VHB, Inc.
250 E. Robinson St
Orlando, FL 32803

River to Sea Transportation
Planning Organization (R2CTPO)
2570 W International Speedway Blvd.
Suite 100
Daytona Beach, FL 32114

CORRIDOR ANALYSIS

US 92/INTERNATIONAL SPEEDWAY BLVD. FROM US 17/WOODLAND BLVD. TO GARFIELD AVE.

APRIL 2017

Professional Engineer: Kathryn L. Lee P.E. #62420 April 2017

Final Report

Corridor Analysis for US 92/International Speedway Blvd From US 17/Woodland Blvd to Garfield Ave

April 2017

Prepared for:

River to Sea Transportation Planning Organization (R2CTPO)
2570 W. International Speedway Blvd., Suite 100
Daytona Beach, FL 32114-8145

Prepared by:
VHB, Inc.
250 E. Robinson Street,
Orlando, FL – 32803

Professional Engineer: Kathryn L. Lee
P.E. # 62420
April 10, 2017

Corridor Analysis
For
US 92/International Speedway Blvd
From US 17/Woodland Blvd To Garfield Ave

Task 2016-1-2
Work Order #2

VOLUSIA COUNTY

Prepared for:

RIVER TO SEA TPO
Transportation Planning Organization
VISION - PLAN - IMPLEMENT

Prepared by:

vhb

Vanasse Hangen Brustlin, Inc.
Orlando, FL

April 2017

EXECUTIVE SUMMARY

This report presents the results of a corridor analysis completed for US 92/International Speedway Boulevard from US 17/Woodland Boulevard to Garfield Avenue, located in the City of DeLand, Volusia County, Florida. This report was prompted by an application by Volusia County to evaluate the feasibility of extending the existing westbound right turn lane at Alabama Avenue east to the intersection of Amelia Avenue to provide a continuous westbound right turn lane along US 92/International Speedway Boulevard between US 17/Woodland Boulevard and Garfield Avenue.

The existing westbound right turn lane at Alabama Avenue is approximately 200 feet long with a taper of 100 feet. The proposed extension of this right turn lane will complete the gap and will provide a continuous westbound right turn lane between US 17/Woodland Boulevard and Garfield Avenue. This study developed two alternatives to address overall traffic and the operational efficiency of the corridor, and two improvements to address safety issues observed within the study area. The alternatives and improvements are based upon field observations, traffic operational analysis, historical crash analysis and engineering judgment. The analysis is based on the premise that the recommendations provided in the *"Intersection Analysis for US 92/International Speedway Boulevard at Garfield Avenue" study* (See **Appendix A**) are implemented.

Alternative 1, as requested in the feasibility application, evaluates the extension of the existing westbound right turn lane at Alabama Avenue to provide a continuous westbound right turn lane from US 17/Woodland Boulevard to Garfield Avenue. Also, included in this alternative are improvements at US 92/International Speedway Boulevard and the Garfield Avenue intersection.

Alternative 2 evaluates the extension of eastbound left turn lane and construction of an exclusive northbound right turn lane at US 92/International Speedway Boulevard and Amelia Avenue intersection along with improvements at US 92/International Speedway Boulevard and the Garfield Avenue intersection. **Alternative 2 is the recommended alternative.**

Below are brief summaries of the alternatives and improvements developed in this study:

1: Alternative 1:

- **Extend the existing westbound right turn lane along US 92/International Speedway Boulevard at Alabama Avenue east to Amelia Avenue to provide a continuous right turn lane from US 17/Woodland Avenue to Garfield Avenue.**
- Provide an exclusive eastbound right turn lane and extend the existing westbound left turn lane at US 92/International Speedway Boulevard and Garfield Avenue intersection.

This alternative is based on the input provided in the application for a feasibility study completed by the County. Based on the existing right of way, there are no physical constraints found to prevent the extension of the westbound right turn lane from Alabama Avenue to Amelia Avenue. **This modification can be implemented at an approximate cost of $130,905.97 and yields a B/C ratio of 11.71, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications.**

2: Alternative 2 (Recommended Alternative):

- **Provide an exclusive northbound right turn lane and extend the existing eastbound left turn lane (by approximately 100 feet) at the intersection of US 92/International Speedway Boulevard and Amelia Avenue.**
- **Provide exclusive eastbound and northbound right turn lanes and extend the existing westbound left turn lane at US 92/International Speedway Boulevard and Garfield Avenue intersection**.

These modifications can be implemented at an approximate cost of $174,220.86 and yields a B/C ratio of 29.81, which indicates that the anticipated benefits significantly outweigh the estimated costs for this recommended alternative.

3: Extend the existing sidewalk along the south side of US 92/International Speedway Boulevard from the east side of Alabama Avenue to Garfield Avenue. The cost for this safety improvement (provided as a separate item) is estimated at $67,135.68. This safety improvement

will encourage pedestrians who want to access the businesses located on the south side of US 92 to walk on the sidewalk rather than the shoulder of the road, thus improving pedestrian safety and reducing vehicle-pedestrian conflicts.

4: Install 2'4'' skip guidelines through the intersection at US 17/Woodland Avenue to guide eastbound left turning vehicles into the inside northbound through lane. This will reduce conflict between the eastbound left turning vehicles and westbound right turning vehicles, which frequently treat this yield movement as a free-flow movement, and are merged immediately into the outside northbound through lane without the benefit of a separate merge lane.

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INTRODUCTION

VHB, Inc. was retained to perform a corridor analysis study for US 92/International Speedway Boulevard from US 17/Woodland Boulevard to Garfield Avenue, located in the City of DeLand, Volusia County, Florida, as illustrated in Figure 1. This report was prompted by an application by Volusia County to evaluate the feasibility of extending the existing westbound right turn lane at Alabama Avenue east to the intersection of Amelia Avenue to provide a continuous westbound right turn lane along US 92/International Speedway Boulevard between US 17/Woodland Boulevard and Garfield Avenue.

The County contends that there is a need for this project since the following new developments were approved or under review near the study intersection: 1) a Hampton Inn was recently approved within the vicinity of the US 92/International Speedway Boulevard and US 17/Woodland Boulevard intersection, which includes an Applebee's restaurant and another vacant parcel, 2) Goodwill Industries is proposed near the Walmart Super Centre on the north leg of the US 92/International Speedway Boulevard and US 17/Woodland Boulevard intersection, 3) A credit union is under review near the Walmart Super Centre on the north leg of the US 92/International Speedway Boulevard and US 17/Woodland Boulevard intersection.

The analysis methods used in completing this study are consistent with the Manual on Uniform Traffic Control Devices (MUTCD), the Manual on Uniform Traffic Studies (MUTS), the Traffic Engineering Manual (TEM) and engineering judgment. The remainder of this report documents existing conditions, vehicle and pedestrian counts, qualitative assessments, crash analyses, intersection/corridor analysis, B/C analysis and recommendations.

The information/comments provided by the County and FDOT, along with the responses, are provided in **Appendix B.**

\\vhb\proj\Orlando\62393.02 US 17 at US 92 R2CTPO\graphics\FIGURES\AI

Study Corridor

Figure 1

Site Location Map

EXISTING CONDITIONS

Field Inventory

The study corridor along US 92/International Speedway Boulevard between US 17/Woodland Boulevard and Garfield Avenue is located in the City of DeLand, Volusia County, Florida. The Existing Condition Diagrams, Figures 2 through 6, depict the existing conditions including the general roadway geometry, pavement markings, land use, and intersection traffic control of the study corridor. In addition, photographs of the existing conditions around the US 92/International Speedway Boulevard and US 17/Woodland Boulevard intersection are provided in **Appendix C**. The conditions stated in this report reflect conditions as observed on the date of the qualitative assessment.

US 92/International Speedway Boulevard and US 17/Woodland Boulevard: The intersection of US 92/International Speedway Boulevard and US 17/Woodland Boulevard is a "plus" shaped intersection with US 92/International Speedway Boulevard running east-west and US 17/Woodland Boulevard running north-south. The intersection is under signal control.

US 92/International Speedway Boulevard and US 17/Woodland Boulevard are 4-lane divided roadways. At the intersection, the westbound and southbound approaches have dual left turn lanes, and the eastbound and northbound approaches have single left turn lanes. There are separate right turn lanes on all approaches, except the eastbound approach which has a shared thru/right turn lane. The northbound right turn lane and the westbound right turn lane are channelized right turn movements. The westbound right turn lane at US 17/Woodland Boulevard was recently extended east to Alabama Avenue as part of a resurfacing project (FPN: 432441-1) by FDOT. In addition, the existing eastbound right turn lane at the US 92/International Speedway Boulevard and Alabama Avenue intersection was converted to a shared through/right turn lane as part of the same resurfacing project. The posted speed limit on both US 92/International Speedway Boulevard and US 17/Woodland Boulevard is 45 mph.

The traffic signal is a mast arm design with painted mast arms located in all four quadrants of the intersection. The signal phasing provides protected left turn movements on all four approaches. There are signalized pedestrian crosswalks across all legs of the intersection. Sidewalks run along

the north and south sides of US 92/International Speedway Boulevard and the east and west sides of US 17/Woodland Boulevard. A shared-use trail runs along the north side of US 92/International Speedway Boulevard between the sidewalk and the roadway along the east leg of the intersection. There are street lights mounted on wood utility poles located in the northwest and the southwest quadrants of the intersection. The street lighting does not continue north or south along US 17/Woodland Boulevard. There is no street lighting along US 92/International Speedway Boulevard.

The land use within the vicinity of the intersection consists of shopping centers and restaurants on all quadrants, except the southeast quadrant which has a Walgreens pharmacy and a McDonald's. US 92/International Speedway Boulevard is a major arterial connecting the City of DeLand to I-95 and the City of Daytona Beach. US 17/Woodland Boulevard is a major arterial connecting the City of DeLand to I-4 and the City of Deltona.

US 92/International Speedway Boulevard and Amelia Avenue: The intersection of US 92/International Speedway Boulevard and Amelia Avenue is a "plus" shaped intersection with US 92/International Speedway Boulevard running east-west and Amelia Avenue running north-south. The intersection is under signal control.

US 92/International Speedway Boulevard is a 4-lane divided roadway and Amelia Avenue is a 2 – lane undivided roadway. At the intersection, there are separate left turn lanes on all approaches. The eastbound and westbound approaches have separate right turn lanes, whereas the northbound and southbound approaches have shared thru/right turn lanes. The posted speed limits are 45 mph along US 92/International Speedway Boulevard and 30 mph along Amelia Avenue.

The traffic signal is a box span strain pole design with concrete poles located in all four quadrants of the intersection. The signal phasing provides protected left turns from US 92/International Speedway Boulevard and protective/permissive left turns from Amelia Avenue. There are signalized pedestrian crosswalks across the north, west and south legs of the intersection. The pedestrian detectors are audible style detectors. Sidewalks run along the north side of US 92/International Speedway Boulevard. A shared-use trail runs along the north side of US

92/International Speedway Boulevard between the sidewalk and the roadway. There is a street light mounted on a wood utility poles located in the southwest quadrant of the intersection. The street lighting does not continue north or south along Amelia Avenue. There is no street lighting along US 92/International Speedway Boulevard.

The land use within the vicinity of the intersection consists of shopping centers and restaurants on all quadrants. US 92/International Speedway Boulevard is a major arterial connecting the City of DeLand to I-95 and the City of Daytona Beach. Amelia Avenue is largely developed and it provides access to commercial and/or residential development.

US 92/International Speedway Boulevard and Garfield Avenue: Please note that the field inventory provided below is the same inventory that was provided in the *"Intersection Analysis for US 92/International Speedway Boulevard at Garfield Avenue" study* (see **Appendix A**).

