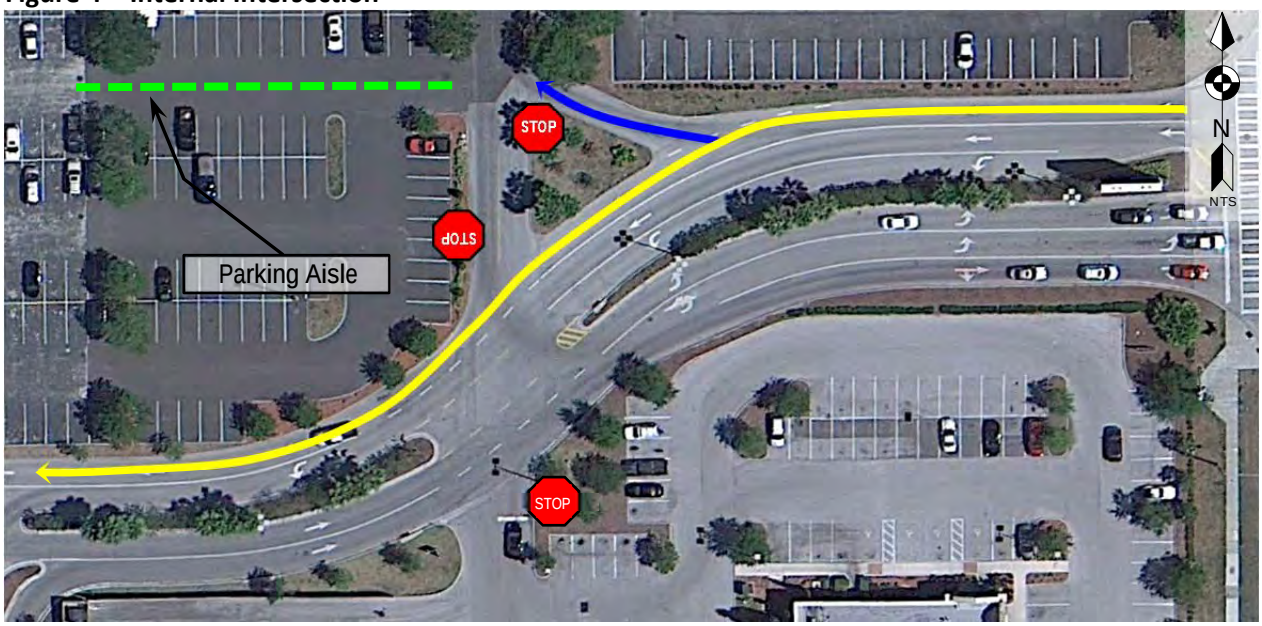
Build scenario 3 (relocation of existing Home Depot Entrance/Exit to align with Harold Avenue and signalization) is anticipated to decrease delay during all peak periods. Although costs of signalizing the intersection are relatively low compared to widening of the corridor, this alternative would involve coordination with property owners, local neighborhood groups and access management review in addition to conducting a signal warrant study. Although not the preferred alternative, this build scenario should be a consideration in the future.

Build scenario 4 (internal configuration change) is anticipated to decrease delay along Spruce Street during all peak periods with minimal costs to the City. It would require coordination with property owners to reconfigure site circulation to provide for increased utilization of the Dale Mabry Highway & Home Depot-Walmart signal. Although not part of the scope of this analysis, improvements at this intersection, such as an exclusive eastbound right turn lane or realignment/widening of the west leg, could increase utilization of the signal, thereby reducing traffic attempting to exit the shopping center via the Home Depot Exit at Spruce Street.

Build scenario 5 (Home Depot Exit Signalization) is not anticipated to decrease delay along Spruce Street. However, it would give northbound right turning vehicles (exiting the Home Depot site) a protected phase to make the turn onto Spruce Street. Under current conditions, particularly in the PM Peak period, heavy eastbound traffic blocks this intersection causing exiting traffic to backup through the Home Depot parking lot. The new traffic signal would work in conjunction with the traffic signal at Spruce Street & Dale Mabry Highway. This alternative would involve coordination with property owners, local neighborhood groups and access management review.

Build scenario 6 (Internal signalization) was not analyzed using Synchro or SimTraffic because this intersection is internal to the shopping center and would have little to no effect on the Spruce Street corridor. However, this intersection is heavily skewed and includes a channelized right turn (servicing the Home Depot parking lot) aligned with a parking aisle instead of a travel lane, as shown in Figure 4 below.

Figure 4 – Internal Intersection



Driver confusion and turbulence in this area could be alleviated by closing off access to the parking aisle aligned with the channelized right turn and adding a right turn only sign. Additional treatments or signage, to provide clearer indications of which movements have right of way, may also be beneficial to operations at this intersection. Although this alternative would involve coordination with property owners, it could be implemented in conjunction with the other build alternatives without affecting the Spruce Street corridor.

Additional Improvements

Regardless of the chosen build alternatives, it is recommended that the following recommendations be considered for implementation:

- At the intersection of Spruce Street & Home Depot Entrance/Exit consider increasing the northbound right turning radius/flare. The current configuration does not allow sufficient space for large trucks to make a northbound right without crossing into the westbound through lane on Spruce Street.
- At the intersection of Spruce Street & Home Depot Entrance/Exit proceed with installing a raised concrete median extending to the Spruce Street & Dale Mabry Highway intersection. This would alleviate much of the turbulence in the section by prohibiting southbound left turns, as designed, from the Denny's parcel (northwest corner), left turns into and out of the gas station (southwest corner) and eastbound and westbound u-turns.
- Relocation of the current bus stop (across from the Spruce Street & Home Depot Entrance/Exit) to the west. This would decrease the chance of westbound queues from extending into the Spruce Street & Dale Mabry Highway intersection during scheduled bus stops.

Future Development

The area surrounding the study corridor is anticipated to experience significant growth within the next 20 years as well as interconnectivity with I-275 to the west. Increased volumes as a result of planned development could have a significant impact on this roadway and a thorough traffic analysis should be conducted for future proposed developments. Potentially, some of the desired improvements could be addressed and analyzed as part of the new development plans.