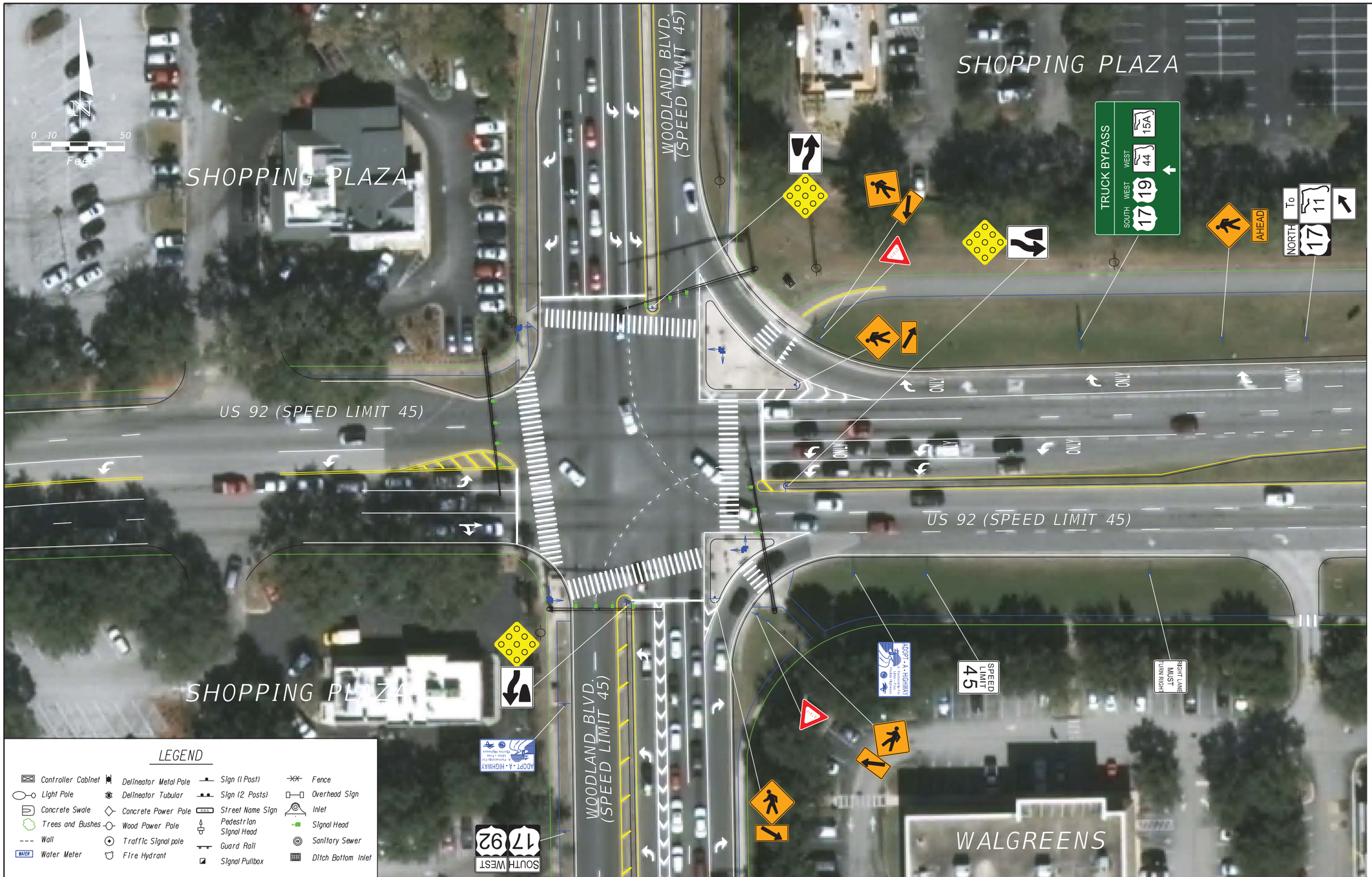
The intersection of US 92/International Speedway Boulevard and Garfield Avenue is a "plus" shaped intersection with US 92/International Speedway Boulevard running east-west and Garfield Avenue running north-south. The intersection is under signal control.

US 92/International Speedway Boulevard is a 4-lane divided roadway and Garfield Avenue is a 2–lane undivided roadway. At the intersection, there is a separate left turn lane for all approaches, except the northbound which has a shared left through and right turn lane. There is a separate right turn lane in westbound direction only. The posted speed limits are 45 mph along US 92/International Speedway Boulevard and 25 mph and 30 mph along Garfield Avenue north and south of the intersection, respectively.

The traffic signal is a box span strain pole design with concrete poles located in all four quadrants of the intersection. The signal phasing provides protected/permissive left turns from US 92/International Speedway Boulevard and permissive left turns from Garfield Avenue. There are signalized special emphasis pedestrian crosswalks across the north and west legs of the intersection. Sidewalks run along the north side of US 92/International Speedway Boulevard west of intersection, the east side of Garfield Avenue north of intersection, and both east & west sides of Garfield Avenue south of the intersection. The sidewalks along Garfield Avenue do not

extend to the intersection. A shared-use trail runs along the north side of US 92/International Speedway Boulevard between the sidewalk and the roadway. There is no street lighting along US 92/International Speedway Boulevard or along Garfield Avenue.

The land use within the vicinity of the intersection consists of a Lowe's Home Improvement in the northwest quadrant, a DQ Grill & Chill restaurant in the northeast quadrant, a Dunkin Donuts and Comfort Inn in the southwest quadrant and an AutoZone in the southeast quadrant. US 92/International Speedway Boulevard is a major arterial connecting the City of DeLand to I-95 and the City of Daytona Beach. Garfield Avenue is largely developed and it provides access to commercial and/or residential development.



LEGEND

- Controller Cabinet
- Light Pole
- Concrete Swale
- Trees and Bushes
- Wall
- Water Meter
- Delineator Metal Pole
- Delineator Tubular
- Concrete Power Pole
- Wood Power Pole
- Traffic Signal pole
- Fire Hydrant
- Sign (1 Post)
- Sign (2 Posts)
- Street Name Sign
- Pedestrian Signal Head
- Guard Rail
- Signal Pullbox
- Fence
- Overhead Sign
- Inlet
- Signal Head
- Sanitary Sewer
- Ditch Bottom Inlet

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

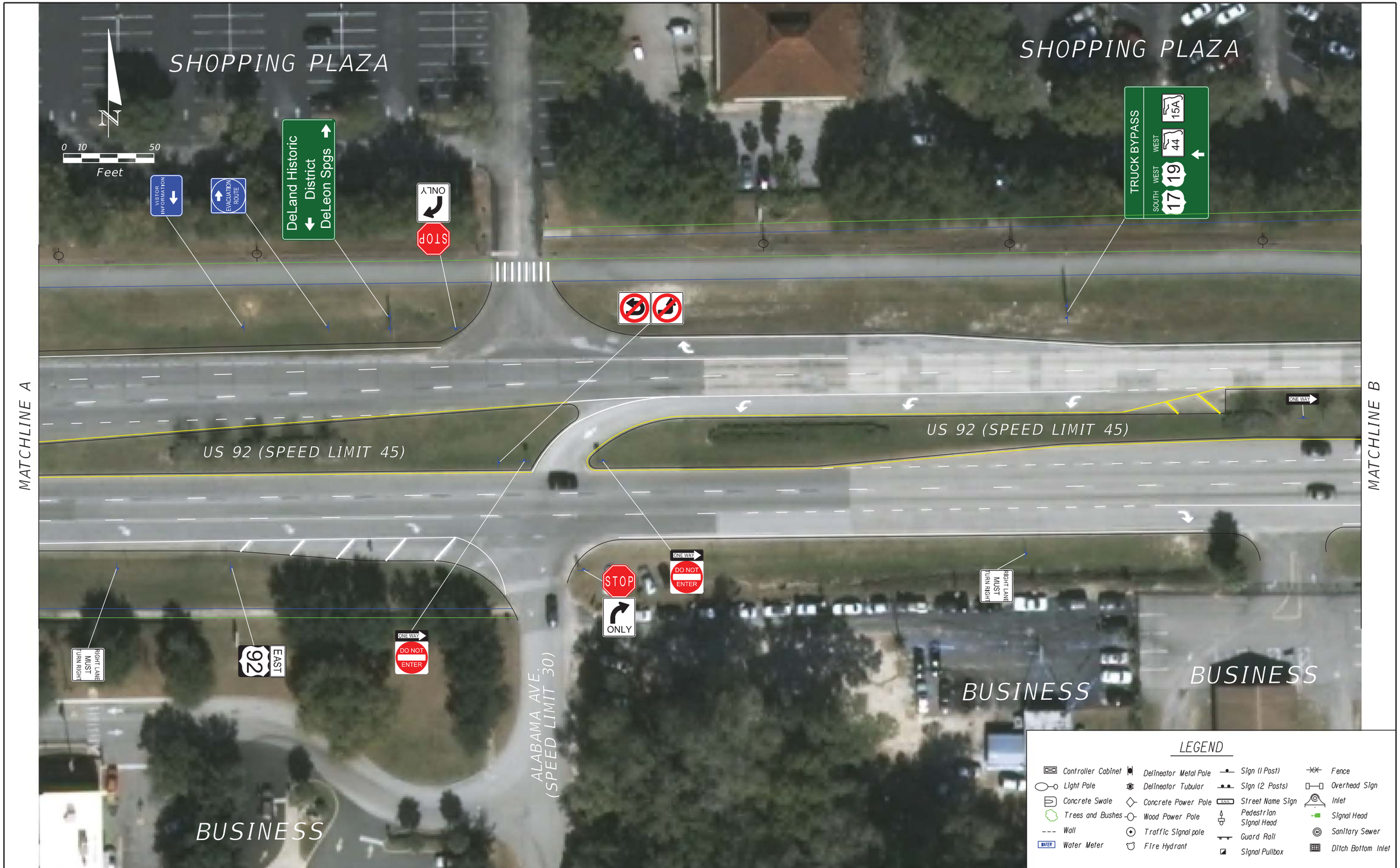
Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 2



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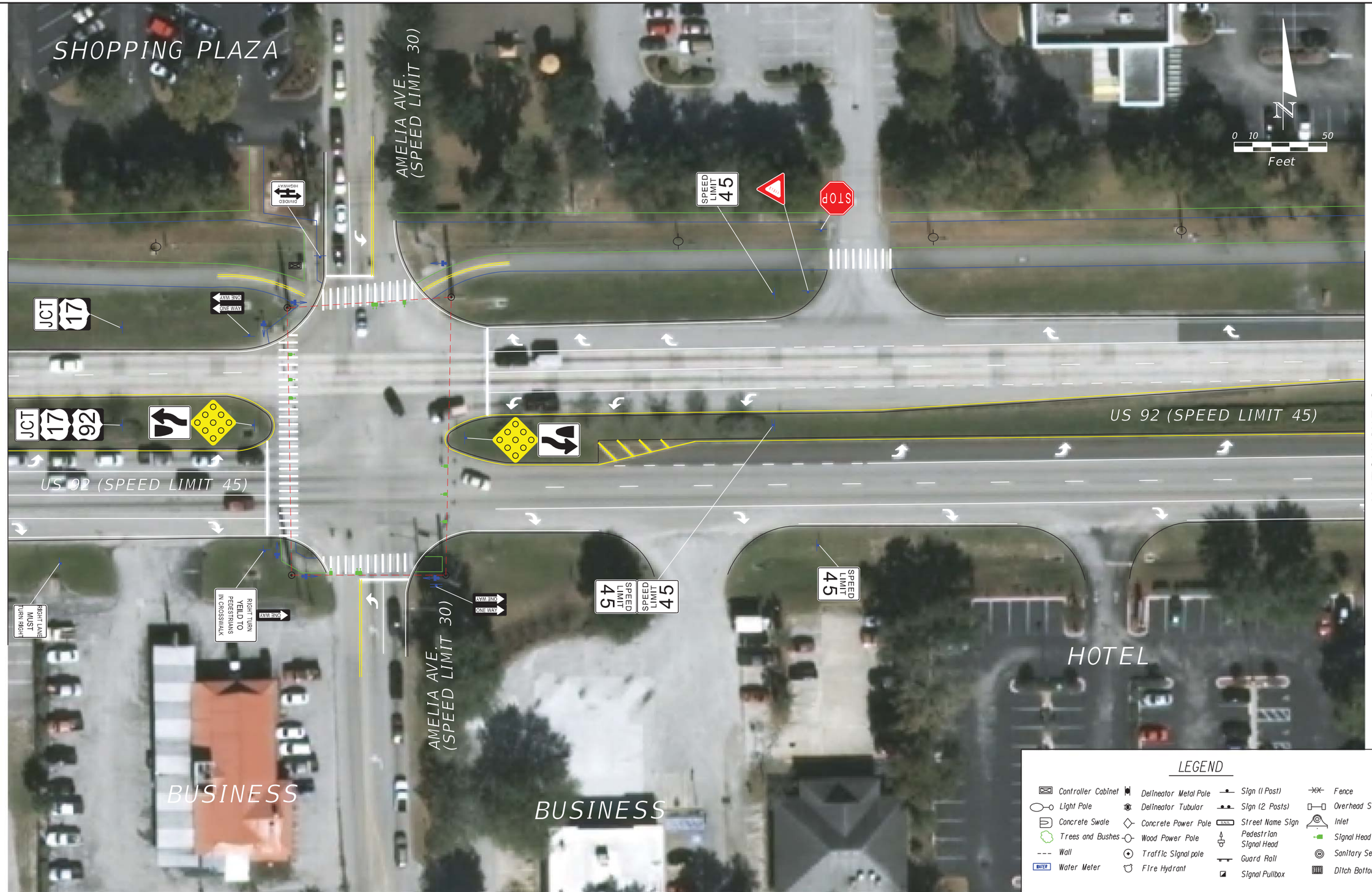
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 3

dbrazeal 3/28/2017 4:53:08 PM \\vhb\proj\Orlando\62393.02 US 17 at US 92 R2CTPO\cad\te\eng\Microstation\Plan02_Co