APPENDIX

Turning Movement Counts

Albeck Gerken, Inc.
Transportation Engineers

City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	4	19	10	0	33	0	22	18	11	0	51	1	7	54	13	0	75	0	5	36	1	0	42	201
7:15	0	4	17	17	0	38	0	44	39	9	0	92	0	7	103	30	1	140	0	8	31	5	0	44	314
7:30	0	8	24	18	1	50	0	27	28	17	1	72	0	14	122	24	0	160	0	7	62	2	1	71	353
7:45	0	5	18	20	2	43	0	37	23	20	0	80	0	14	136	19	1	169	0	16	44	3	0	63	355
Hourly Total	0	21	78	65	3	164	0	130	108	57	1	295	1	42	415	86	2	544	0	36	173	11	1	220	1223
8:00	0	4	11	21	1	36	0	41	17	22	0	80	0	9	143	25	2	177	0	15	44	1	0	60	353
8:15	0	2	7	20	2	29	0	35	11	16	3	62	0	7	116	14	3	137	0	10	59	2	2	71	299
8:30	0	4	12	25	0	41	0	35	18	19	0	72	0	5	106	25	2	136	0	7	50	2	0	59	308
8:45	0	2	17	14	2	33	0	29	10	18	1	57	0	8	123	19	2	150	0	6	42	3	2	51	291
Hourly Total	0	12	47	80	5	139	0	140	56	75	4	271	0	29	488	83	9	600	0	38	195	8	4	241	1251
9:00	0	2	9	16	0	27	0	20	16	17	0	53	1	4	110	29	1	144	1	8	44	0	0	53	277
9:15	0	2	11	11	0	24	0	15	10	15	0	40	1	6	113	15	1	135	0	12	40	1	0	53	252
9:30	0	3	10	13	2	26	0	24	12	10	0	46	0	5	76	25	2	106	0	7	45	3	0	55	233
9:45	0	1	8	8	3	17	0	20	16	15	0	51	0	4	91	13	3	108	0	6	32	5	0	43	219
Hourly Total	0	8	38	48	5	94	0	79	54	57	0	190	2	19	390	82	7	493	1	33	161	9	0	204	981
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	2	8	5	1	15	0	21	16	20	2	57	0	6	77	26	0	109	0	15	44	3	0	62	243
11:15	0	3	13	5	3	21	0	35	10	22	0	67	0	5	109	28	5	142	0	7	60	3	2	70	300
11:30	0	3	10	7	0	20	0	26	13	16	1	55	1	6	121	38	5	166	0	24	79	1	1	104	345
11:45	1	6	15	8	1	30	0	24	15	17	0	56	0	7	118	37	1	162	0	28	85	2	1	115	363
Hourly Total	1	14	46	25	5	86	0	106	54	75	3	235	1	24	425	129	11	579	0	74	268	9	4	351	1251
12:00	0	4	16	7	0	27	0	28	17	18	1	63	0	5	105	47	1	157	0	22	96	6	0	124	371
12:15	0	1	13	9	1	23	0	27	18	23	0	68	0	4	103	38	0	145	0	27	92	3	0	122	358
12:30	0	6	5	6	0	17	0	32	9	42	0	83	0	8	109	48	2	165	0	18	92	3	0	113	378
12:45	0	5	12	11	0	28	0	44	23	29	0	96	0	11	110	38	2	159	0	19	95	6	0	120	403
Hourly Total	0	16	46	33	1	95	0	131	67	112	1	310	0	28	427	171	5	626	0	86	375	18	0	479	1510
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	3	7	7	1	17	0	22	21	21	1	64	0	9	74	31	0	114	0	12	105	3	0	120	315
15:15	0	5	13	4	3	22	0	11	17	12	0	40	0	16	78	38	4	132	0	19	86	0	0	105	299
15:30	0	2	17	6	0	25	0	29	16	17	1	62	1	8	79	46	0	134	0	16	95	6	0	117	338
15:45	0	0	13	4	2	17	0	34	12	19	3	65	0	2	97	44	5	143	0	24	104	1	0	129	354
Hourly Total	0	10	50	21	6	81	0	96	66	69	5	231	1	35	328	159	9	523	0	71	390	10	0	471	1306
16:00	0	1	15	7	0	23	0	32	13	15	0	60	1	6	90	42	4	139	0	25	114	0	0	139	361
16:15	0	3	19	7	0	29	0	34	12	18	4	64	1	11	106	29	1	147	0	18	94	2	0	114	354
16:30	0	3	16	6	0	25	0	22	21	21	1	64	0	5	113	49	2	167	0	16	149	6	0	171	427
16:45	0	5	21	14	1	40	0	31	24	15	0	70	2	6	108	48	0	164	0	30	137	6	0	173	447
Hourly Total	0	12	71	34	1	117	0	119	70	69	5	258	4	28	417	168	7	617	0	89	494	14	0	597	1589
17:00	0	4	27	20	0	51	0	33	26	17	0	76	0	12	103	51	1	166	0	34	236	5	0	275	568
17:15	0	2	24	9	6	35	0	36	26	22	1	84	0	11	121	57	4	189	0	36	219	3	0	258	566
17:30	0	9	41	24	0	74	0	41	24	18	1	83	0	8	103	47	0	158	0	28	197	8	0	233	548
17:45	0	1	40	16	0	57	0	42	24	23	0	89	0	15	126	44	2	185	0	32	185	6	1	223	554
Hourly Total	0	16	132	69	6	217	0	152	100	80	2	332	0	46	453	199	7	698	0	130	837	22	1	989	2236
Car	1	104	500	369	-	974	0	911	564	587	-	2062	9	243	3298	1022	-	4572	1	551	2858	101	-	3511	11119
% Car	100.0	95.4	98.4	98.4	-	98.1	-	95.6	98.1	98.8	-	97.2	100.0	96.8	98.7	94.9	-	97.7	100.0	98.9	98.8	100.0	-	98.8	98.0
Truck	0	5	8	6	-	19	0	42	11	7	-	60	0	8	45	55	-	108	0	6	35	0	-	41	228
% Truck	0.0	4.6	1.6	1.6	-	1.9	-	4.4	1.9	1.2	-	2.8	0.0	3.2	1.3	5.1	-	2.3	0.0	1.1	1.2	0.0	-	1.2	2.0
Ped	-	-	-	-	32	-	-	-	-	-	21	-	-	-	-	-	57	-	-	-	-	-	10	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Peak Hour Data (7:15)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15	0	4	17	17	0	38	0	44	39	9	0	92	0	7	103	30	1	140	0	8	31	5	0	44	314
7:30	0	8	24	18	1	50	0	27	28	17	1	72	0	14	122	24	0	160	0	7	62	2	1	71	353
7:45	0	5	18	20	2	43	0	37	23	20	0	80	0	14	136	19	1	169	0	16	44	3	0	63	355
8:00	0	4	11	21	1	36	0	41	17	22	0	80	0	9	143	25	2	177	0	15	44	1	0	60	353
PHF	0.000	0.656	0.729	0.905	-	0.835	0.000	0.847	0.686	0.773	-	0.880	0.000	0.786	0.881	0.817	-	0.912	0.000	0.719	0.730	0.550	-	0.838	0.968
Car	0	21	70	74	-	165	0	141	107	67	-	315	0	41	497	93	-	631	0	46	177	11	-	234	1345
% Car	-	100.0	100.0	97.4	-	98.8	-	94.6	100.0	98.5	-	97.2	-	93.2	98.6	94.9	-	97.7	-	100.0	97.8	100.0	-	98.3	97.8
Truck	0	0	0	2	-	2	0	8	0	1	-	9	0	3	7	5	-	15	0	0	4	0	-	4	30
% Truck	-	0.0	0.0	2.6	-	1.2	-	5.4	0.0	1.5	-	2.8	-	6.8	1.4	5.1	-	2.3	-	0.0	2.2	0.0	-	1.7	2.2
Ped	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	4	16	7	0	27	0	28	17	18	1	63	0	5	105	47	1	157	0	22	96	6	0	124	371
12:15	0	1	13	9	1	23	0	27	18	23	0	68	0	4	103	38	0	145	0	27	92	3	0	122	358
12:30	0	6	5	6	0	17	0	32	9	42	0	83	0	8	109	48	2	165	0	18	92	3	0	113	378
12:45	0	5	12	11	0	28	0	44	23	29	0	96	0	11	110	38	2	159	0	19	95	6	0	120	403
PHF	0.000	0.667	0.719	0.750	-	0.848	0.000	0.744	0.728	0.667	-	0.807	0.000	0.636	0.970	0.891	-	0.948	0.000	0.796	0.977	0.750	-	0.966	0.937
Car	0	16	46	32	-	94	0	125	65	111	-	301	0	28	423	166	-	617	0	85	374	18	-	477	1489
% Car	-	100.0	100.0	97.0	-	98.9	-	95.4	97.0	99.1	-	97.1	-	100.0	99.1	97.1	-	98.6	-	98.8	99.7	100.0	-	99.6	98.6
Truck	0	0	0	1	-	1	0	6	2	1	-	9	0	0	4	5	-	9	0	1	1	0	-	2	21
% Truck	-	0.0	0.0	3.0	-	1.1	-	4.6	3.0	0.9	-	2.9	-	0.0	0.9	2.9	-	1.4	-	1.2	0.3	0.0	-	0.4	1.4
Ped	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Lois Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 3501_Spruce St & Lois Ave WD
Site Code: 3501
Start Date: 02/19/2013

Turning Movement Peak Hour Data (17:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Lois Ave Northbound						Lois Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
17:00	0	4	27	20	0	51	0	33	26	17	0	76	0	12	103	51	1	166	0	34	236	5	0	275	568
17:15	0	2	24	9	6	35	0	36	26	22	1	84	0	11	121	57	4	189	0	36	219	3	0	258	566
17:30	0	9	41	24	0	74	0	41	24	18	1	83	0	8	103	47	0	158	0	28	197	8	0	233	548
17:45	0	1	40	16	0	57	0	42	24	23	0	89	0	15	126	44	2	185	0	32	185	6	1	223	554
PHF	0.000	0.444	0.805	0.719	-	0.733	0.000	0.905	0.962	0.870	-	0.933	0.000	0.767	0.899	0.873	-	0.923	0.000	0.903	0.887	0.688	-	0.899	0.984
Car	0	15	132	69	-	216	0	149	99	80	-	328	0	46	450	195	-	691	0	129	829	22	-	980	2215
% Car	-	93.8	100.0	100.0	-	99.5	-	98.0	99.0	100.0	-	98.8	-	100.0	99.3	98.0	-	99.0	-	99.2	99.0	100.0	-	99.1	99.1
Truck	0	1	0	0	-	1	0	3	1	0	-	4	0	0	3	4	-	7	0	1	8	0	-	9	21
% Truck	-	6.3	0.0	0.0	-	0.5	-	2.0	1.0	0.0	-	1.2	-	0.0	0.7	2.0	-	1.0	-	0.8	1.0	0.0	-	0.9	0.9
Ped	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

CIty of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Data

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	60	5	0	65	0	15	70	0	85	7	1	7	0	0	157
7:15	0	62	6	0	68	0	19	93	0	112	13	2	13	0	0	193
7:30	0	78	3	0	81	0	21	97	0	118	17	2	17	0	0	216
7:45	0	68	9	0	77	0	25	111	0	136	22	3	22	0	0	235
Hourly Total	0	268	23	0	291	0	80	371	0	451	59	8	59	0	0	801
8:00	0	56	8	0	64	0	17	82	1	99	15	4	15	0	0	178
8:15	0	55	2	1	57	0	29	88	0	117	22	0	22	1	0	196
8:30	0	50	7	3	57	0	23	82	1	105	15	3	15	0	0	177
8:45	0	49	8	1	57	1	29	80	0	110	24	4	24	0	0	191
Hourly Total	0	210	25	5	235	1	98	332	2	431	76	11	76	1	0	742
9:00	0	55	13	0	68	0	30	70	0	100	28	1	28	0	0	196
9:15	0	48	10	0	58	0	39	56	0	95	32	0	32	0	0	185
9:30	0	57	12	0	69	0	29	54	0	83	35	2	35	0	0	187
9:45	0	57	9	2	66	0	36	65	0	101	45	0	45	4	0	212
Hourly Total	0	217	44	2	261	0	134	245	0	379	140	3	140	4	0	780
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	61	24	0	85	0	37	58	2	95	43	2	43	0	0	223
11:15	0	51	20	0	71	0	42	74	0	116	46	0	46	1	0	233
11:30	0	55	31	0	86	0	51	64	0	115	46	3	46	0	0	247
11:45	0	58	34	1	92	0	47	70	0	117	51	2	51	1	0	260
Hourly Total	0	225	109	1	334	0	177	266	2	443	186	7	186	2	0	963
12:00	0	60	35	2	95	0	33	72	1	105	48	2	48	2	0	248
12:15	0	45	49	0	94	0	38	75	0	113	59	2	59	0	0	266
12:30	0	60	26	4	86	0	31	96	0	127	65	2	65	0	0	278
12:45	0	52	25	0	77	0	36	119	1	155	64	1	64	0	0	296
Hourly Total	0	217	135	6	352	0	138	362	2	500	236	7	236	2	0	1088
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	64	17	0	81	0	39	67	0	106	57	0	57	2	0	244
15:15	0	61	17	0	78	0	18	58	0	76	55	1	55	2	0	209
15:30	0	82	22	0	104	0	38	75	0	113	46	1	46	0	0	263
15:45	0	77	15	2	92	0	25	81	0	106	45	5	45	3	0	243
Hourly Total	0	284	71	2	355	0	120	281	0	401	203	7	203	7	0	959
16:00	1	62	17	0	80	0	19	64	2	83	39	6	39	4	0	202
16:15	1	89	36	1	126	0	27	77	0	104	41	1	41	0	0	271
16:30	0	81	13	1	94	0	23	77	0	100	31	8	31	3	0	225
16:45	0	98	16	0	114	0	17	77	0	94	35	1	35	1	0	243
Hourly Total	2	330	82	2	414	0	86	295	2	381	146	16	146	8	0	941
17:00	0	111	15	1	126	0	24	93	0	117	38	5	38	1	0	281
17:15	0	112	26	3	138	0	21	92	1	113	29	3	29	2	0	280
17:30	0	101	25	4	126	0	27	84	0	111	31	5	31	2	0	268
17:45	0	89	41	2	130	0	38	91	0	129	36	1	36	1	0	295
Hourly Total	0	413	107	10	520	0	110	360	1	470	134	14	134	6	0	1124
Car	2	2069	591	-	2662	1	932	2383	-	3316	1164	-	1164	-	0	7142
% Car	100.0	95.6	99.2	-	96.4	100.0	98.8	94.9	-	95.9	98.6	-	98.6	-	-	96.5
Truck	0	95	5	-	100	0	11	129	-	140	16	-	16	-	0	256
% Truck	0.0	4.4	0.8	-	3.6	0.0	1.2	5.1	-	4.1	1.4	-	1.4	-	-	3.5
Ped	-	-	-	28	-	-	-	-	9	-	-	73	-	30	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