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STATE OF FLORIDA
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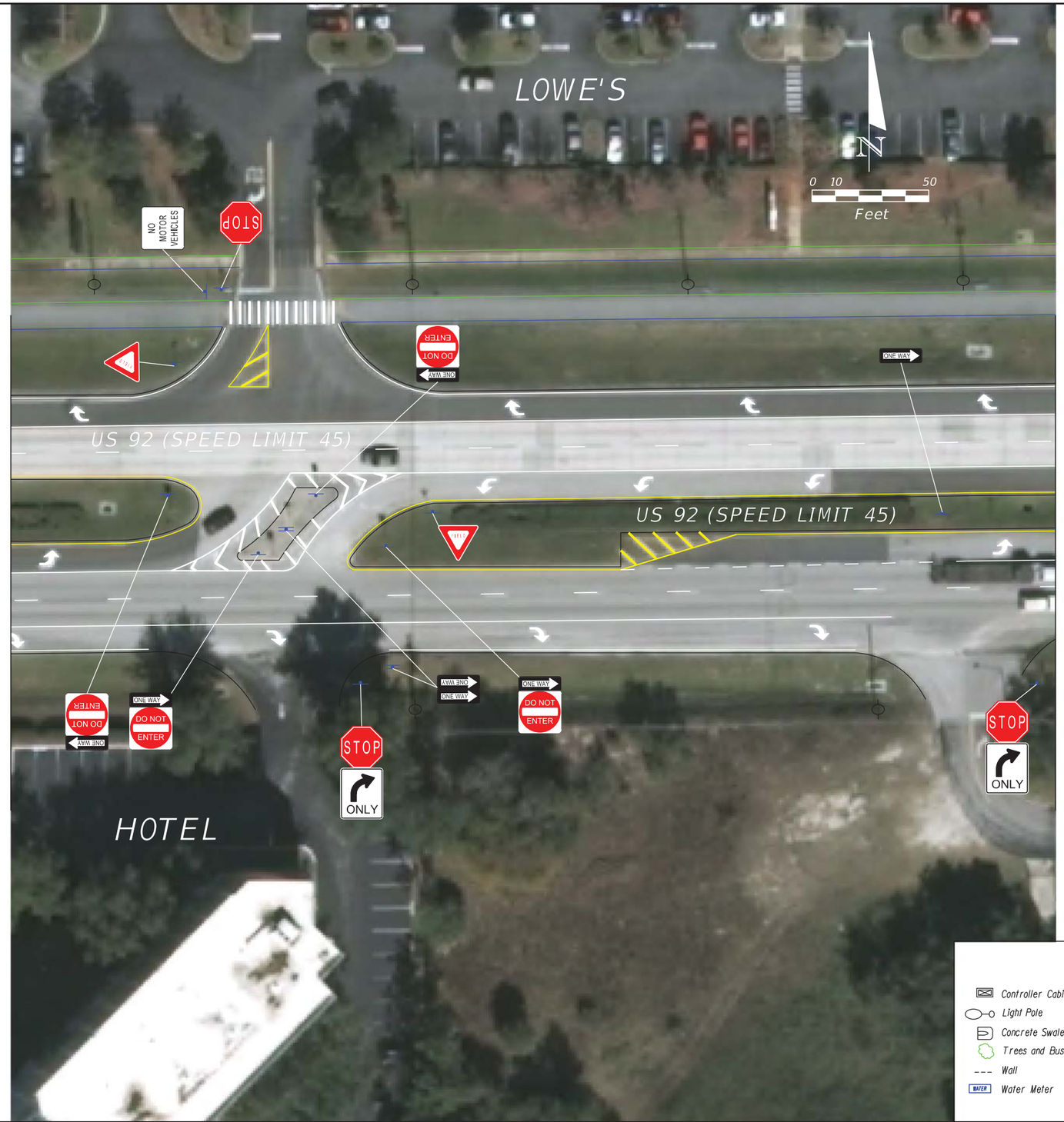
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 4



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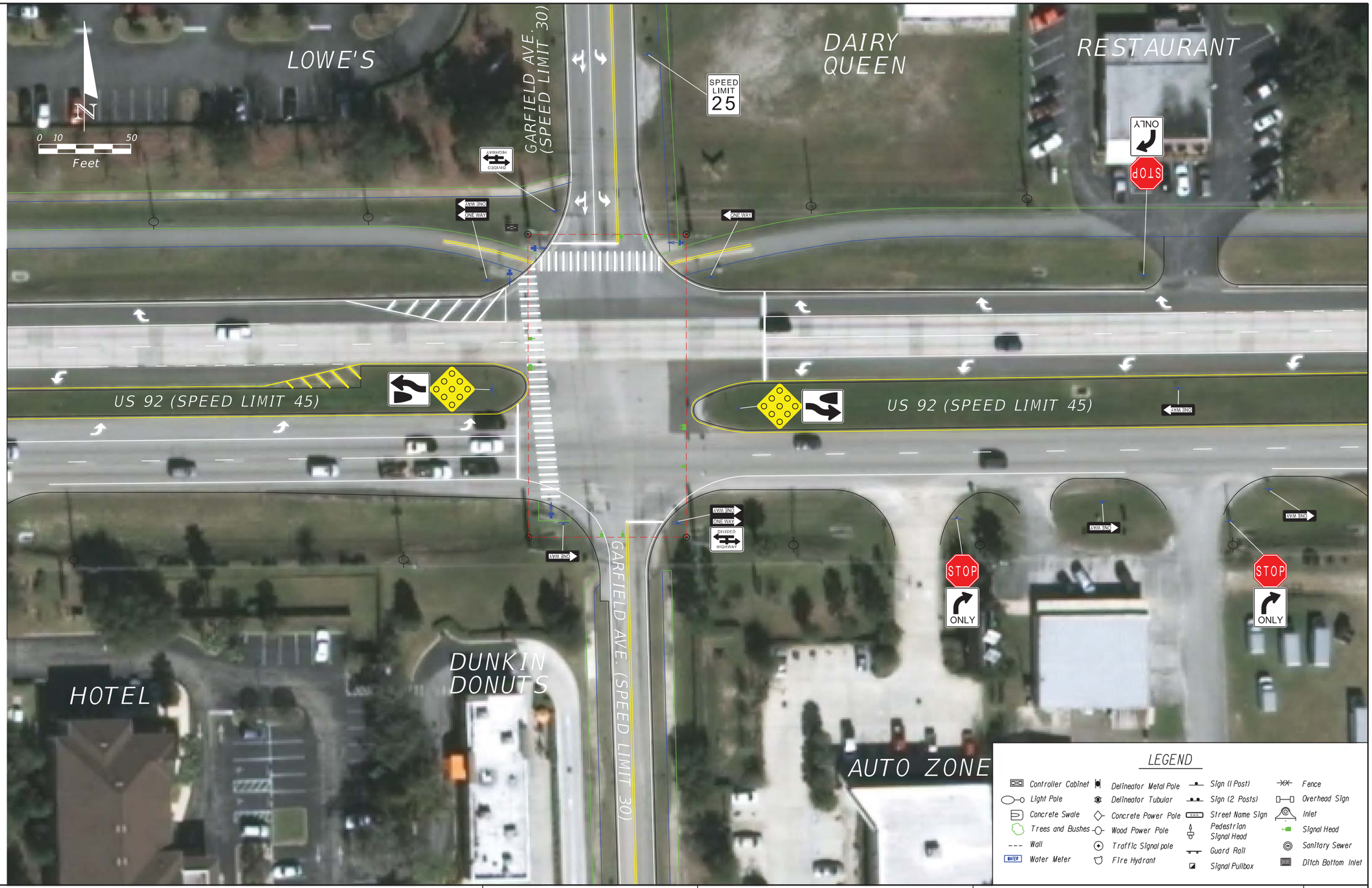
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 5



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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 6

Traffic Volume Data

72-hour classification traffic counts were collected on the westbound approach of US 92/International Speedway Boulevard, east of US 17/Woodland Boulevard, from Tuesday, December 6, 2016, through Thursday, December 9, 2016 representing a typical commuter weekday. The counts recorded that 12,144 vehicles approached on US 92/International Speedway Boulevard in the westbound direction.

The 72-hour classification traffic counts were supplemented with 8-hour intersection turning movement counts. The turning movement counts were collected between 7:00 AM –9:00 AM, 11:00 AM – 1:00 PM and 2:00 PM – 6:00 PM along US 92/International Speedway Boulevard at the US 17/Woodland Boulevard, Amelia Avenue, Lowe's Entrance and Garfield Avenue intersections. These hours represent the highest eight hours obtained from the approach counts. From this data, the AM, mid-day and PM peak traffic hours were found to occur from 7:15 AM to 8:15 AM, 11:30 AM to 12:30 PM and 4:45 PM to 5:45 PM, respectively, for all of the intersections along US 92/International Speedway Boulevard. The overall peak hour for the intersections was found to occur during the PM peak hour.

The turning movement counts on US 92/International Speedway Boulevard reveal that the traffic in eastbound direction peaks during AM conditions and traffic in westbound direction peaks during PM conditions. During Mid-day conditions, the traffic seems to be equally distributed in both directions. The 72-hour westbound approach classification count, 8-hour turning movement counts and pedestrian/bicycle counts are provided in greater detail in the **Appendix C**. The following table summarizes the distribution of turning movements along US 92/International Speedway Boulevard at the US 17/Woodland Boulevard, Amelia Avenue and Garfield Avenue intersections:

Table 1: 8 Hour Turning Movement Percentages (All Vehicles)					
Intersection	**Movement**	**Northbound**	**Southbound**	**Eastbound**	**Westbound**
US 92 & Woodland Blvd	Left-turn/U-turn	10.30%	33.30%	29.90%	24.60%
	Through	59.70%	52.20%	62.90%	41.00%
	Right-turn	30.00%	14.50%	7.20%	34.40%
US 92 & Amelia Ave	Left-turn/U-turn	27.60%	29.10%	10.90%	7.10%
	Through	35.20%	28.90%	84.90%	84.60%
	Right-turn	37.10%	41.90%	4.20%	8.20%
US 92 & Garfield Ave	Left-turn/U-turn	32.30%	51.10%	3.70%	6.90%
	Through	31.40%	21.10%	90.20%	85.30%
	Right-turn	36.20%	27.80%	6.10%	7.80%

The existing field collected turning movement counts were balanced (based on the presence of additional access locations between study intersections) and used in the operational analysis.

Crash Data

The latest available three years of crash data (from January 1, 2013 to December 31, 2015) along US 92/International Speedway Boulevard from US 17/Woodland Boulevard to Garfield Avenue were obtained from the Signal Four Analytics. Based on the crash data, a total of 89 crashes occurred within the study limits in the last three years. Raw crash data is included in **Appendix D**.

Crash Summary by Year and Conditions

Table 2 shows the summary of the crashes by severity and conditions for each year (January 2013 – December 2015). On average, about 30 crashes occurred per year for the last three years within the study limits, none of them were fatal crashes and 25 were crashes that resulted in some kind of injury. A total of 15 crashes (about 17% of the total) were reported to have occurred during dark conditions (at night, dawn or dusk), averaging about 5 crashes per year. In addition, 4 crashes (about 4% of the total) occurred in wet weather conditions.

Table 2: Crash Summary by Severity and Conditions (Jan 2013-Dec 2015)

Year	Total Number of Crashes	Injury Crashes	Fatal Crashes	Dark Conditions Crashes	Wet Conditions Crashes
2013	29	12	0	5	3
2014	35	7	0	5	0
2015	25	6	0	5	1
2013-2015	**89**	**25**	**0**	**15**	**4**
Average	***29.7***	***8.3***	***0.0***	***5.0***	***1.3***
Percent	-	***28.09%***	***0.00%***	***16.85%***	***4.49%***

Crash Summary for Intersections and Segments

A detailed review of the crash data for the corridor was performed. As shown in **Table 3**, the intersection at US 92 and Woodland Boulevard, at 49 crashes, had the highest number of crashes, accounting for 55% of the total crashes within the study corridor.