CIty of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Peak Hour Data (7:30)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:30	0	78	3	0	81	0	21	97	0	118	17	2	17	0	0	216
7:45	0	68	9	0	77	0	25	111	0	136	22	3	22	0	0	235
8:00	0	56	8	0	64	0	17	82	1	99	15	4	15	0	0	178
8:15	0	55	2	1	57	0	29	88	0	117	22	0	22	1	0	196
PHF	0.000	0.824	0.611	-	0.861	0.000	0.793	0.851	-	0.864	0.864	-	0.864	-	0.000	0.878
Car	0	243	22	-	265	0	90	363	-	453	76	-	76	-	0	794
% Car	-	94.6	100.0	-	95.0	-	97.8	96.0	-	96.4	100.0	-	100.0	-	-	96.2
Truck	0	14	0	-	14	0	2	15	-	17	0	-	0	-	0	31
% Truck	-	5.4	0.0	-	5.0	-	2.2	4.0	-	3.6	0.0	-	0.0	-	-	3.8
Ped	-	-	-	1	-	-	-	-	1	-	-	9	-	1	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

CIty of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
12:00	0	60	35	2	95	0	33	72	1	105	48	2	48	2	0	248
12:15	0	45	49	0	94	0	38	75	0	113	59	2	59	0	0	266
12:30	0	60	26	4	86	0	31	96	0	127	65	2	65	0	0	278
12:45	0	52	25	0	77	0	36	119	1	155	64	1	64	0	0	296
PHF	0.000	0.904	0.689	-	0.926	0.000	0.908	0.761	-	0.806	0.908	-	0.908	-	0.000	0.919
Car	0	205	135	-	340	0	138	346	-	484	234	-	234	-	0	1058
% Car	-	94.5	100.0	-	96.6	-	100.0	95.6	-	96.8	99.2	-	99.2	-	-	97.2
Truck	0	12	0	-	12	0	0	16	-	16	2	-	2	-	0	30
% Truck	-	5.5	0.0	-	3.4	-	0.0	4.4	-	3.2	0.8	-	0.8	-	-	2.8
Ped	-	-	-	6	-	-	-	-	2	-	-	7	-	2	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

CIty of Tampa
Study #7 - Spruce St
Spruce St & Home Depot
Driveway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 0001_Spruce St &
Home Depot Driveway WD
Site Code: 0001
Start Date: 02/19/2013

Turning Movement Peak Hour Data (17:00)

Start Time	Spruce St Eastbound					Spruce St Westbound					Home Depot Driveway Northbound			Driveway Southbound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Right	Peds	App. Total	Peds	App. Total	Int. Total
17:00	0	111	15	1	126	0	24	93	0	117	38	5	38	1	0	281
17:15	0	112	26	3	138	0	21	92	1	113	29	3	29	2	0	280
17:30	0	101	25	4	126	0	27	84	0	111	31	5	31	2	0	268
17:45	0	89	41	2	130	0	38	91	0	129	36	1	36	1	0	295
PHF	0.000	0.922	0.652	-	0.942	0.000	0.724	0.968	-	0.911	0.882	-	0.882	-	0.000	0.953
Car	0	409	107	-	516	0	109	352	-	461	131	-	131	-	0	1108
% Car	-	99.0	100.0	-	99.2	-	99.1	97.8	-	98.1	97.8	-	97.8	-	-	98.6
Truck	0	4	0	-	4	0	1	8	-	9	3	-	3	-	0	16
% Truck	-	1.0	0.0	-	0.8	-	0.9	2.2	-	1.9	2.2	-	2.2	-	-	1.4
Ped	-	-	-	10	-	-	-	-	1	-	-	14	-	6	-	-
% Ped	-	-	-	100.0	-	-	-	-	100.0	-	-	100.0	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	11	23	19	0	53	0	15	37	4	0	56	4	8	237	13	1	262	0	7	312	30	0	349	720
7:15	0	19	31	14	0	64	0	20	49	2	2	71	7	21	306	25	0	359	0	11	421	41	0	473	967
7:30	0	21	46	27	0	94	0	35	64	8	0	107	10	14	344	18	1	386	0	13	394	37	0	444	1031
7:45	0	25	49	11	0	85	0	26	51	4	0	81	6	20	322	31	2	379	0	6	377	53	0	436	981
Hourly Total	0	76	149	71	0	296	0	96	201	18	2	315	27	63	1209	87	4	1386	0	37	1504	161	0	1702	3699
8:00	0	26	23	14	1	63	0	23	54	12	0	89	9	18	359	24	1	410	0	14	389	42	0	445	1007
8:15	0	22	32	17	1	71	0	29	56	10	0	95	12	17	300	23	1	352	1	10	395	39	3	445	963
8:30	0	19	28	11	1	58	0	28	55	8	2	91	11	6	360	28	0	405	0	11	428	32	0	471	1025
8:45	0	20	37	12	0	69	0	16	54	9	0	79	6	13	336	20	1	375	3	16	403	53	0	475	998
Hourly Total	0	87	120	54	3	261	0	96	219	39	2	354	38	54	1355	95	3	1542	4	51	1615	166	3	1836	3993
9:00	0	28	36	15	0	79	0	15	38	9	1	62	7	14	335	17	1	373	3	20	353	41	2	417	931
9:15	0	18	27	9	2	54	0	24	32	10	0	66	10	13	345	20	0	388	1	14	392	42	0	449	957
9:30	0	29	43	21	0	93	0	23	39	15	6	77	11	15	298	14	2	338	1	13	340	33	0	387	895
9:45	1	26	35	29	0	91	0	26	42	12	2	80	4	14	292	22	1	332	1	15	270	43	0	329	832
Hourly Total	1	101	141	74	2	317	0	88	151	46	9	285	32	56	1270	73	4	1431	6	62	1355	159	2	1582	3615
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	41	47	25	0	113	0	16	36	11	5	63	5	13	303	22	3	343	0	16	323	47	0	386	905
11:15	0	36	31	22	1	89	0	18	50	14	1	82	4	9	396	24	1	433	6	19	494	59	3	578	1182
11:30	0	49	30	20	0	99	0	29	43	12	4	84	10	14	335	33	0	392	1	16	406	49	0	472	1047
11:45	0	33	40	19	0	92	0	29	41	18	3	88	8	22	356	33	6	419	4	17	387	50	0	458	1057
Hourly Total	0	159	148	86	1	393	0	92	170	55	13	317	27	58	1390	112	10	1587	11	68	1610	205	3	1894	4191
12:00	0	54	41	16	0	111	0	30	34	11	0	75	11	24	331	35	0	401	5	17	444	45	0	511	1098
12:15	0	47	29	26	0	102	0	29	35	14	3	78	7	24	405	33	3	469	6	25	463	53	0	547	1196
12:30	1	42	32	29	1	104	0	40	53	17	0	110	11	13	399	42	1	465	3	21	459	52	1	535	1214
12:45	0	46	34	32	3	112	0	37	56	10	4	103	8	24	416	43	3	491	9	18	463	77	0	567	1273
Hourly Total	1	189	136	103	4	429	0	136	178	52	7	366	37	85	1551	153	7	1826	23	81	1829	227	1	2160	4781
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	39	49	26	0	114	0	17	46	11	2	74	9	14	357	20	0	400	7	15	408	44	0	474	1062
15:15	0	44	44	26	4	114	0	24	33	17	1	74	6	13	406	26	3	451	6	13	471	23	2	513	1152
15:30	1	33	58	30	0	122	0	34	47	8	9	89	4	14	339	19	3	376	4	16	484	49	0	553	1140
15:45	2	45	54	29	0	130	0	34	41	16	3	91	2	12	350	29	4	393	1	14	437	46	0	498	1112
Hourly Total	3	161	205	111	4	480	0	109	167	52	15	328	21	53	1452	94	10	1620	18	58	1800	162	2	2038	4466
16:00	0	36	33	17	2	86	0	26	33	20	5	79	9	12	402	29	3	452	0	11	472	40	0	523	1140
16:15	0	40	59	26	2	125	0	25	52	10	0	87	10	19	372	27	3	428	1	16	436	31	0	484	1124
16:30	0	38	48	19	0	105	0	25	38	14	1	77	9	16	386	23	1	434	1	17	441	35	1	494	1110
16:45	0	34	64	23	2	121	0	27	57	9	1	93	7	10	397	15	4	429	5	13	536	34	3	588	1231
Hourly Total	0	148	204	85	6	437	0	103	180	53	7	336	35	57	1557	94	11	1743	7	57	1885	140	4	2089	4605
17:00	0	52	64	29	1	145	0	29	53	15	5	97	1	21	389	27	2	438	4	17	509	38	1	568	1248
17:15	0	41	69	24	2	134	0	33	50	9	2	92	6	16	441	26	4	489	1	11	565	37	0	614	1329
17:30	0	28	68	32	4	128	0	28	57	16	1	101	7	20	348	21	3	396	1	15	535	42	1	593	1218
17:45	0	38	53	27	2	118	0	47	58	11	5	116	5	24	350	20	0	399	1	14	453	44	2	512	1145
Hourly Total	0	159	254	112	9	525	0	137	218	51	13	406	19	81	1528	94	9	1722	7	57	2062	161	4	2287	4940
Car	5	1060	1305	666	-	3036	0	835	1403	360	-	2598	232	482	11013	791	-	12518	76	463	13262	1343	-	15144	33296
% Car	100.0	98.1	96.2	95.7	-	96.7	-	97.4	94.5	98.4	-	96.0	98.3	95.1	97.4	98.6	-	97.4	100.0	98.3	97.1	97.2	-	97.2	97.1
Truck	0	20	52	30	-	102	0	22	81	6	-	109	4	25	299	11	-	339	0	8	398	38	-	444	994
% Truck	0.0	1.9	3.8	4.3	-	3.3	-	2.6	5.5	1.6	-	4.0	1.7	4.9	2.6	1.4	-	2.6	0.0	1.7	2.9	2.8	-	2.8	2.9
Ped	-	-	-	-	29	-	-	-	-	-	68	-	-	-	-	-	58	-	-	-	-	-	19	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (8:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	26	23	14	1	63	0	23	54	12	0	89	9	18	359	24	1	410	0	14	389	42	0	445	1007
8:15	0	22	32	17	1	71	0	29	56	10	0	95	12	17	300	23	1	352	1	10	395	39	3	445	963
8:30	0	19	28	11	1	58	0	28	55	8	2	91	11	6	360	28	0	405	0	11	428	32	0	471	1025
8:45	0	20	37	12	0	69	0	16	54	9	0	79	6	13	336	20	1	375	3	16	403	53	0	475	998
PHF	0.000	0.837	0.811	0.794	-	0.919	0.000	0.828	0.978	0.813	-	0.932	0.792	0.750	0.941	0.848	-	0.940	0.333	0.797	0.943	0.783	-	0.966	0.974
Car	0	85	111	48	-	244	0	94	201	38	-	333	36	50	1328	93	-	1507	4	50	1548	161	-	1763	3847
% Car	-	97.7	92.5	88.9	-	93.5	-	97.9	91.8	97.4	-	94.1	94.7	92.6	98.0	97.9	-	97.7	100.0	98.0	95.9	97.0	-	96.0	96.3
Truck	0	2	9	6	-	17	0	2	18	1	-	21	2	4	27	2	-	35	0	1	67	5	-	73	146
% Truck	-	2.3	7.5	11.1	-	6.5	-	2.1	8.2	2.6	-	5.9	5.3	7.4	2.0	2.1	-	2.3	0.0	2.0	4.1	3.0	-	4.0	3.7
Ped	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	54	41	16	0	111	0	30	34	11	0	75	11	24	331	35	0	401	5	17	444	45	0	511	1098
12:15	0	47	29	26	0	102	0	29	35	14	3	78	7	24	405	33	3	469	6	25	463	53	0	547	1196
12:30	1	42	32	29	1	104	0	40	53	17	0	110	11	13	399	42	1	465	3	21	459	52	1	535	1214
12:45	0	46	34	32	3	112	0	37	56	10	4	103	8	24	416	43	3	491	9	18	463	77	0	567	1273
PHF	0.250	0.875	0.829	0.805	-	0.958	0.000	0.850	0.795	0.765	-	0.832	0.841	0.885	0.932	0.890	-	0.930	0.639	0.810	0.988	0.737	-	0.952	0.939
Car	1	187	132	97	-	417	0	132	169	52	-	353	37	80	1502	151	-	1770	23	80	1769	224	-	2096	4636
% Car	100.0	98.9	97.1	94.2	-	97.2	-	97.1	94.9	100.0	-	96.4	100.0	94.1	96.8	98.7	-	96.9	100.0	98.8	96.7	98.7	-	97.0	97.0
Truck	0	2	4	6	-	12	0	4	9	0	-	13	0	5	49	2	-	56	0	1	60	3	-	64	145
% Truck	0.0	1.1	2.9	5.8	-	2.8	-	2.9	5.1	0.0	-	3.6	0.0	5.9	3.2	1.3	-	3.1	0.0	1.2	3.3	1.3	-	3.0	3.0
Ped	-	-	-	-	4	-	-	-	-	-	7	-	-	-	-	-	7	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Spruce St & Dale Mabry Highway
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2107_Spruce St & Dale Mabry Hwy WD
Site Code: 2107
Start Date: 02/19/2013

Turning Movement Peak Hour Data (16:45)

Start Time	Spruce St Eastbound						Spruce St Westbound						Dale Mabry Highway Northbound						Dale Mabry Highway Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	34	64	23	2	121	0	27	57	9	1	93	7	10	397	15	4	429	5	13	536	34	3	588	1231
17:00	0	52	64	29	1	145	0	29	53	15	5	97	1	21	389	27	2	438	4	17	509	38	1	568	1248
17:15	0	41	69	24	2	134	0	33	50	9	2	92	6	16	441	26	4	489	1	11	565	37	0	614	1329
17:30	0	28	68	32	4	128	0	28	57	16	1	101	7	20	348	21	3	396	1	15	535	42	1	593	1218
PHF	0.000	0.745	0.960	0.844	-	0.910	0.000	0.886	0.952	0.766	-	0.948	0.750	0.798	0.893	0.824	-	0.896	0.550	0.824	0.949	0.899	-	0.962	0.945
Car	0	153	262	106	-	521	0	116	211	49	-	376	20	66	1544	89	-	1719	11	55	2119	149	-	2334	4950
% Car	-	98.7	98.9	98.1	-	98.7	-	99.1	97.2	100.0	-	98.2	95.2	98.5	98.0	100.0	-	98.1	100.0	98.2	98.8	98.7	-	98.8	98.5
Truck	0	2	3	2	-	7	0	1	6	0	-	7	1	1	31	0	-	33	0	1	26	2	-	29	76
% Truck	-	1.3	1.1	1.9	-	1.3	-	0.9	2.8	0.0	-	1.8	4.8	1.5	2.0	0.0	-	1.9	0.0	1.8	1.2	1.3	-	1.2	1.5
Ped	-	-	-	-	9	-	-	-	-	-	9	-	-	-	-	-	13	-	-	-	-	-	5	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

CIty of Tampa
Study #7 - Spruce St
Spruce St & Himes Ave
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2430_Spruce St & Himes Ave WD
Site Code: 2430
Start Date: 02/19/2013

Turning Movement Data

Start Time	Spruce St Eastbound						Spruce St Westbound						Himes Ave Northbound						Himes Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	12	10	9	0	31	0	7	24	4	0	35	0	16	115	2	0	133	0	9	138	21	0	168	367
7:15	0	22	29	15	2	66	0	11	43	3	0	57	0	23	172	4	1	199	0	10	168	39	0	217	539
7:30	0	15	24	15	0	54	0	10	41	8	1	59	0	30	195	4	1	229	0	23	200	27	0	250	592
7:45	0	32	38	10	0	80	0	13	43	6	0	62	0	15	187	5	1	207	0	11	207	28	0	246	595
Hourly Total	0	81	101	49	2	231	0	41	151	21	1	213	0	84	669	15	3	768	0	53	713	115	0	881	2093
8:00	0	16	18	10	1	44	0	14	42	9	0	65	0	24	136	5	0	165	0	18	222	36	0	276	550
8:15	0	21	21	16	1	58	0	18	45	6	0	69	0	21	145	4	0	170	0	3	183	28	1	214	511
8:30	0	21	26	18	2	65	0	13	44	8	0	65	0	23	143	5	0	171	0	3	228	35	0	266	567
8:45	0	20	21	19	0	60	0	14	29	6	1	49	0	17	131	6	1	154	0	17	173	27	0	217	480
Hourly Total	0	78	86	63	4	227	0	59	160	29	1	248	0	85	555	20	1	660	0	41	806	126	1	973	2108
9:00	0	21	14	9	0	44	0	6	16	7	2	29	0	22	145	8	0	175	0	9	154	23	0	186	434
9:15	0	18	24	24	0	66	0	16	25	6	0	47	0	17	155	7	0	179	0	8	144	29	0	181	473
9:30	0	17	28	19	0	64	0	13	29	3	0	45	0	21	112	8	0	141	0	10	134	28	0	172	422
9:45	0	18	15	19	1	52	0	10	23	4	3	37	0	23	105	8	0	136	0	4	124	21	1	149	374
Hourly Total	0	74	81	71	1	226	0	45	93	20	5	158	0	83	517	31	0	631	0	31	556	101	1	688	1703
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	23	23	17	0	63	0	6	28	9	0	43	0	22	117	12	6	151	0	5	151	20	0	176	433
11:15	0	26	26	28	0	80	0	15	21	7	0	43	0	29	102	8	2	139	0	6	152	41	0	199	461
11:30	0	19	32	14	0	65	0	16	32	5	1	53	0	19	117	12	0	148	0	5	134	20	0	159	425
11:45	0	32	29	20	0	81	0	14	40	13	3	67	0	18	101	9	2	128	0	6	152	26	0	184	460
Hourly Total	0	100	110	79	0	289	0	51	121	34	4	206	0	88	437	41	10	566	0	22	589	107	0	718	1779
12:00	0	28	28	28	1	84	0	16	30	4	1	50	0	16	111	6	4	133	0	8	142	36	2	186	453
12:15	0	21	22	23	2	66	0	15	25	7	0	47	0	36	149	8	0	193	0	16	145	26	0	187	493
12:30	0	31	31	33	2	95	0	20	35	8	0	63	0	22	133	11	1	166	0	19	184	44	0	247	571
12:45	0	29	37	24	2	90	0	14	44	4	0	62	0	22	137	16	3	175	0	11	161	34	0	206	533
Hourly Total	0	109	118	108	7	335	0	65	134	23	1	222	0	96	530	41	8	667	0	54	632	140	2	826	2050
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	26	38	27	1	91	0	16	40	7	0	63	0	29	138	18	3	185	0	10	162	16	1	188	527
15:15	0	28	34	14	3	76	0	20	30	5	1	55	0	21	167	8	1	196	0	8	187	24	0	219	546
15:30	0	19	42	37	1	98	0	16	40	9	0	65	0	28	173	6	0	207	0	9	246	28	0	283	653
15:45	0	29	42	35	1	106	0	17	55	2	0	74	0	22	177	14	4	213	0	13	241	21	0	275	668
Hourly Total	0	102	156	113	6	371	0	69	165	23	1	257	0	100	655	46	8	801	0	40	836	89	1	965	2394
16:00	0	18	39	27	0	84	0	18	30	14	0	62	0	18	159	9	1	186	0	11	206	28	3	245	577
16:15	0	29	44	26	1	99	0	10	41	8	1	59	0	18	131	12	2	161	0	13	225	27	0	265	584
16:30	0	28	30	21	1	79	0	18	41	17	0	76	0	23	188	9	1	220	0	14	231	36	0	281	656
16:45	0	23	41	25	0	89	0	12	54	9	0	75	0	19	189	11	0	219	0	9	248	23	0	280	663
Hourly Total	0	98	154	99	2	351	0	58	166	48	1	272	0	78	667	41	4	786	0	47	910	114	3	1071	2480
17:00	0	35	55	21	1	111	0	28	52	6	3	86	0	20	191	17	1	228	0	13	230	23	0	266	691
17:15	0	31	67	30	5	128	0	23	63	15	2	101	0	12	218	14	1	244	0	13	318	35	1	366	839
17:30	0	27	45	33	4	105	0	19	40	8	2	67	0	22	191	13	2	226	0	21	312	33	1	366	764
17:45	0	23	45	15	0	83	0	18	60	15	1	93	0	27	200	14	1	241	0	19	279	42	0	340	757
Hourly Total	0	116	212	99	10	427	0	88	215	44	8	347	0	81	800	58	5	939	0	66	1139	133	2	1338	3051
Car	0	737	999	661	-	2397	0	469	1159	236	-	1864	0	669	4743	287	-	5699	0	348	6057	885	-	7290	17250
% Car	-	97.2	98.1	97.1	-	97.6	-	98.5	96.2	97.5	-	96.9	-	96.3	98.2	98.0	-	98.0	-	98.3	98.0	95.7	-	97.7	97.7
Truck	0	21	19	20	-	60	0	7	46	6	-	59	0	26	87	6	-	119	0	6	124	40	-	170	408
% Truck	-	2.8	1.9	2.9	-	2.4	-	1.5	3.8	2.5	-	3.1	-	3.7	1.8	2.0	-	2.0	-	1.7	2.0	4.3	-	2.3	2.3
Ped	-	-	-	-	32	-	-	-	-	-	22	-	-	-	-	-	39	-	-	-	-	-	10	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Albeck Gerken, Inc.
Transportation Engineers