Table 3: Crash Summary by Intersections and segments (Jan 2013-Dec 2015)

Intersection	Total	Fatal Crashes	Injury Crashes	Property Damage Only	Night	Wet
US 92 at Woodland Blvd	**49**	0	11	38	11	1
US 92 at Amelia Ave	**19**	0	7	12	1	3
US 92 at Garfield Ave	**16**	0	7	9	3	0
Sub-Total Intersections	**84**	**0**	**25**	**59**	**15**	**4**
Segment	**Total**	**Fatal Crashes**	**Injury Crashes**	**Property Damage Only**	**Night**	**Wet**
US 92 b/w Woodland Blvd & Amelia Ave	**3**	0	0	3	0	0
US 92 b/w Amelia Ave & Garfield Ave	**2**	0	0	2	0	0
Sub-Total Segments	**5**	0	0	5	0	0
Total Intersections & Segments	**89**	**0**	**25**	**64**	**15**	**4**

Twenty-five injury crashes and zero fatalities were recorded within the study area during the three-year period. Only two of the three analyzed intersections, US 17/Woodland Boulevard and Amelia Avenue, have any form of street lighting. Lighting is not present along US 92/International Speedway Boulevard and US 17/Woodland Boulevard.

The following is a summary of the types of crashes at the intersections and along the segments:

US 92 at Woodland Blvd: This intersection experienced 49 crashes over the latest three year reporting period, with an average of 16 crashes per year. The majority of these crashes were rear end crashes (77.6% of total), followed by left turn crashes (10.2% of total). There were no pedestrian crashes and no fatal crashes reported at this intersection over the latest three year reporting period.

US 92 at Amelia Ave: This intersection experienced 19 crashes over the over the latest three year reporting period, with an average of 6 crashes per year. The majority of these crashes were rear end crashes (42.1% of total), followed by angle, left turn, and sideswipe crashes. There were no pedestrian crashes and no fatal crashes reported at this intersection over the latest three year reporting period.

US 92 at N Garfield Ave: This intersection experienced 16 crashes over the latest three year reporting period, averaging about 5 crashes per year. The majority of these crashes were rear end crashes (68.7% of total), followed by sideswipes and angle crashes. There were no pedestrian crashes and no fatal crashes reported at this intersection over the latest three year reporting period.

Crash Summary by Crash Type

Table 4 shows the summary of the crashes by crash type. Within the study corridor, rear end crashes account for the majority of crashes (about 64% of total) followed by sideswipe crashes (about 12% of total), left turn crashes (about 11% of total), and angle crashes (about 7% of total). There were no pedestrian crashes and no bicycle crashes reported at this intersection over the latest three year reporting period.

Table 4: Crash Summary by Crash Types (Jan 2013-Dec 2015)

Crash Type	2013	2014	2015	2013-2015	Per year	Percent
Angle	3	1	2	**6**	**2.0**	**6.7%**
Rear End	16	27	14	**57**	**19.0**	**64.0%**
Head On	0	0	0	**0**	**0.0**	**0.0%**
Left Turn	3	2	5	**10**	**3.3**	**11.2%**
Sideswipe	4	5	2	**11**	**3.7**	**12.4%**
Pedestrian	0	0	0	**0**	**0.0**	**0.0%**
Right Turn	1	0	2	**3**	**1.0**	**3.4%**
Bicycle	0	0	0	**0**	**0.0**	**0.0%**
Other	2	0	0	**2**	**0.7**	**2.2%**
Total	***29***	***35***	***25***	***89***	**-**	***100.0%***

The Crash Diagrams, figures 7 through 11, are provided in the following pages.

CRASH SYMBOL LEGEND

Collision w/ Bicycle	Rear End Crash	Sideswipe	Angle Crash
Fatality	Left Turn Crash	Off Road	Right Turn Crash
Fixed Object	Head-On Crash	Overturned Vehicle	

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
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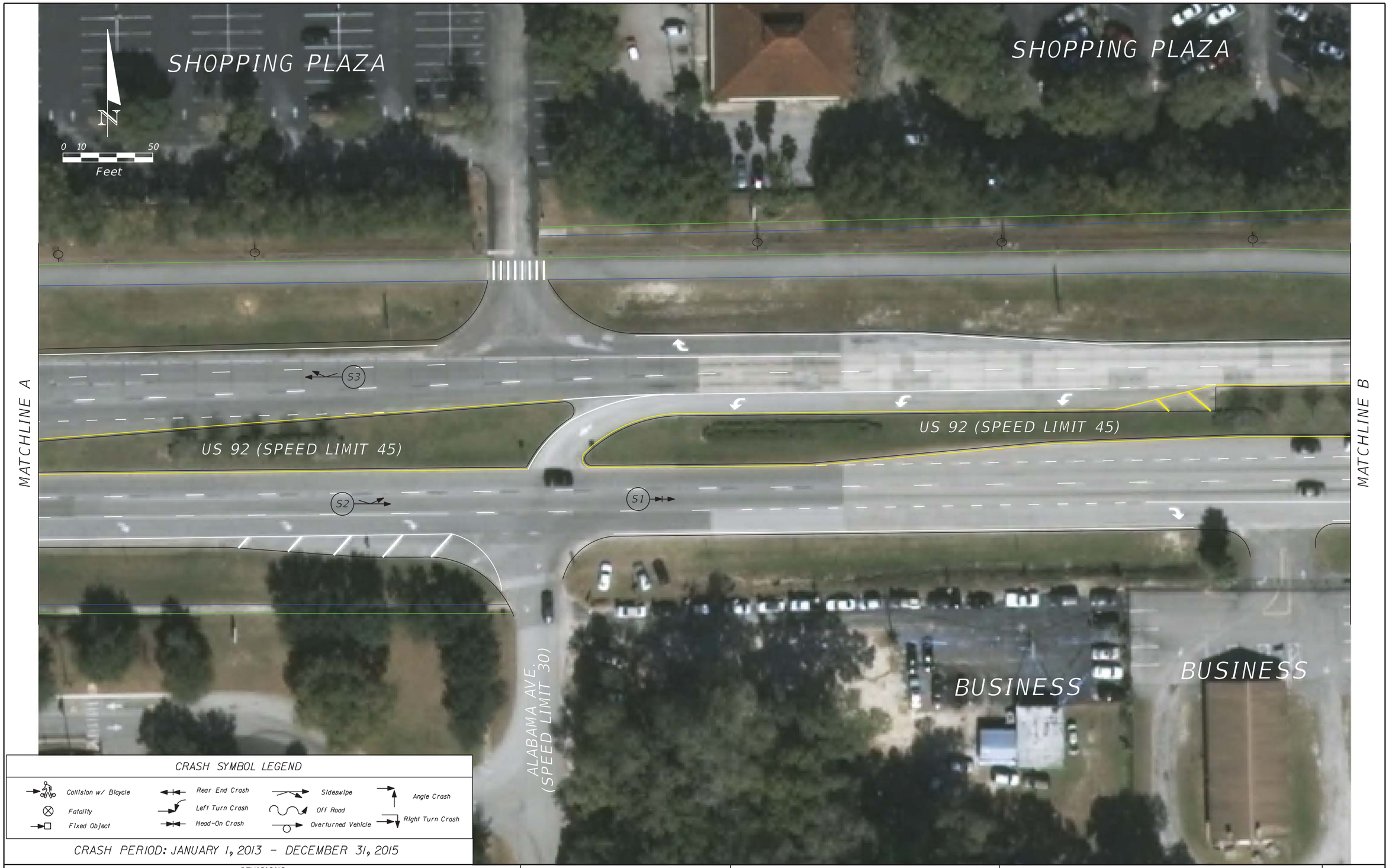
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 7



CRASH SYMBOL LEGEND

- Collision w/ Bicycle
- Fatality
- Fixed Object
- Rear End Crash
- Left Turn Crash
- Head-On Crash
- Sideswipe
- Off Road
- Overturned Vehicle
- Angle Crash
- Right Turn Crash

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

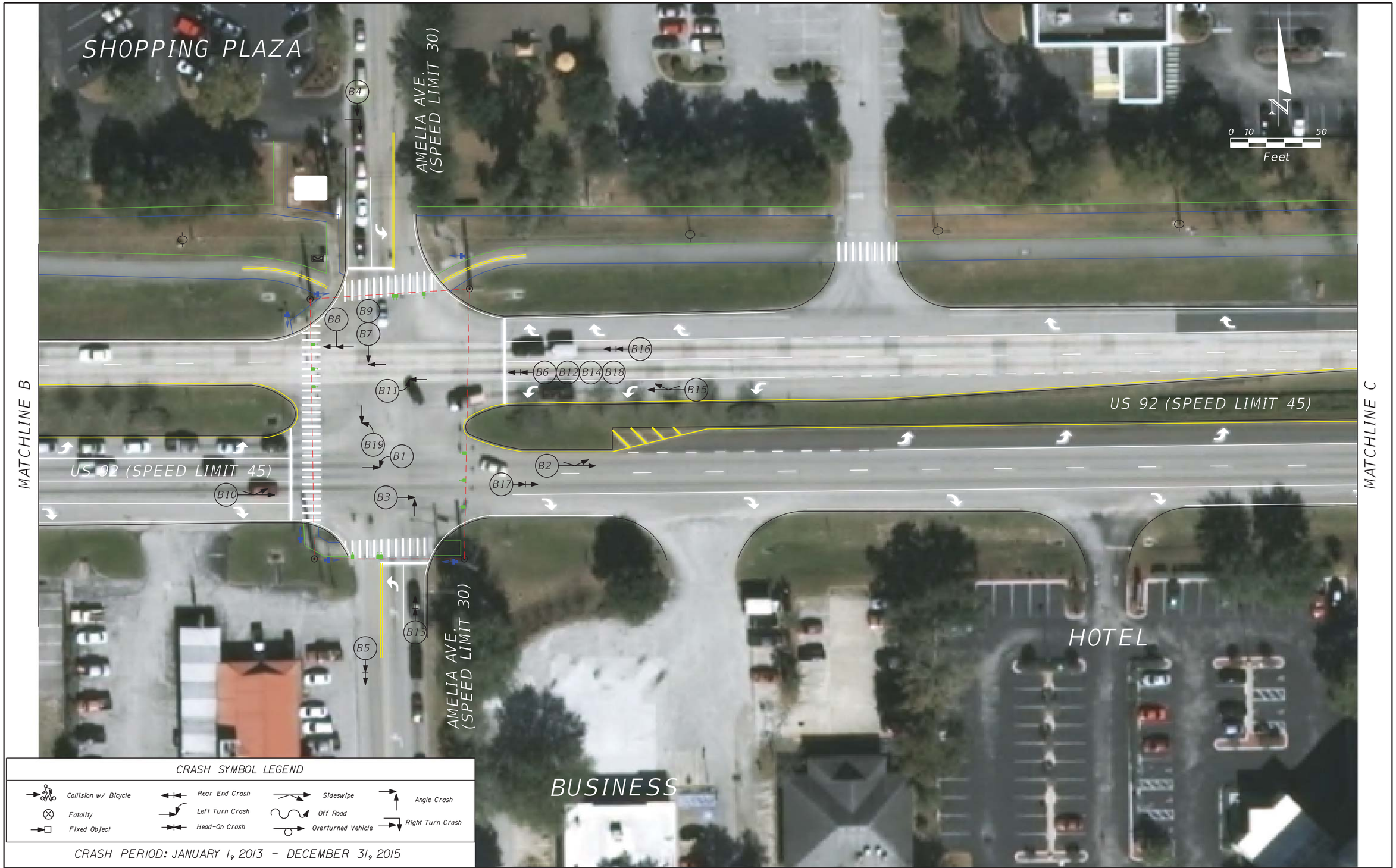
Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 8



CRASH SYMBOL LEGEND

Collision w/ Bicycle	Rear End Crash	Sideswipe	Angle Crash
Fatality	Left Turn Crash	Off Road	Right Turn Crash
Fixed Object	Head-On Crash	Overturned Vehicle	

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

REVISIONS			
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Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 9

CRASH SYMBOL LEGEND

Collision w/ Bicycle	Rear End Crash	Sideswipe	Angle Crash
Fatality	Left Turn Crash	Off Road	Right Turn Crash
Fixed Object	Head-On Crash	Overturned Vehicle	

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

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225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 10

CRASH SYMBOL LEGEND

- Collision w/ Bicycle
- Fatality
- Fixed Object
- Rear End Crash
- Left Turn Crash
- Head-On Crash
- Sideswipe
- Off Road
- Overturned Vehicle
- Angle Crash
- Right Turn Crash

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

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Orlando, FL 32801 (407)839-4006
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 11

ababuji 2/1/2017 4:21:06 PM \\vhb\proj\Orlando\62393.02 US 17 at US 92 R2CTPO\cad\te\eng\Microstation\Plan05_Cr

QUALITATIVE ASSESSMENT

A qualitative assessment (QA) was conducted in the field in order to evaluate the existing operating conditions occurring on a typical weekday, and to identify areas where improvements would be potentially beneficial to the overall safety and efficiency of the location. A registered professional engineer performed the QA from 4:00 PM – 5:30 PM during the evening peak hour period.