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1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

CIty of Tampa
Study #7 - Spruce St
Spruce St & Himes Ave
Weekday TMC

Count Name: 2430_Spruce St & Himes Ave WD
Site Code: 2430
Start Date: 02/19/2013

Turning Movement Peak Hour Data (7:15)

Start Time	Spruce St Eastbound						Spruce St Westbound						Himes Ave Northbound						Himes Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15	0	22	29	15	2	66	0	11	43	3	0	57	0	23	172	4	1	199	0	10	168	39	0	217	539
7:30	0	15	24	15	0	54	0	10	41	8	1	59	0	30	195	4	1	229	0	23	200	27	0	250	592
7:45	0	32	38	10	0	80	0	13	43	6	0	62	0	15	187	5	1	207	0	11	207	28	0	246	595
8:00	0	16	18	10	1	44	0	14	42	9	0	65	0	24	136	5	0	165	0	18	222	36	0	276	550
PHF	0.000	0.664	0.717	0.833	-	0.763	0.000	0.857	0.983	0.722	-	0.935	0.000	0.767	0.885	0.900	-	0.873	0.000	0.674	0.898	0.833	-	0.896	0.956
Car	0	81	107	49	-	237	0	46	163	25	-	234	0	87	684	17	-	788	0	61	782	125	-	968	2227
% Car	-	95.3	98.2	98.0	-	97.1	-	95.8	96.4	96.2	-	96.3	-	94.6	99.1	94.4	-	98.5	-	98.4	98.1	96.2	-	97.9	97.8
Truck	0	4	2	1	-	7	0	2	6	1	-	9	0	5	6	1	-	12	0	1	15	5	-	21	49
% Truck	-	4.7	1.8	2.0	-	2.9	-	4.2	3.6	3.8	-	3.7	-	5.4	0.9	5.6	-	1.5	-	1.6	1.9	3.8	-	2.1	2.2
Ped	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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CIty of Tampa
Study #7 - Spruce St
Spruce St & Himes Ave
Weekday TMC

Count Name: 2430_Spruce St & Himes Ave WD
Site Code: 2430
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Himes Ave Northbound						Himes Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	28	28	28	1	84	0	16	30	4	1	50	0	16	111	6	4	133	0	8	142	36	2	186	453
12:15	0	21	22	23	2	66	0	15	25	7	0	47	0	36	149	8	0	193	0	16	145	26	0	187	493
12:30	0	31	31	33	2	95	0	20	35	8	0	63	0	22	133	11	1	166	0	19	184	44	0	247	571
12:45	0	29	37	24	2	90	0	14	44	4	0	62	0	22	137	16	3	175	0	11	161	34	0	206	533
PHF	0.000	0.879	0.797	0.818	-	0.882	0.000	0.813	0.761	0.719	-	0.881	0.000	0.667	0.889	0.641	-	0.864	0.000	0.711	0.859	0.795	-	0.836	0.898
Car	0	106	115	105	-	326	0	65	127	23	-	215	0	93	517	41	-	651	0	53	617	137	-	807	1999
% Car	-	97.2	97.5	97.2	-	97.3	-	100.0	94.8	100.0	-	96.8	-	96.9	97.5	100.0	-	97.6	-	98.1	97.6	97.9	-	97.7	97.5
Truck	0	3	3	3	-	9	0	0	7	0	-	7	0	3	13	0	-	16	0	1	15	3	-	19	51
% Truck	-	2.8	2.5	2.8	-	2.7	-	0.0	5.2	0.0	-	3.2	-	3.1	2.5	0.0	-	2.4	-	1.9	2.4	2.1	-	2.3	2.5
Ped	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	2	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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CIty of Tampa
Study #7 - Spruce St
Spruce St & Himes Ave
Weekday TMC

Count Name: 2430_Spruce St & Himes Ave WD
Site Code: 2430
Start Date: 02/19/2013

Turning Movement Peak Hour Data (17:00)

Start Time	Spruce St Eastbound						Spruce St Westbound						Himes Ave Northbound						Himes Ave Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
17:00	0	35	55	21	1	111	0	28	52	6	3	86	0	20	191	17	1	228	0	13	230	23	0	266	691
17:15	0	31	67	30	5	128	0	23	63	15	2	101	0	12	218	14	1	244	0	13	318	35	1	366	839
17:30	0	27	45	33	4	105	0	19	40	8	2	67	0	22	191	13	2	226	0	21	312	33	1	366	764
17:45	0	23	45	15	0	83	0	18	60	15	1	93	0	27	200	14	1	241	0	19	279	42	0	340	757
PHF	0.000	0.829	0.791	0.750	-	0.834	0.000	0.786	0.853	0.733	-	0.859	0.000	0.750	0.917	0.853	-	0.962	0.000	0.786	0.895	0.792	-	0.914	0.909
Car	0	114	212	96	-	422	0	88	212	44	-	344	0	81	795	57	-	933	0	66	1122	131	-	1319	3018
% Car	-	98.3	100.0	97.0	-	98.8	-	100.0	98.6	100.0	-	99.1	-	100.0	99.4	98.3	-	99.4	-	100.0	98.5	98.5	-	98.6	98.9
Truck	0	2	0	3	-	5	0	0	3	0	-	3	0	0	5	1	-	6	0	0	17	2	-	19	33
% Truck	-	1.7	0.0	3.0	-	1.2	-	0.0	1.4	0.0	-	0.9	-	0.0	0.6	1.7	-	0.6	-	0.0	1.5	1.5	-	1.4	1.1
Ped	-	-	-	-	10	-	-	-	-	-	8	-	-	-	-	-	5	-	-	-	-	-	2	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Dale Mabry Highway &
Shopping Center Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Shopping Center Entrance WD
Site Code: 2106
Start Date: 02/19/2013

Turning Movement Data

Start Time	Shopping Center Entrance Eastbound						Shopping Center Entrance Westbound						Dale Mabry Rd Northbound						Dale Mabry Rd Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	2	0	20	0	22	0	11	2	9	0	22	0	13	267	11	0	291	0	11	332	8	0	351	686
7:15	0	1	0	13	0	14	0	11	3	4	1	18	0	14	331	13	0	358	0	2	435	14	0	451	841
7:30	0	1	0	13	0	14	0	22	3	7	3	32	0	24	402	10	0	436	0	7	453	13	0	473	955
7:45	0	4	1	23	0	28	0	10	7	7	1	24	1	25	340	17	0	383	0	5	407	11	0	423	858
Hourly Total	0	8	1	69	0	78	0	54	15	27	5	96	1	76	1340	51	0	1468	0	25	1627	46	0	1698	3340
8:00	0	4	1	25	1	30	0	13	5	9	0	27	0	18	378	22	0	418	0	5	417	14	0	436	911
8:15	0	14	1	38	1	53	0	13	5	5	2	23	1	26	372	8	0	407	0	6	421	12	0	439	922
8:30	0	4	3	30	0	37	0	9	5	6	2	20	1	21	360	7	0	389	0	5	487	15	2	507	953
8:45	0	2	1	23	0	26	0	11	2	4	1	17	2	33	349	14	0	398	0	6	403	17	2	426	867
Hourly Total	0	24	6	116	2	146	0	46	17	24	5	87	4	98	1459	51	0	1612	0	22	1728	58	4	1808	3653
9:00	0	8	5	30	0	43	0	21	2	9	0	32	1	36	355	18	0	410	0	18	377	23	0	418	903
9:15	0	8	3	42	2	53	0	12	6	9	1	27	1	38	344	20	0	403	0	8	390	24	0	422	905
9:30	0	15	5	41	0	61	0	23	4	5	3	32	1	52	315	26	0	394	0	7	359	29	0	395	882
9:45	0	9	0	47	1	56	0	12	2	8	2	22	0	58	351	36	0	445	0	14	342	27	0	383	906
Hourly Total	0	40	13	160	3	213	0	68	14	31	6	113	3	184	1365	100	0	1652	0	47	1468	103	0	1618	3596
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	22	2	70	0	94	0	18	11	14	3	43	0	61	377	36	2	474	0	18	346	40	1	404	1015
11:15	0	14	6	74	2	94	0	21	5	17	0	43	3	66	369	47	0	485	1	8	459	50	0	518	1140
11:30	0	35	6	87	0	128	0	25	5	23	1	53	2	99	348	42	0	491	0	7	399	49	0	455	1127
11:45	0	43	7	91	0	141	0	28	8	22	1	58	1	87	387	42	0	517	0	22	371	65	0	458	1174
Hourly Total	0	114	21	322	2	457	0	92	29	76	5	197	6	313	1481	167	2	1967	1	55	1575	204	1	1835	4456
12:00	0	37	2	93	0	132	0	38	5	25	1	68	1	109	322	50	0	482	0	22	413	65	1	500	1182
12:15	0	56	4	95	0	155	0	45	8	27	1	80	2	100	365	52	1	519	0	23	459	58	0	540	1294
12:30	0	68	7	105	1	180	0	46	10	24	1	80	3	104	343	52	0	502	0	26	496	56	4	578	1340
12:45	0	58	6	123	2	187	0	34	12	34	0	80	1	99	354	47	0	501	0	19	506	60	0	585	1353
Hourly Total	0	219	19	416	3	654	0	163	35	110	3	308	7	412	1384	201	1	2004	0	90	1874	239	5	2203	5169
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	0	47	4	103	1	154	0	22	5	16	0	43	1	59	330	33	0	423	0	19	400	35	0	454	1074
15:15	0	39	3	86	0	128	0	18	9	19	0	46	2	77	388	58	0	525	0	14	494	51	1	559	1258
15:30	0	44	2	87	0	133	0	17	9	23	2	49	1	93	355	34	1	483	0	22	485	40	1	547	1212
15:45	0	47	5	91	0	143	0	24	10	17	0	51	1	66	351	32	0	450	0	22	476	47	0	545	1189
Hourly Total	0	177	14	367	1	558	0	81	33	75	2	189	5	295	1424	157	1	1881	0	77	1855	173	2	2105	4733
16:00	0	29	6	83	0	118	0	25	10	18	3	53	0	64	351	45	2	460	0	17	473	38	1	528	1159
16:15	0	42	3	87	4	132	0	19	11	28	1	58	0	68	361	48	0	477	1	18	408	36	2	463	1130
16:30	0	34	5	81	0	120	0	23	7	26	1	56	0	55	317	36	1	408	0	16	455	39	4	510	1094
16:45	0	22	3	73	0	98	0	17	6	16	1	39	0	60	397	31	3	488	0	18	484	45	1	547	1172
Hourly Total	0	127	17	324	4	468	0	84	34	88	6	206	0	247	1426	160	6	1833	1	69	1820	158	8	2048	4555
17:00	0	50	3	102	0	155	0	14	9	20	1	43	1	63	404	29	0	497	0	17	481	55	3	553	1248
17:15	0	41	8	75	3	124	0	20	6	10	1	36	1	64	386	43	1	494	0	19	585	50	3	654	1308
17:30	0	42	2	97	2	141	0	19	6	19	3	44	1	63	382	45	2	491	1	23	502	44	0	570	1246
17:45	0	42	5	81	2	128	0	21	11	18	3	50	0	68	318	24	0	410	0	18	464	53	0	535	1123
Hourly Total	0	175	18	355	7	548	0	74	32	67	8	173	3	258	1490	141	3	1892	1	77	2032	202	6	2312	4925
Car	0	869	105	2088	-	3062	0	653	207	492	-	1352	29	1848	11049	1018	-	13944	3	461	13559	1161	-	15184	33542
% Car	-	98.3	96.3	98.1	-	98.1	-	98.6	99.0	98.8	-	98.8	100.0	98.1	97.2	99.0	-	97.4	100.0	99.8	97.0	98.1	-	97.2	97.4
Truck	0	15	4	41	-	60	0	9	2	6	-	17	0	35	320	10	-	365	0	1	420	22	-	443	885
% Truck	-	1.7	3.7	1.9	-	1.9	-	1.4	1.0	1.2	-	1.2	0.0	1.9	2.8	1.0	-	2.6	0.0	0.2	3.0	1.9	-	2.8	2.6
Ped	-	-	-	-	22	-	-	-	-	-	40	-	-	-	-	-	13	-	-	-	-	-	26	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Dale Mabry Highway &
Shopping Center Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Shopping Center Entrance WD
Site Code: 2106
Start Date: 02/19/2013

Turning Movement Peak Hour Data (8:00)

Start Time	Shopping Center Entrance Eastbound						Shopping Center Entrance Westbound						Dale Mabry Rd Northbound						Dale Mabry Rd Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00	0	4	1	25	1	30	0	13	5	9	0	27	0	18	378	22	0	418	0	5	417	14	0	436	911
8:15	0	14	1	38	1	53	0	13	5	5	2	23	1	26	372	8	0	407	0	6	421	12	0	439	922
8:30	0	4	3	30	0	37	0	9	5	6	2	20	1	21	360	7	0	389	0	5	487	15	2	507	953
8:45	0	2	1	23	0	26	0	11	2	4	1	17	2	33	349	14	0	398	0	6	403	17	2	426	867
PHF	0.000	0.429	0.500	0.763	-	0.689	0.000	0.885	0.850	0.667	-	0.806	0.500	0.742	0.965	0.580	-	0.964	0.000	0.917	0.887	0.853	-	0.892	0.958
Car	0	22	6	114	-	142	0	46	17	24	-	87	4	95	1426	50	-	1575	0	22	1659	55	-	1736	3540
% Car	-	91.7	100.0	98.3	-	97.3	-	100.0	100.0	100.0	-	100.0	100.0	96.9	97.7	98.0	-	97.7	-	100.0	96.0	94.8	-	96.0	96.9
Truck	0	2	0	2	-	4	0	0	0	0	-	0	0	3	33	1	-	37	0	0	69	3	-	72	113
% Truck	-	8.3	0.0	1.7	-	2.7	-	0.0	0.0	0.0	-	0.0	0.0	3.1	2.3	2.0	-	2.3	-	0.0	4.0	5.2	-	4.0	3.1
Ped	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Dale Mabry Highway &
Shopping Center Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Shopping Center Entrance WD
Site Code: 2106
Start Date: 02/19/2013

Turning Movement Peak Hour Data (12:00)

Start Time	Shopping Center Entrance Eastbound						Shopping Center Entrance Westbound						Dale Mabry Rd Northbound						Dale Mabry Rd Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00	0	37	2	93	0	132	0	38	5	25	1	68	1	109	322	50	0	482	0	22	413	65	1	500	1182
12:15	0	56	4	95	0	155	0	45	8	27	1	80	2	100	365	52	1	519	0	23	459	58	0	540	1294
12:30	0	68	7	105	1	180	0	46	10	24	1	80	3	104	343	52	0	502	0	26	496	56	4	578	1340
12:45	0	58	6	123	2	187	0	34	12	34	0	80	1	99	354	47	0	501	0	19	506	60	0	585	1353
PHF	0.000	0.805	0.679	0.846	-	0.874	0.000	0.886	0.729	0.809	-	0.963	0.583	0.945	0.948	0.966	-	0.965	0.000	0.865	0.926	0.919	-	0.941	0.955
Car	0	214	19	407	-	640	0	161	34	109	-	304	7	408	1339	197	-	1951	0	90	1806	237	-	2133	5028
% Car	-	97.7	100.0	97.8	-	97.9	-	98.8	97.1	99.1	-	98.7	100.0	99.0	96.7	98.0	-	97.4	-	100.0	96.4	99.2	-	96.8	97.3
Truck	0	5	0	9	-	14	0	2	1	1	-	4	0	4	45	4	-	53	0	0	68	2	-	70	141
% Truck	-	2.3	0.0	2.2	-	2.1	-	1.2	2.9	0.9	-	1.3	0.0	1.0	3.3	2.0	-	2.6	-	0.0	3.6	0.8	-	3.2	2.7
Ped	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	5	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

City of Tampa
Study #7 - Spruce St
Dale Mabry Highway &
Shopping Center Entrance
Weekday TMC

Albeck Gerken, Inc.
1911 N US Hwy 301
Suite 410
Tampa, Florida, United States 33619
(813) 319-3790

Count Name: 2106_Dale Mabry Hwy & Shopping Center Entrance WD
Site Code: 2106
Start Date: 02/19/2013

Turning Movement Peak Hour Data (16:45)

Start Time	Shopping Center Entrance Eastbound						Shopping Center Entrance Westbound						Dale Mabry Rd Northbound						Dale Mabry Rd Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	22	3	73	0	98	0	17	6	16	1	39	0	60	397	31	3	488	0	18	484	45	1	547	1172
17:00	0	50	3	102	0	155	0	14	9	20	1	43	1	63	404	29	0	497	0	17	481	55	3	553	1248
17:15	0	41	8	75	3	124	0	20	6	10	1	36	1	64	386	43	1	494	0	19	585	50	3	654	1308
17:30	0	42	2	97	2	141	0	19	6	19	3	44	1	63	382	45	2	491	1	23	502	44	0	570	1246
PHF	0.000	0.775	0.500	0.850	-	0.835	0.000	0.875	0.750	0.813	-	0.920	0.750	0.977	0.971	0.822	-	0.991	0.250	0.837	0.877	0.882	-	0.888	0.951
Car	0	155	16	342	-	513	0	70	27	64	-	161	3	246	1537	147	-	1933	1	77	2021	192	-	2291	4898
% Car	-	100.0	100.0	98.6	-	99.0	-	100.0	100.0	98.5	-	99.4	100.0	98.4	98.0	99.3	-	98.1	100.0	100.0	98.5	99.0	-	98.6	98.5
Truck	0	0	0	5	-	5	0	0	0	1	-	1	0	4	32	1	-	37	0	0	31	2	-	33	76
% Truck	-	0.0	0.0	1.4	-	1.0	-	0.0	0.0	1.5	-	0.6	0.0	1.6	2.0	0.7	-	1.9	0.0	0.0	1.5	1.0	-	1.4	1.5
Ped	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	6	-	-	-	-	-	7	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Signal Timing Information