US 92/International Speedway Boulevard & US 17/Woodland Boulevard

1. During the QA, the intersection as a whole, appeared to operate with moderate delays. Amelia Avenue is located approximately 1,300 feet to the east and the Plaza Entrance is located approximately 500 feet to the west. Because of the proximity of these adjacent signalized intersections, vehicles along US 92/International Speedway Boulevard generally arrived in platoons. **During the time period between 5:00 PM – 5:20 PM, queues on westbound US 92/International Speedway Boulevard were observed to back up to Amelia Avenue, which resulted in some cycle failures**.
2. During the remainder of the peak hour, the intersection operated with moderate delays, with queues on westbound US 92/International Speedway Boulevard extending back to Alabama Avenue. However, the queues were able to clear the intersection in one cycle. Queues on eastbound US 92/International Speedway Boulevard were not as significant, and were able to clear the intersection within a single cycle as well.
3. The geometry of the intersection is, in general, straight and flat, so the sight distance to the signal is not impeded and was not observed to present any operational or safety concerns.
4. There are crosswalks with pedestrian signals across all the legs of the intersection. The crosswalks are marked with special emphasis pavement markings, which are appropriate for a crossing at a signalized intersection. The walk times provided appeared adequate for pedestrians to cross at a normal pace and within the allotted time.

5. There is a "blank-out" sign located on the mast arm facing the eastbound approach. The sign remains un-lit until the westbound left turn movement, when it is activated to prohibit the eastbound right turn movement.
6. The westbound right turn movement is under yield sign control. It was observed that westbound right turning vehicles frequently treated this yield movement as a free-flow movement. The westbound right turning vehicles are immediately merged into the outside northbound through lane without the benefit of a separate merge lane. Some conflicts and near misses were observed when westbound left turning vehicles, who have the right-of-way, attempted to turn into the outside northbound through lane. The westbound left turn lane does not have 2'-4' skip lines to guide them through the intersection.

US 92/International Speedway Boulevard & Amelia Avenue

1. During the QA, the intersection as a whole, appeared to operate with moderate delays. **During the time between 5:00 PM – 5:20 PM, queues on westbound US 92/International Speedway Boulevard were observed to back up to the adjacent signal at Garfield Avenue**. During the remainder of the peak hour, the intersection operated with moderate delays, with queues on westbound US 92/International Speedway Boulevard backing up to Lowe's Entrance. However, the queues were able to dissipate within one cycle length. In a few instances, the queues on eastbound US 92/International Speedway Boulevard were backed up and blocked the left turning vehicles.
2. There are tracking marks on the shoulders of the eastbound approach which bear evidence that vehicles are traveling on the shoulder to get around stopped through traffic to proceed with their left turn.
3. The geometry of the intersection is, in general, straight and flat, so the sight distance to the signal is not impeded and was not observed to present any operational or safety concerns.
4. There are crosswalks with pedestrian signals across all the legs of the intersection, except on the east leg. The crosswalks are marked with special emphasis pavement markings, which are appropriate for a crossing at a signalized intersection. The walk times provided

appeared adequate for pedestrians to cross at a normal pace and within the allotted time. The pedestrian detectors are audible type detectors.

US 92/International Speedway Boulevard & Garfield Avenue

Please note that the QA provided below is the same QA that was provided in the *"Intersection Analysis Study for the Intersection of US 92/International Speedway Boulevard and Garfield Avenue"* provided in **Appendix A**.

1. During the QA, the intersection, as a whole, appeared to operate smoothly and with minimal delay. The volume of traffic observed on US 92/International Speedway Boulevard was significantly higher than the volumes observed on Garfield Avenue. The flow of traffic on US 92/International Speedway Boulevard was heavier in the westbound direction than in the eastbound direction. For a couple of cycles between 5:00 PM and 5:20 PM, queues on westbound US 92/International Speedway Boulevard were observed to back up approximately 800 feet, thus blocking the left turning vehicles and causing cycle failures (queues cleared up in the next cycle). During the same period (5:00 – 5:20 PM), the queues on westbound US 92/International Speedway Boulevard frequently backed up approximately 600 feet. During the remainder of the PM peak hour time period, the intersection operated without significant queues or cycle failures. It was observed that the outside through lane on eastbound US 92/International Speedway Boulevard was utilized more than the inside through lane. In a few instances, the queues on eastbound US 92/International Speedway Boulevard were backed up to the Lowe's Entrance; however, all queued vehicles were able to clear the intersection in one cycle.
2. The geometry of the intersection is, in general, straight and flat, so the sight distance to the signal is not impeded and was not observed to present any operational or safety concerns.
3. There are tracking marks on the shoulders of the eastbound approach which bear evidence that vehicles are traveling on the shoulder to get around stopped through traffic to proceed with their right turn.

4. There are crosswalks with pedestrian signals across the north and west legs of the US 92/International Speedway Boulevard and Garfield Avenue intersection. The crosswalks are marked with special emphasis pavement markings, which are appropriate for a crossing at a signalized intersection. The walk times provided appeared adequate for pedestrians to cross at a normal pace and within the allotted time.
5. Crosswalks are not provided on the south and east legs of the intersection. The sidewalks along the east and west side of Garfield Avenue (south leg) are terminated just before the intersection.

FEASIBILITY ANALYSIS

Background

An application was received from Volusia County to perform a feasibility study to extend the existing westbound right turn lane along US 92/International Speedway Boulevard at Alabama Avenue east to Amelia Avenue to provide a continuous right turn lane between US 17/Woodland Boulevard and Garfield Avenue.

This study developed two alternatives to address overall traffic and the operational efficiency of the corridor. The alternatives are based upon field observations, traffic operational analysis, historical crash analysis and engineering judgment. The analysis is based on the premise that the recommendations provided in the *"Intersection Analysis Study for the Intersection of US 92/International Speedway Boulevard and Garfield Avenue"* are implemented. These recommendations include the installation of an eastbound right turn lane, a northbound right turn lane, the extension of the westbound left turn lane and full crosswalks with pedestrian signals at Garfield Avenue.

Alternative 1 provides analysis based on request in the feasibility study to extend the existing westbound right turn lane at Alabama Avenue so that there is a continuous right turn lane from US 17/Woodland Boulevard to Garfield Avenue. Alternative 2 provides analysis with an extended eastbound left turn lane and exclusive northbound right turn lane at Amelia Avenue without a continuous westbound right turn lane from US 17/Woodland Boulevard to Amelia Avenue (i.e., the westbound outside lane remains as existing). **Alternative 2 is the recommended alternative.**

Methodology

The methodology for determining the feasibility of implementing the proposed improvements includes performing an assessment of the proposed site, a comparison of before and after operating conditions within the study corridor utilizing traffic operation analysis software, and preparing a B/C analysis for any proposed improvements.

Assessment of Proposed Site

There were some geometric constraints observed that would impact the extension of the westbound right turn lane along US 92/International Speedway Boulevard between Alabama Avenue and Amelia Avenue. These include that the pedestrian signal in the northwest quadrant will need to be relocated, along with the multi-post sign along the north side of US 92/International Speedway Boulevard. If the roadway is widened to the north, the signal pole in the northwest quadrant will fall within the 24' clear zone required for new construction; however, since this is not new road construction, Resurfacing, Restoration and Rehabilitation (RRR) criteria could probably be applied, which allows for a 6'-14' clear zone, depending on the actual speeds observed along the corridor. The drainage along the corridor is open swale. Therefore, if the road is widened to the north, the drainage swale would need to be re-worked. Since the volume of water will increase with the increased impervious surface area of the new lane, the swales should be analyzed to determine if they can accommodate the additional water.

In order to construct a northbound right turn lane at Amelia Avenue, curb and gutter will be required to maintain the clear zone along the east side of the road. The northbound approach currently drains north towards the intersection and into the swales along US 17, and the addition of curb and gutter would not change that; although the volume of water will increase with the increased impervious surface area of the new lane. The swales should be analyzed to determine if they can accommodate the additional water. Survey was not provided for the Improvement Diagrams; however, from lot and parcel lines pulled from the Volusia County Property Appraisers web page, it appears that the turn lane could fit within the existing right of way. The overhead utility lines and the water line that runs along the east side of Amelia Avenue would need to be relocated. It is not anticipated that the existing traffic signal pole in the southeast quadrant will need to be replaced since the curb and gutter will provide the appropriate clear zone.

There was also a geometric constraint observed that could impact the extension of the eastbound left turn lane at Amelia Avenue. The length of the recommended extension could possibly be limited by the grade change between westbound and eastbound US 92/International Speedway Boulevard. However, the existing left turn lane is not constructed per FDOT standard criteria and

currently has a 165' taper. If the turn lane were re-constructed per current criteria, approximately 100' of extra storage could be gained with minimal impact to the grade.

Operational Analysis

The operational analysis was performed for the proposed and recommended alternatives for before and after conditions. The before conditions assume that there is no change in intersection geometry and signal timings, whereas, the after conditions assume improvements under the proposed alternatives The existing and improved operating conditions were determined using Synchro 9/SimTraffic simulation software. The signal timing information was obtained from Volusia County.

Alternative 1

Table 5 summarizes the intersection delay and levels of service (LOS) for before and after conditions during the three peak periods. The SimTraffic simulation results were provided in **Appendix D**.

Table 5: Before and After Operational Analysis Results (Alternative 1)

Intersection	AM Peak Hour				Mid-Day				PM Peak Hour			
	Before		After		Before		After		Before		After	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS
US 92 & Woodland Blvd	35.6	D	36.0	D	38.3	D	36.3	D	41.0	D	40.8	D
US 92 & Amelia Ave	22.1	C	23.1	C	29.8	C	26.3	C	38.8	D	39.3	D
US 92 & Garfield Ave	10.9	B	9.7	A	12.9	B	9.7	A	19.0	B	18.0	B

Note: The results are based on average of 10 random seed SimTraffic Simulation runs

Alternative 2 (Recommended Alternative)

Table 6 summarizes the intersection delay and levels of service (LOS) for before and after conditions during the three peak periods. The SimTraffic simulation results were provided in **Appendix E**.

Table 6: Before and After Operational Analysis Results (Alternative 2)

Intersection	AM Peak Hour				Mid-Day				PM Peak Hour			
	Before		After		Before		After		Before		After	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS
US 92 & Woodland Blvd	35.6	D	31.6	C	38.3	D	35.5	D	41.0	D	35.6	D
US 92 & Amelia Ave	22.1	C	16.2	C	29.8	C	28.7	C	38.8	D	31.4	C
US 92 & Garfield Ave	10.9	B	9.4	A	12.9	B	9.1	A	19.0	B	17.5	B

Note: The results are based on average of 10 random seed SimTraffic Simulation runs

Benefit/Cost Analysis

A benefit cost analysis was performed for the study intersections to estimate the effectiveness of the potential intersection improvement using SimTraffic simulation. The benefits are defined in terms of annualized cost savings associated with reductions in the following three measures of effectiveness (MOEs):

- Total Delay (Vehicle-Hours)
- Stops
- Fuel Consumption (Gallons)

The benefits were calculated for 300 days in a year accounting for reduced benefits anticipated due to lower traffic volumes during the weekend. The value of delay time per hour ($17.67) and fuel cost ($3.27) were obtained from "The Mobility Data for Orlando" published by Texas A&M University. Stops were estimated to cost $0.014 each. Table 7 summarizes the unit value of each MOE in a tabular format along with its source.

Table 7: Unit Value of MOEs

MOE Values	Unit Value	Source
Stops ($)	0.014	Transyt 7F
Delay ($)	17.67	2014 Urban Mobility Report published by Texas A&M Transportation Institute (TTI)
Fuel ($/gal.)	3.27	2014 Urban Mobility Report published by TTI
Days per Year	300	Average days with observable AM & PM peaking characteristics

The estimated cost for the Alternative 1 modifications is $130,905.97 (present day value) and it has a corresponding annualized cost amounting to $9,632.29. The service life for the modification is assumed 20 years and the interest rate used in the calculation of annualized costs is assumed 4%, which is a value frequently used by the Florida Department of Transportation (FDOT) in their benefit cost computations. The Cost Estimate for Alternative 1 can be found in **Appendix F**.

Table 8 summarizes the benefit cost analysis for Alternative 1. The analysis yields a B/C ratio of 11.71. The calculated B/C ratio indicates that the anticipated benefits outweigh the estimated costs for the proposed modification, with benefits derived through reduced costs associated with lower delay, stops and fuel consumption.

Table 8: Benefit/Cost Analysis Results (Alternative 1)

Benefit Period		**Measures of Effectiveness**		
		Total Stops	Total Delay (veh-hrs)	Fuel Consumption (gal)
AM Peak Hour	Existing	4,347	58.2	111.4
	Proposed	4,344	58.1	110.0
Mid-Day	Existing	5,324	72.6	122.4
	Proposed	4,919	65.4	119.0
PM Peak Hour	Existing	7,362	113.3	159.2
	Proposed	7,294	111.5	157.7
Estimated Daily (AM + Mid + PM)	Existing	17,033	244.1	393.0
	Proposed	16,557	235.0	386.7
Estimated Daily Savings		476	9.1	6.3
Estimated Unit Cost		$0.014	$17.670	$3.270
Daily User Benefit by MOE		$6.66	$160.80	$20.601
Daily User Benefit Total		$376.12		
Annual User Benefit		**$112,837.20**		
Total Annual Cost		**$9,632.29**		
Benefit Cost Ratio		**11.71**		

Notes:

1) The service life of the improvements was kept at 20 years
2) Interest rate of 4% was used to determine the annual cost of improvements
3) Annual user benefit was calculated for 300 days with 2 hours each of AM, Mid-day and PM peak periods

The estimated cost for the Alternative 2 improvements is $174,220.86 (present day value) and it has a corresponding annualized cost amounting to $12,819.48. The service life for the modifications are assumed 20 years and the interest rate used in the calculation of annualized costs is assumed 4%, which is a value frequently used by the FDOT in their benefit cost computations. The Cost Estimate for Alternative 2 can be found in **Appendix F**.

Table 9 summarizes the benefit cost analysis for Alternative 2. The analysis yields a B/C ratio of 29.81. The calculated B/C ratio indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications, with benefits derived through reduced costs associated with lower delay, stops and fuel consumption.

Table 9: Benefit/Cost Analysis Results (Alternative 2)

Benefit Period		**Measures of Effectiveness**		
		Total Stops	Total Delay (veh-hrs)	Fuel Consumption (gal)
AM Peak Hour	Existing	4,347	58.2	111.4
	Proposed	3,851	48.7	107.3
Mid-Day	Existing	5,324	72.6	122.4
	Proposed	4,942	65.7	119.3
PM Peak Hour	Existing	7,362	113.3	159.2
	Proposed	6,482	95.8	153.1
Estimated Daily (AM + Mid + PM)	Existing	17,033	244.1	393.0
	Proposed	15,275	210.2	379.7
Estimated Daily Savings		1,758	33.9	13.3
Estimated Unit Cost		$0.014	$16.790	$3.240
Daily User Benefit by MOE		$24.61	$569.181	$43.092
Daily User Benefit Total		$1273.77		
Annual User Benefit		**$382,131.00**		
Total Annual Cost		**$12,819.48**		
Benefit Cost Ratio		**29.81**		

Notes:

1) The service life of the improvements was kept at 20 years
2) Interest rate of 4% was used to determine the annual cost of improvements
3) Annual user benefit was calculated for 300 days with 2 hours each of AM, Mid-day and PM peak periods

RECOMMENDATIONS

Based upon the crash and speed analyses, qualitative assessment, field observations, intersection analysis, B/C Analysis and engineering judgment, the following modifications are recommended to improve the safety and operation of the intersection:

1: Alternative 1:

- **Extend the existing westbound right turn lane along US 92/International Speedway Boulevard at Alabama Avenue east to Amelia Avenue to provide a continuous right turn lane from US 17/Woodland Avenue to Garfield Avenue.**
- Provide an exclusive eastbound right turn lane and extend the existing westbound left turn lane at US 92/International Speedway Boulevard and Garfield Avenue intersection.

This alternative is based on the input provided in the application for a feasibility study completed by the County. Based on the existing right of way, there are no physical constraints found to prevent the extension of the westbound right turn lane from Alabama Avenue to Amelia Avenue. **This modification can be implemented at an approximate cost of $164,901.20 and yields a B/C ratio of 9.30, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications.**

2: Alternative 2 (Recommended Alternative):

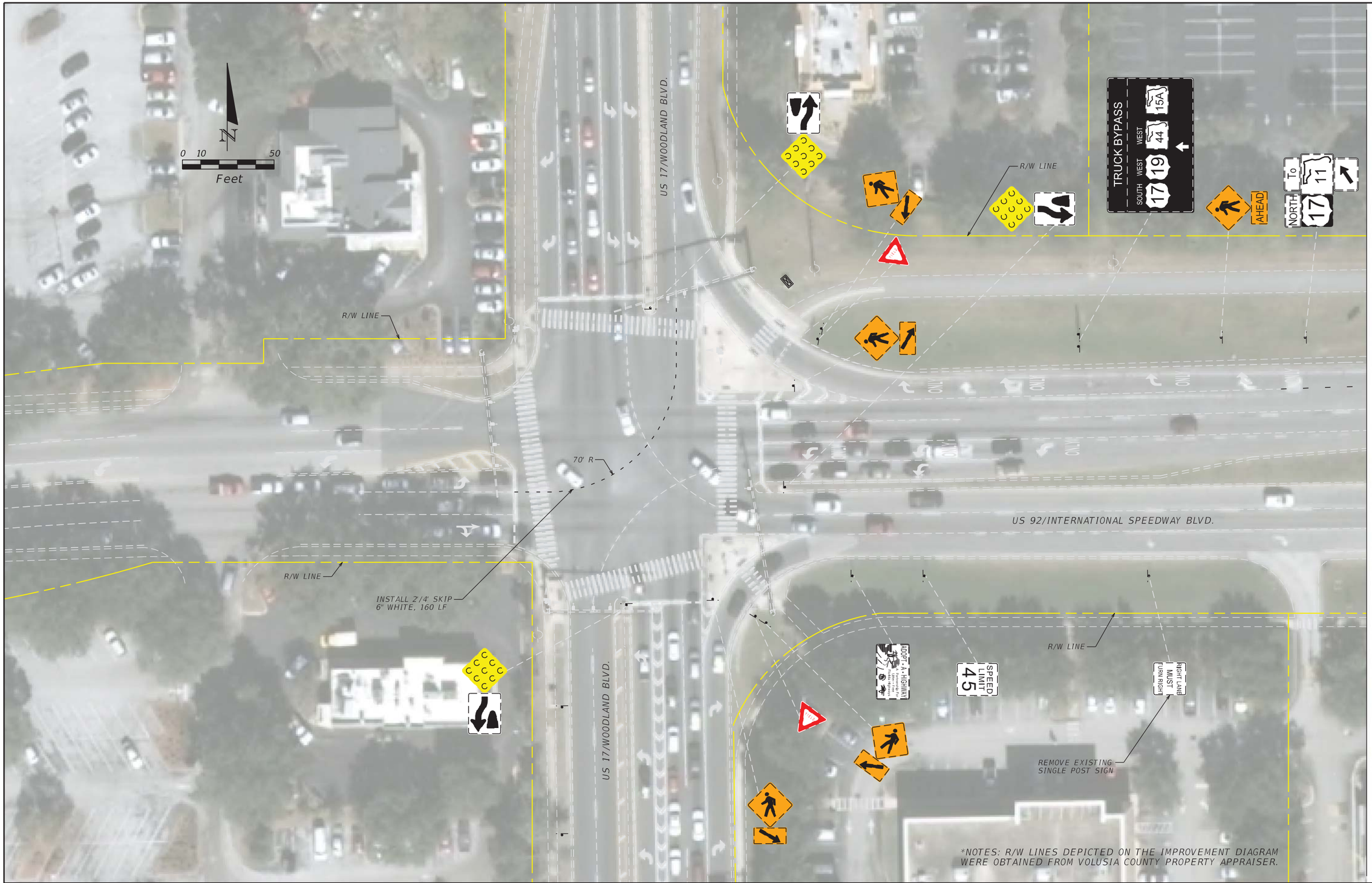
- **Provide an exclusive northbound right turn lane and extend the existing eastbound left turn lane (by approximately 100 feet) at the intersection of US 92/International Speedway Boulevard and Amelia Avenue.**
- **Provide exclusive eastbound and northbound right turn lanes and extend the existing westbound left turn lane at US 92/International Speedway Boulevard and Garfield Avenue intersection.**

These modifications can be implemented at an approximate cost of $191,139.90 and yields a B/C ratio of 26.44, which indicates that the anticipated benefits significantly outweigh the estimated costs for this recommended alternative.

3: Extend the existing sidewalk along the south side of US 92/International Speedway Boulevard from the east side of Alabama Avenue to Garfield Avenue. The cost for this safety improvement (provided as a separate item) is estimated at $67,135.68. This safety improvement will encourage pedestrians who want to access the businesses located on the south side of US 92 to walk on the sidewalk rather than the shoulder of the road, thus improving pedestrian safety and reducing vehicle-pedestrian conflicts.

4: Install 2'4'' skip guidelines through the intersection at US 17/Woodland Avenue to guide eastbound left turning vehicles into the inside northbound through lane. This will reduce conflict between the eastbound left turning vehicles and westbound right turning vehicles, which frequently treat this yield movement as a free-flow movement, and are merged immediately into the outside northbound through lane without the benefit of a separate merge lane.

The Alternative 1 and Alternative 2 recommended improvements are illustrated in Figures 12 and 13, respectively.



*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
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Kathryn L. Lee, P.E.
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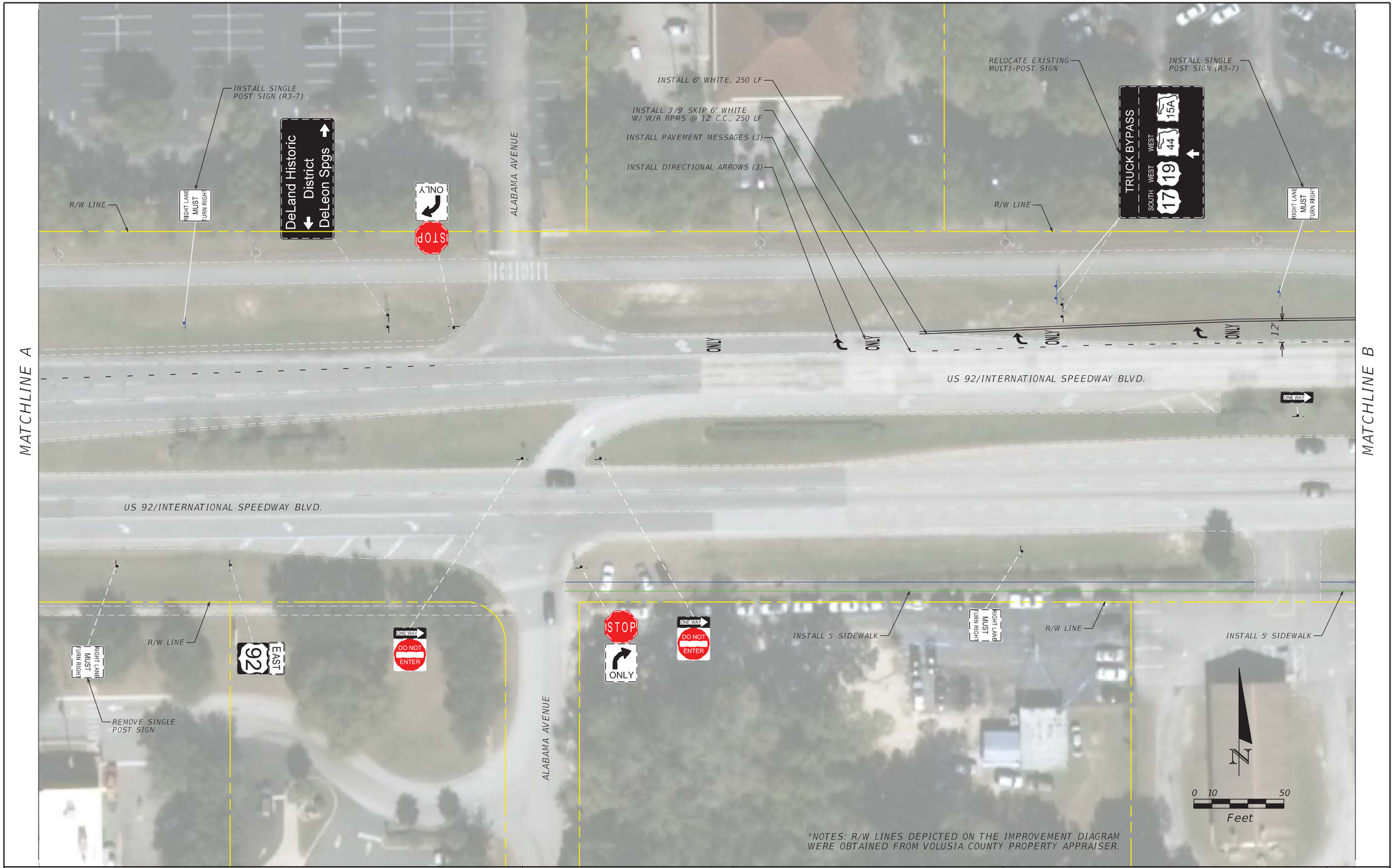
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM
(ALTERNATIVE 1)

FIGURE NO. 12.1



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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM
(ALTERNATIVE 1)

FIGURE NO. 12.2

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MATCHLINE B

MATCHLINE C

INSTALL DIRECTIONAL ARROW (1)

INSTALL PAVEMENT MESSAGE (1)

R/W LINE

RELOCATE EXISTING SINGLE POST SIGN

RELOCATE EXISTING SINGLE POST SIGN

INSTALL 3'/9' SKIP 6" WHITE W/ W/R RPMS @ 12' C.C., 155 LF

INSTALL 6" WHITE, 155 LF

RELOCATE EXISTING PEDESTRIAN SIGNAL AND DETECTOR TO STRAIN POLE. REMOVE EXISTING PEDESTRIAN PEDESTAL

INSTALL TYPE F CURB, 60 LF

AMELIA AVENUE

JCT 17

ONE WAY

ONLY

INSTALL PEDESTRIAN RAMPS

US 92/INTERNATIONAL SPEEDWAY BLVD.