City of Tampa Signal Timing Sheet

Section ID 3501 Computer: M CCU: 37 DROP 7 MYLAR: 434 SHOP ID 1550

Timing Date: 3/14/2005 Phase Date: 7/14/2000 Controller: ECONOLITE

Intersection: **LOIS** and **SPRUCE** 200982

Phase Numbers		2		4	5	6		8
Direction		SB		WB	SB LT	NB		EB
Minimum Green		10		10	5	10		10
Walk		4		4	---	4		4
Flash Don't Walk		10		12	---	10		12
Vehicle Extension		3.0		3.0	2.0	3.0		3.0
Max. Green I		40		45	15	40		45
Max. Green II		40		45	15	40		45
Yellow Clearance		3.6		3.2	3.0	3.6		3.2
All Red Clearance		1.0		1.2	1.5	1.0		1.2
Phase Recall		MIN		---	---	MIN		---
Detector Memory		---		---	---	---		---
Ped. Recall		---		---	---	---		---
Flash Operation		YEL		RED	---	YEL		RED

Special Modes and Times of Operations:

Surveillance Times: 24 Hrs.

Flash Source: Times:

C = Computer Flash T = Time Clock/Controller

Special Functions

Please Implement Within: [✓] 1 Week [ ] 1 Month

Comments:

E.O.C. RESISTOR TO BE PLACED ON RECEIVE
RESERVICING LEFT TURNS WITHOUT SERVICING CROSS STREET NOT ALLOWED
BACK-UP PROTECTION APPLIED TO GROUP 1

Submitted By: SK Date: 3-14-05

Reviewed By: [illegible] Date: 4-5-05

Approved By: [illegible] Date: 5/5/05

Signal Timing Implemented: [✓] As Sent [ ] With Following Revisions

_____ Date: 5-13-05

[ ] Signal Timing Not Implemented Reason:

Date: _____ By: E Abbott

Received 11-23-2010

City of Tampa Signal Timing Sheet

335616

Section ID: 2107 Computer: M CCH: 40 CCU: 40 Drop: 2 Shop ID: 1772

Timing Date: 10/18/2010 Phase Date: 10/18/2010 Controller: ECONOLITE

Intersection: DALE MABRY / SPRUCE

Phase Numbers	1	2	3	4	5	6	7	8
Direction	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
Minimum Green	5	10	5	10	5	10	5	10
Walk	---	7	---	7	---	7	---	7
Flash Don't Walk	---	16	---	34	---	16	---	34
Vehicle Extension	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Max. Green I	15	70	25	40	15	70	25	40
Max. Green II	15	70	25	40	15	70	25	40
Yellow Clearance	3.9	3.9	3.2	3.2	3.9	3.9	3.2	3.2
All Red Clearance	2.2	1.8	3.5	3.5	2.2	1.8	3.5	3.5
Phase Recall	---	MAX	---	---	---	MAX	---	---
Detector Memory	ON	---	ON	---	ON	---	ON	---
Ped. Recall	---	ON	---	---	---	ON	---	---
Flash Operation	RED	YEL	RED	RED	RED	YEL	RED	RED

Special Modes and Times of Operation:

Surveillance Times:

Flash Source: Flash Times:

C = Computer Flash T = Time Clock/Controller

Special Functions: 0

0

0

FDOT SOP: 10

Backup Protection(Y/N): N

FDOT FDW (Y/N): Y

Please Implement Within : [ ] 1 Week [ ] 1 Month

Comments:

NOTE: PLEASE REMOVE ALL SPECIAL FUNCTION WIRING FOR NBLT AS IT IS NO LONGER REQUIRED

Submitted By: PRC Date: 11-15-10

Reviewed By: AS Date: 11-16-10

Approved By: BS Date: 11/18/10

Signal Timing Implemented: [X] As sent . [ ] With the following revisions

Date: MJ By: 11/29/10

Signal Timing Not Implemented: [ ] Reasons:

Date: _____ By: _____

2107 - DALE MABRY & SPRUCE

ECONOLITE

Timing Date: 10/25/2010

DownLd Date: / /

MSX: M CCU: 40 Drop: 2
Structures: 1

	MIN	10	5	10	5	
	YEL	3.9	3.2	3.2	3.9	
	RED	1.8	3.5	3.5	2.2	
	WLK	7		7		
	FDW	16		34		
	Min - 70	29	12	17	12	

Pat			CYC	OS	NS	EWLT	EW	NSLT
1	Am	0615 - 0930	160	40	70	22	48	20
2	Am off	0930 - 1115	160	40	62	30	48	20
3	Noon	1115 - 1330	180	130	83	29	48	20
4	Pm off	1330 - 1515	180	130	83	29	48	20
5	Pm	1515 - 1830	160	40	68	27	48	17
6	Evening	1830 - 2200	180	130	83	29	48	20
7	Late	2200 - 0615	120	82	45	19	41	15
8	Bucs IN		220	192	148	12	48	12
9	Bucs OUT		200	107	115	20	48	17
10			160	25	67	25	48	20
11	Yankees In		160	25	67	25	48	20
12	Yankees Out		200	127	114	25	48	13
13	Air Show	Outbound	200	192	112	25	48	15
14	Late	0100 - 0500	90	0	46	13	18	13
15								
16	Hurricane		240	4	164	13	48	15

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
Day Plan 3: S-Su patt 7 and patt 2 all other times

296788

City of Tampa Signal Timing Sheet

Section ID: 2430 Computer: M CCU: 40 DROP 6 SHOP ID 1126

Timing Date: 12/1/2008 Phase Date: 8/18/2000 Controller: ECONOLITE

Intersection: **HIMES** and **SPRUCE**

Phase Numbers	1	2	3	4		6		8
Direction	NB LT	SB	EB LT	WB		NB		EB
Minimum Green	5	10	5	10		10		10
Walk	---	4	---	4		4		4
Flash Don't Walk	---	14	---	18		14		18
Vehicle Extension	2.0	3.0	2.0	3.0		3.0		3.0
Max. Green I	10	25	10	25		25		25
Max. Green II	15	35	15	30		35		30
Yellow Clearance	4.0	4.0	3.5	3.5		4.0		3.5
All Red Clearance	1.0	1.0	1.0	1.0		1.0		1.0
Phase Recall	---	MAX	---	---		MAX		---
Detector Memory	---	---	---	---		---		---
Ped. Recall	---	ON	---	---		ON		---
Flash Operation	---	YEL	---	RED		YEL		RED

Special Modes and Times of Operations:

Surveillance Times:

Flash Source: Times:

C = Computer Flash T = Time Clock/Controller

Special Functions: 0
2 BEF EBLT
0

Please Implement Within: [X] 1 Week [ ] 1 Month

Comments:

UPDATED FDOT CLEARANCES AND TBC.
APPLY MAX 2 - MON-THR 06:15-09:00 & 15:15-18:30, FRI 06:15-09:00 & 14:45-18:30.
MAX 1 ALL OTHER TIMES.

BACKUP PROTECTION REQ.

Submitted By: GS Date: 12-1-08 Reviewed By: HS Date: 12-11-08 Approved By: MR Date: 12/17/08

Signal Timing Implemented: [X] As Sent [ ] With Following Revisions

MF Date: 1/8/09

[ ] Signal Timing Not Implemented Reason:

Date: _____ By: _____

CITY OF TAMPA COMPUTER PATTERN SHEET 2430

2430 - HIMES & SPRUCE ECONOLITE

Timing Date: 11/19/2008

DownLd Date: / /

MSX: M CCU: 40 Drop: 6

	NS	EBLT	EW	NBLT
MIN	10	5	10	5
YEL	4	3.5	3.5	4
RED	1	1	1	1
WLK	4		4	
FDW	14		18	
Min - 60	24	10	15	11

Pat			CYC	OS	NS	EBLT	EW	NBLT
1	Am	0615 - 0900	90	85	34	12	30	14
2	Am off	0900 - 1115	80	35	26	12	30	12
3	Noon	1115 - 1330	80	35	26	12	30	12
4	Pm off	1330 - 1515	80	35	26	12	30	12
5	Pm	1515 - 1830	90	41	36	12	30	12
6	Evening	1830 - 2200	80	59	26	12	30	12
7	Late	2200 - 0615	80	5	30	14	21	15
8	Bucs - In		200	47	83	31	65	21
9	Bucs - Out		200	185	140	13	31	16
10			120	79	61	15	29	15
11			90	41	36	12	30	12
12			200	185	140	13	31	16
13	WB Detour MLK (AM)		90	85	34	12	30	14
14								
15								
16	Hurricane		80	35	26	12	30	12

S.F. #2 - BEFORE EB/LT TO MAX.

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
Day Plan 3: S-Su patt 7 and patt 2 all other times

293587

City of Tampa Signal Timing Sheet

Section ID: 2106 Computer: CCU: 40 DROP 9 SHOP ID 2086

Timing Date: 10/1/2008 Phase Date: 12/7/2004 Controller: PEEK 3000

Intersection: **DALE MABRY** and **HOME DEPOT- WALMART**

Phase Numbers	1	2	3	4	5	6	7	8
Direction	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
Minimum Green	5	15	5	10	5	15	5	10
Walk	---	4	---	4	---	4	---	4
Flash Don't Walk	---	28	---	37	---	28	---	37
Vehicle Extension	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Max. Green I	25	75	30	45	25	75	30	45
Max. Green II	25	75	30	45	25	75	30	45
Yellow Clearance	4.3	4.3	3.5	3.5	4.3	4.3	3.5	3.5
All Red Clearance	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Phase Recall	---	MAX	---	---	---	MAX	---	---
Detector Memory	---	---	---	---	---	---	---	---
Ped. Recall	---	ON	---	---	---	ON	---	---
Flash Operation	RED	YEL	RED	RED	RED	YEL	RED	RED

Special Modes and Times of Operations:

Surveillance Times:

Flash Source: Times:

RECEIVED OCT 2 2008

C = Computer Flash T = Time Clock/Controller

Special Functions:

Please Implement Within: [X] 1 Week [ ] 1 Month

Comments:

NEW FDOT CLEARANCE

BACKUP PROTECTION NOT REQ.