JCT 17 92

STOP

SPEED LIMIT 45

R/W LINE

N

0 10 50

Feet

US 92/INTERNATIONAL SPEEDWAY BLVD.

RIGHT LANE MUST TURN RIGHT

STOP

RIGHT TURN YEILD TO PEDESTRIANS IN CROSSWALK

ONE WAY

ONE WAY

R/W LINE

INSTALL 5' SIDEWALK

INSTALL 5' SIDEWALK

AMELIA AVENUE

ONE WAY

SPEED LIMIT 45

R/W LINE

INSTALL 5' SIDEWALK

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM

(ALTERNATIVE 1)

FIGURE NO. 12.3

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MATCHLINE C

MATCHLINE D

N

0 10 50

Feet

NO MOTOR VEHICLES

STOP

R/W LINE

DO NOT ENTER

ONE WAY

US 92/INTERNATIONAL SPEEDWAY BLVD.

US 92/INTERNATIONAL SPEEDWAY BLVD.

ONE WAY

DO NOT ENTER

ONE WAY

STOP

ONLY

INSTALL 5' SIDEWALK

ONE WAY

ONE WAY

ONE WAY

DO NOT ENTER

R/W LINE

STOP

ONLY

INSTALL 5' SIDEWALK

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb

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Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
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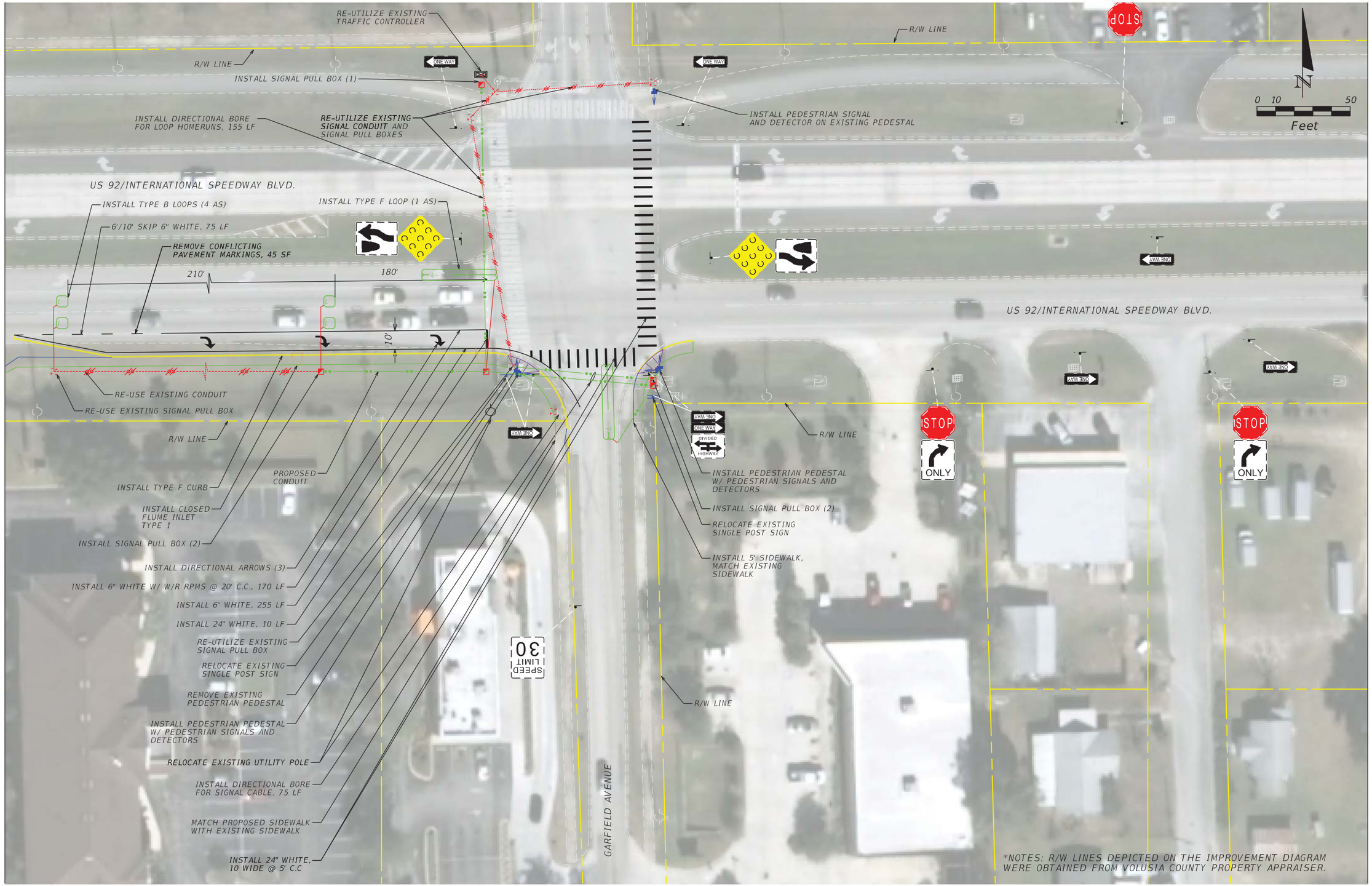
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM
(ALTERNATIVE 1)

FIGURE NO. 12.4



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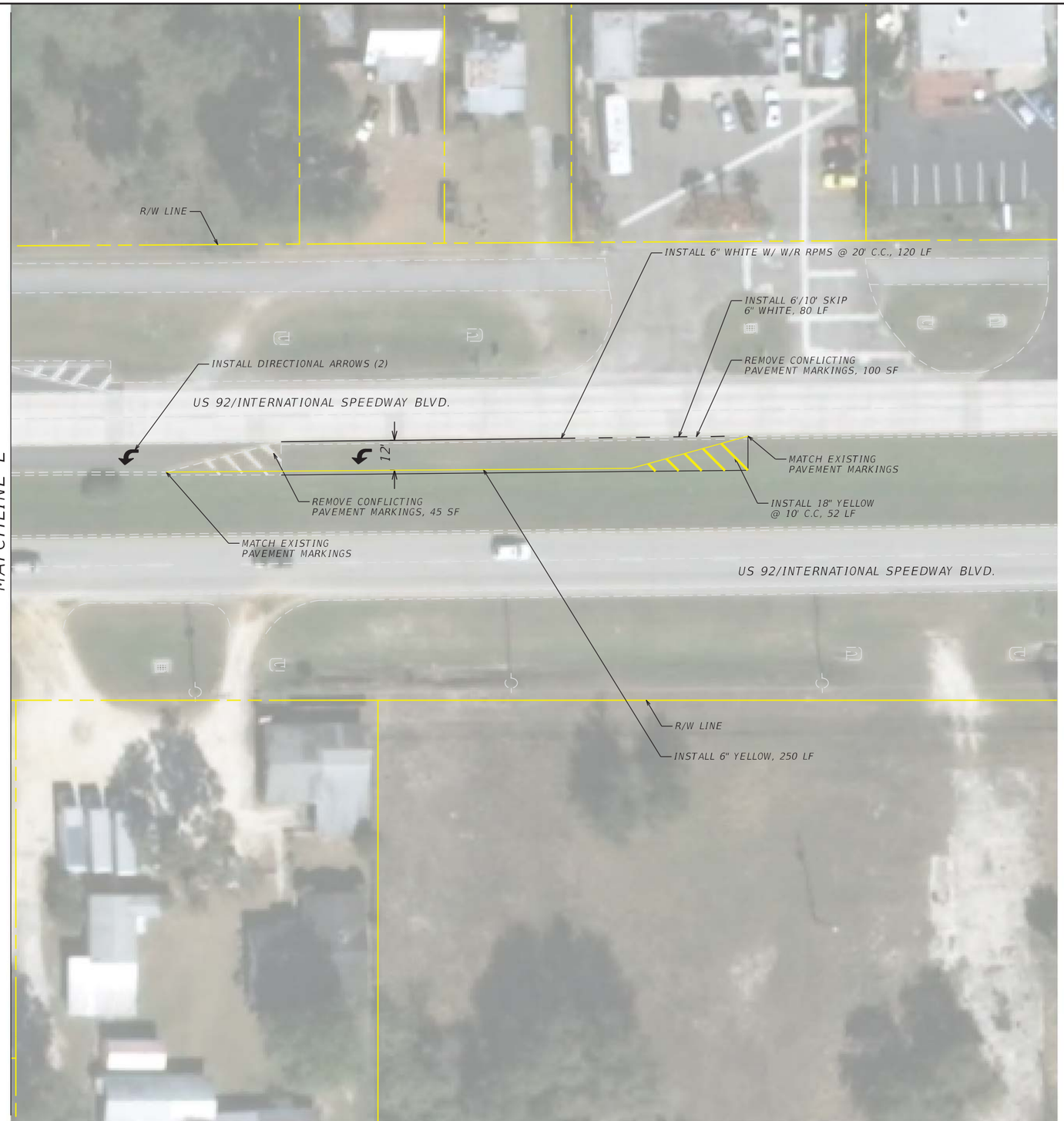
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 1)

FIGURE NO. 12.5



N

0 10 50

Feet

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Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

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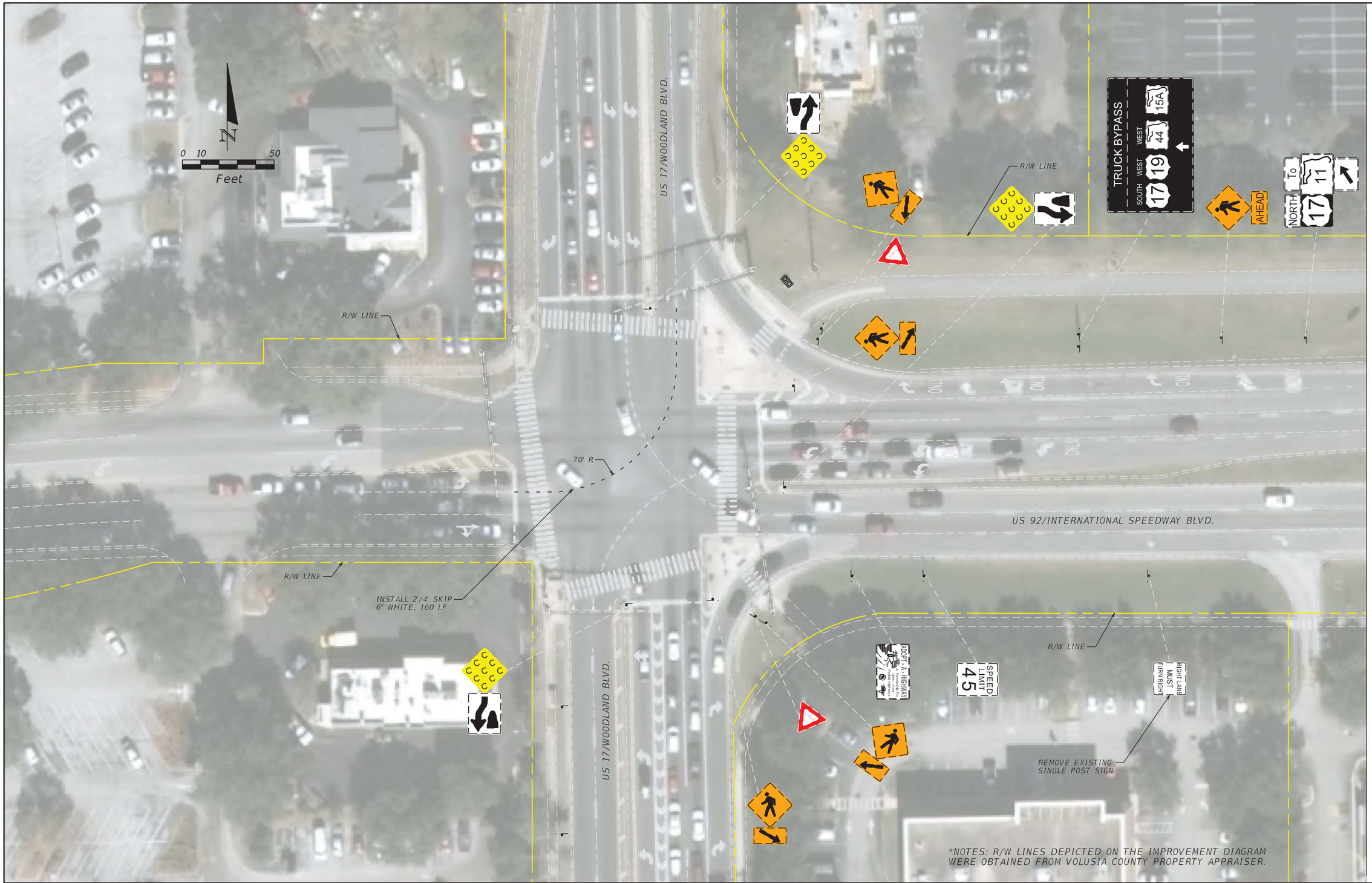
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM
(ALTERNATIVE 1)