Submitted By: GT Date: 10-14-08

Reviewed By: JS Date: 10-14-08

Approved By: BL Date: 10/15/08

Signal Timing Implemented: [X] As Sent [ ] With Following Revisions

B.B. Date: 10-22-08

PASSED

[ ] Signal Timing Not Implemented Reason:

Date: _____ By: _____

CITY OF TAMPA COMPUTER PATTERN SHEET

2106 - DALE MABRY & WALMART

PEEK 3000

Timing Date: 10/08/2008

DownLd Date: / /

MSX: M CCU: 40 Drop: 09

MIN	15	5	10	5	
YEL	4.3	3.5	3.5	4.3	
RED	1	1	1	1	
WLK	4		4		
FDW	28		37		
Min - 74	38	10	15	11	

Pat			CYC	OS	NS	EWLT	EW	NSLT
1	Am	0615 - 0930	160	18	87	12	48	13
2	Am off	0930 - 1115	160	137	72	18	48	22
3	Noon	1115 - 1330	180	148	80	25	48	27
4	Pm off	1330 - 1515	180	148	80	25	48	27
5	Pm	1515 - 1830	160	45	70	35	25	30
6	Evening	1830 - 2200	180	148	62	30	48	40
7	Late	2200 - 0615	120	80	40	35	25	20
8	Bucs IN		200	188	102	25	48	25
9	Bucs OUT		200	104	102	25	48	25
10								
11	Yankees In		160	21	76	39	25	20
12	Yankees Out		200	124	100	50	25	25
13	Air Show	Outbound	200	189	100	50	25	25
14	Late	0100 - 0500						
15								
16	Hurricane		240	0	161	15	49	15

T.B.C. Day Plan 1: M-Th patt 1-7 Day Plan 2: Fri patt 1-7 w/5 @ 14:45
Day Plan 3: S-Su patt 7 and patt 2 all other times

TECHNICAL MEMORANDUM

Albeck Gerken, Inc.
Transportation Engineers

To: Milton Martinez, P.E.
Transportation Division
City of Tampa
306 East Jackson St., 4E
Tampa, Florida 33602

From: Kenneth Siu, P.E.
Albeck Gerken, Inc.

Date: October 7, 2013

Re: Spruce Street Corridor from Lois Avenue to Himes Avenue

This Technical Memorandum Addendum details the additional analyses performed for the Spruce Street corridor, between Lois Avenue and Himes Avenue, as an expansion of a May 2013 technical memorandum for the City of Tampa. At the request of City of Tampa staff, two additional scenarios were analyzed as part of a development plan to identify safety and operational improvements for Spruce Street. Information regarding existing conditions and study methodology are contained in the original May 2013 technical memorandum.

Six build-out scenarios were originally analyzed in the May 2013 Technical Memorandum. As a follow-up evaluation, two additional scenarios were analyzed for the Spruce Street corridor.

Build 7:

- Relocation of the current Home Depot Exit (Spruce Street), a left-in/right-in/right-out only access, to align with Harold Avenue (full access intersection) which is approximately 125 feet to the west. Rerouting of 25% of internal exiting traffic to the Home Depot/Walmart Signal on Dale Mabry Highway plus the addition of an exclusive eastbound right-turn lane.

Build 8:

- All of the components of Build 7 plus an exclusive eastbound right turn lane at the intersection of Spruce Street & Dale Mabry Highway.

The intersection was modeled with Synchro (v7) and a microscopic analysis was performed for the network using SimTraffic (v7) to evaluate both of the added scenarios for existing and future conditions. Table 1 summarizes the data for the additional build scenarios.

Table 1 – SimTraffic Network Performance Measures

AM Peak Hour

	Existing	HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes		HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes EB right turn lane @ Spruce & DM	
Exisitng Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	55	54	-1.8%	52	-4.2%
Total Stops	4,502	4,490	-0.3%	4,437	-1.4%
Total Travel Time (hr)	96	95	-0.7%	93	-2.2%
Fuel Consumed (gal)	54	53	-0.2%	53	-0.7%
Future Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	78	77	-1.5%	76	-2.4%
Total Stops	6,015	6,013	0.0%	5,983	-0.5%
Total Travel Time (hr)	126	125	-0.6%	125	-1.3%
Fuel Consumed (gal)	66	66	0.0%	66	-0.3%

MD Peak Hour

	Existing	HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes		HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes EB right turn lane @ Spruce & DM	
Exisitng Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	80	73	-7.7%	70	-11.7%
Total Stops	5,411	5,192	-4.0%	5,111	-5.5%
Total Travel Time (hr)	127	120	-5.3%	117	-7.9%
Fuel Consumed (gal)	67	65	-3.0%	64	-3.9%
Future Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	236	233	-1.3%	220	-6.9%
Total Stops	7,608	7,304	-4.0%	7,267	-4.5%
Total Travel Time (hr)	289	286	-1.2%	272	-5.8%
Fuel Consumed (gal)	108	107	-0.8%	104	-3.6%

PM Peak Hour

	Existing	HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes		HD Driveway Realignment EB right turn lane @ HD/Walmart Internal Circulation Changes EB right turn lane @ Spruce & DM	
Exisitng Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	151	129	-14.9%	101	-33.4%
Total Stops	7,868	7,753	-1.5%	7,152	-9.1%
Total Travel Time (hr)	207	185	-10.4%	157	-23.9%
Fuel Consumed (gal)	91	87	-4.6%	80	-11.9%
Future Volumes	No-Build	Build 7		Build 8	
Total Delay (hr)	565	520	-8.0%	402	-28.9%
Total Stops	11,925	10,465	-12.2%	9,898	-17.0%
Total Travel Time (hr)	626	582	-7.0%	465	-25.7%
Fuel Consumed (gal)	192	182	-5.3%	156	-18.7%

The benefits of the analysis scenarios were estimated based on two key components – total network delay (and therefore reductions in the value of time spent in the system) and operating cost reductions (fuel savings). Travel time benefits were determined by modeling the delay for both the no build and build scenarios, identifying a difference in time travel, and multiplying the difference by an average value-of-time and vehicle occupancy.

Costs of the proposed project alternatives were based upon current costs defined in the FDOT's Roadway Costs for Long Range Transportation Planning and increased by 12% for engineering design and another 12% for construction engineering and inspection. In addition, right of way costs were estimated for each alternative, assuming the need for stormwater treatment and considering the significance of business damages for adjacent properties. A cost of $15 per square foot was used as an estimate for right of way. Benefit / cost ratios were developed for each build scenario; the present value of the project costs were determined based upon a 4% discount rate and a 20 year life of project. Table 2 shows a summary of the benefit-cost analysis.

Table 2 – Benefit-Cost Analysis

	ROW Costs	Construction Costs	Design and CEI	Total Project Costs	Calculated Benefits over Life of Project	B/C Ratio
Build 7*	-	$ 303,649	$ 72,876	$ 376,525	$ 1,616,632	4.3:1
Build 8	$ 108,000	$ 604,165	$ 145,000	$ 857,165	$ 3,425,020	4:1

*Information not available for Right-of-Way costs related to driveway relocation

Build scenario 7 (relocation of existing Home Depot Entrance/Exit to align with Harold Avenue, addition of an exclusive eastbound right turn lane at the Home Depot/Walmart signal at Dale Mabry Highway, internal circulation changes) is anticipated to decrease delay during all peak periods. This alternative would require coordination with property owners to reconfigure site circulation, local neighborhood groups and access management review. The currently existing Home Depot exit (left-in/right-in/right-out only access) would need to be closed while the new Harold Avenue access (northbound shared left-through and exclusive right) would require changes to internal site circulation. Also, moving this access point further to the west would allow the westbound left turn into Home Depot to be lengthened, which may alleviate some of the blocking and queuing on Spruce Street, in the westbound direction, during peak periods. However, blocking and queuing at this intersection in the eastbound direction would likely remain high (in the PM Peak period) due to the traffic volumes and short link distance.

The addition of the exclusive eastbound right turn lane at the intersection of Home Depot/Walmart & Dale Mabry Highway is anticipated to alleviate the queuing and blocking of exiting traffic due to the current shared through-right lane.

Build scenario 8 (Build scenario 7 plus the addition of an exclusive right turn lane at the intersection of Spruce Street & Dale Mabry Highway) is anticipated to decrease delay along Spruce Street during all peak periods. This scenario would involve, in addition to the improvements listed in scenario 7, widening the eastbound approach to four lanes (left/left/through/right) with the exclusive right lane extending to the relocated Home Depot Exit (Harold Avenue). This would increase storage for the eastbound approach as well as allowing left turning vehicles to access the dual left turn lanes. Currently, because of the short link distance, left turning vehicles are unable to access the turn lanes due to queuing of through and right turning vehicles.

Although the benefit-cost ratios for both scenarios are similar, it should be noted that in Build 7 eastbound queues on Spruce Street occasionally block turning vehicles from entering the dual left turn lanes at the intersection of Spruce Street & Dale Mabry Highway. Build 8 generally operates more efficiently because the additional eastbound lane provides additional capacity for through and right turning vehicles. This results in less queuing and blocking for the eastbound movement as well as reducing the blocking of northbound right turning vehicles attempting to exit the Home Depot site onto Spruce Street. Because of the short link distance between the Home Depot exit and the Dale Mabry intersection, construction of an additional eastbound lane between these two access points appears to be a relatively cost efficient improvement to increase capacity in the eastbound direction.