FIGURE NO. 12.6



*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.1

ababuji 4/10/2017 2:12:47 PM \\vhb\proj\Orlando\62393.02 US 17 at US 92 R2CTPO\cad\te\eng\Microstation\Plan01_Im

MATCHLINE A

MATCHLINE B

R/W LINE

DeLand Historic District
DeLeon Spgs

ONLY

STOP

ALABAMA AVENUE

R/W LINE

TRUCK BYPASS
SOUTH WEST 17 19
WEST 44 15A

INSTALL 6" WHITE W/ W/R RPMS @ 20' C.C., 300 LF

INSTALL 6" YELLOW, 345 LF

INSTALL 6'/10' SKIP 6" WHITE, 80 LF

US 92/INTERNATIONAL SPEEDWAY BLVD.

ONE WAY

12'

US 92/INTERNATIONAL SPEEDWAY BLVD.

INSTALL DIRECTIONAL ARROWS (3)

R/W LINE

RIGHT LANE MUST TURN RIGHT

92 EAST

ONE WAY
DO NOT ENTER

STOP
ONLY

ONE WAY
DO NOT ENTER

INSTALL 5' SIDEWALK

RIGHT LANE MUST TURN RIGHT

R/W LINE

INSTALL 5' SIDEWALK

REMOVE SINGLE POST SIGN

ALABAMA AVENUE

N

0 10 50
Feet

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.2

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MATCHLINE B

MATCHLINE C

AMELIA AVENUE

US 92/INTERNATIONAL SPEEDWAY BLVD.

RE-UTILIZE EXISTING TRAFFIC CONTROLLER

R/W LINE

JCT 17

ONE WAY

JCT 17 92

SPEED LIMIT 45

STOP

INSTALL 24" WHITE, 10 LF

INSTALL PEDESTRIAN RAMP

RELOCATE EXISTING PEDESTRIAN SIGNAL, DETECTOR AND PEDESTAL

MAINTAIN EXISTING SIGNAL POLE

RELOCATE EXISTING SINGLE POST SIGN

RELOCATE EXISTING UTILITY POLE

INSTALL TYPE F LOOP (1 AS)

RELOCATE EXISTING FIRE HYDRANT

INSTALL TYPE F CURB, 200 LF

INSTALL DIRECTIONAL ARROW (2)

INSTALL 6" WHITE W/ W/R RPMS @ 20' C.C., 80 LF

REMOVE CONFLICTING PAVEMENT MARKINGS, 40 SF

INSTALL 6'-10' SKIP 6" WHITE, 65 LF

RIGHT LANE MUST TURN RIGHT

RIGHT TURN YEILD TO PEDESTRIANS IN CROSSWALK

INSTALL 5' SIDEWALK

RE-USE EXISTING SIGNAL PULL BOX

10'

N

0 10 50

Feet

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.3

ababuji 4/10/2017 2:27:20 PM \\vhb\proj\Orlando\62393.02 US 17 at US 92 R2CTPO\cad\te\eng\Microstation\Plan03_Im

MATCHLINE C

MATCHLINE D

N

0 10 50

Feet

NO MOTOR VEHICLES

STOP

R/W LINE

DO NOT ENTER

ONE WAY

US 92/INTERNATIONAL SPEEDWAY BLVD.

US 92/INTERNATIONAL SPEEDWAY BLVD.

ONE WAY

DO NOT ENTER

ONE WAY

STOP

ONLY

ONE WAY

DO NOT ENTER

R/W LINE

STOP

ONLY

INSTALL 5' SIDEWALK

INSTALL 5' SIDEWALK

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.4

MATCHLINE D

MATCHLINE E

RE-UTILIZE EXISTING TRAFFIC CONTROLLER

R/W LINE

INSTALL SIGNAL PULL BOX (1)

INSTALL DIRECTIONAL BORE FOR LOOP HOMERUNS, 155 LF

RE-UTILIZE EXISTING SIGNAL CONDUIT AND SIGNAL PULL BOXES

US 92/INTERNATIONAL SPEEDWAY BLVD.

INSTALL TYPE B LOOPS (4 AS)

6'-10' SKIP 6" WHITE, 75 LF

REMOVE CONFLICTING PAVEMENT MARKINGS, 45 SF

INSTALL TYPE F LOOP (1 AS)

210'

180'

10'

RE-USE EXISTING CONDUIT

RE-USE EXISTING SIGNAL PULL BOX

R/W LINE

PROPOSED CONDUIT

INSTALL TYPE F CURB

INSTALL CLOSED FLUME INLET TYPE 1

INSTALL SIGNAL PULL BOX (2)

INSTALL DIRECTIONAL ARROWS (3)

INSTALL 6" WHITE W/ W/R RPMS @ 20' C.C., 170 LF

INSTALL 6" WHITE, 255 LF

INSTALL 24" WHITE, 10 LF

RE-UTILIZE EXISTING SIGNAL PULL BOX

RELOCATE EXISTING SINGLE POST SIGN

REMOVE EXISTING PEDESTRIAN PEDESTAL

INSTALL PEDESTRIAN PEDESTAL W/ PEDESTRIAN SIGNALS AND DETECTORS

RELOCATE EXISTING UTILITY POLE

INSTALL DIRECTIONAL BORE FOR SIGNAL CABLE, 75 LF

MATCH PROPOSED SIDEWALK WITH EXISTING SIDEWALK

INSTALL 24" WHITE, 10 WIDE @ 5' C.C

INSTALL PEDESTRIAN SIGNAL AND DETECTOR ON EXISTING PEDESTAL

REPLACE MITERED END SECTIONS AND EXTEND PIPE

US 92/INTERNATIONAL SPEEDWAY BLVD.

R/W LINE

INSTALL PEDESTRIAN PEDESTAL W/ PEDESTRIAN SIGNALS AND DETECTORS

INSTALL SIGNAL PULL BOX (2)

RELOCATE EXISTING SINGLE POST SIGN

INSTALL 24" WHITE, 21 LF

INSTALL DIRECTIONAL ARROWS (3)

INSTALL 6" WHITE, 250 LF

INSTALL TYPE F LOOPS (2 AS)

INSTALL 6" WHITE W/ W/R RPMS @ 20' C.C., 175 LF

INSTALL TYPE F CURB

INSTALL 6' SIDEWALK @ BACK OF CURB

10'

R/W LINE

6'-10' SKIP 6" WHITE, 60 LF

REMOVE CONFLICTING PAVEMENT MARKINGS, 35 SF

MATCH PROPOSED SIDEWALK WITH EXISTING SIDEWALK

GARFIELD AVENUE

SPEED LIMIT 30

R/W LINE

STOP

ONLY

STOP

ONLY

ONE WAY

DIVIDED HIGHWAY

N

0 10 50

Feet

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
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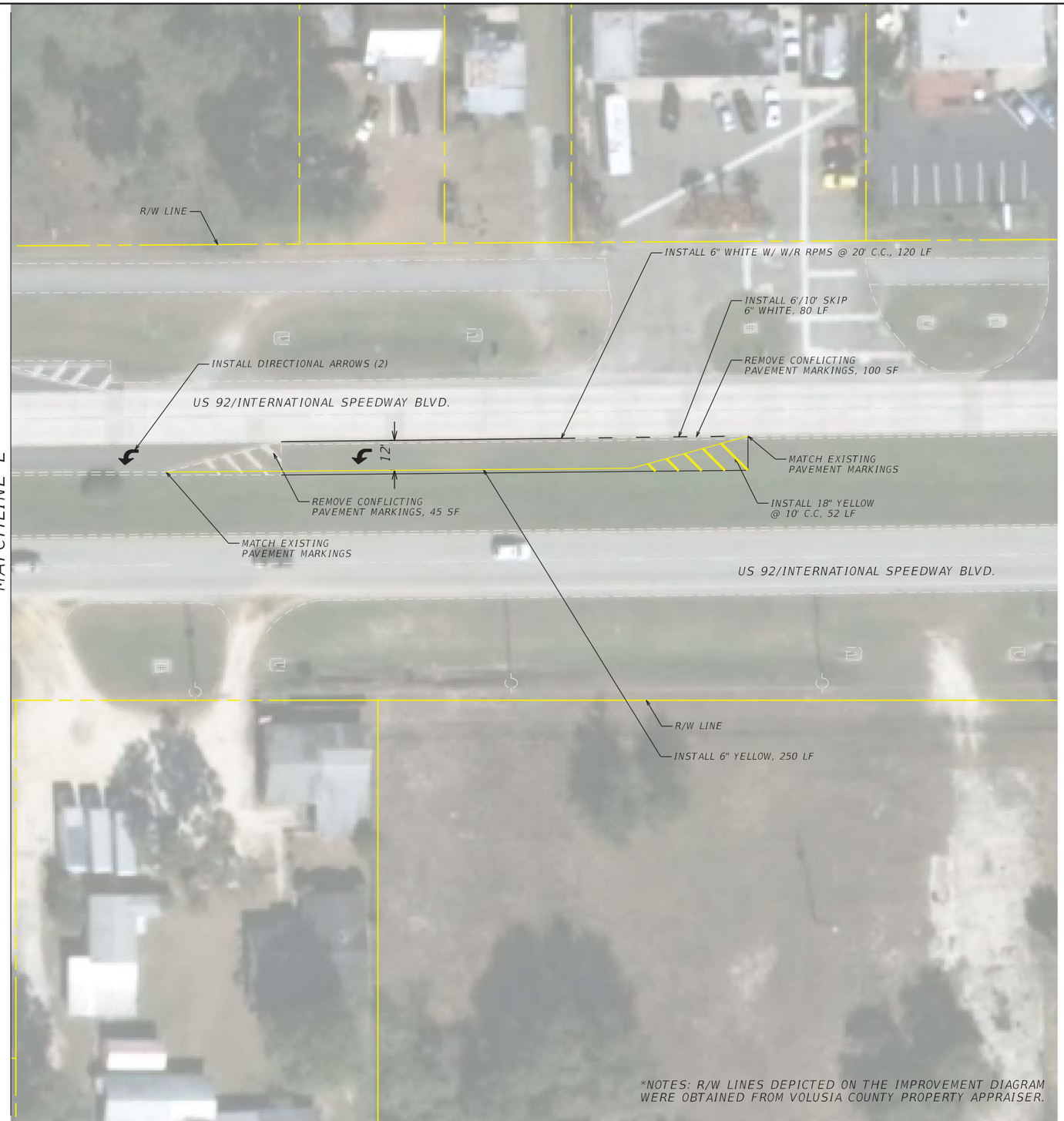
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.5



N

0 10 50

Feet

*NOTES: R/W LINES DEPICTED ON THE IMPROVEMENT DIAGRAM WERE OBTAINED FROM VOLUSIA COUNTY PROPERTY APPRAISER.

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM (ALTERNATIVE 2)

FIGURE NO. 13.6

APPENDICES

APPENDIX A:

US 92/International Speedway Boulevard and Garfield Avenue – B/C Analysis Report

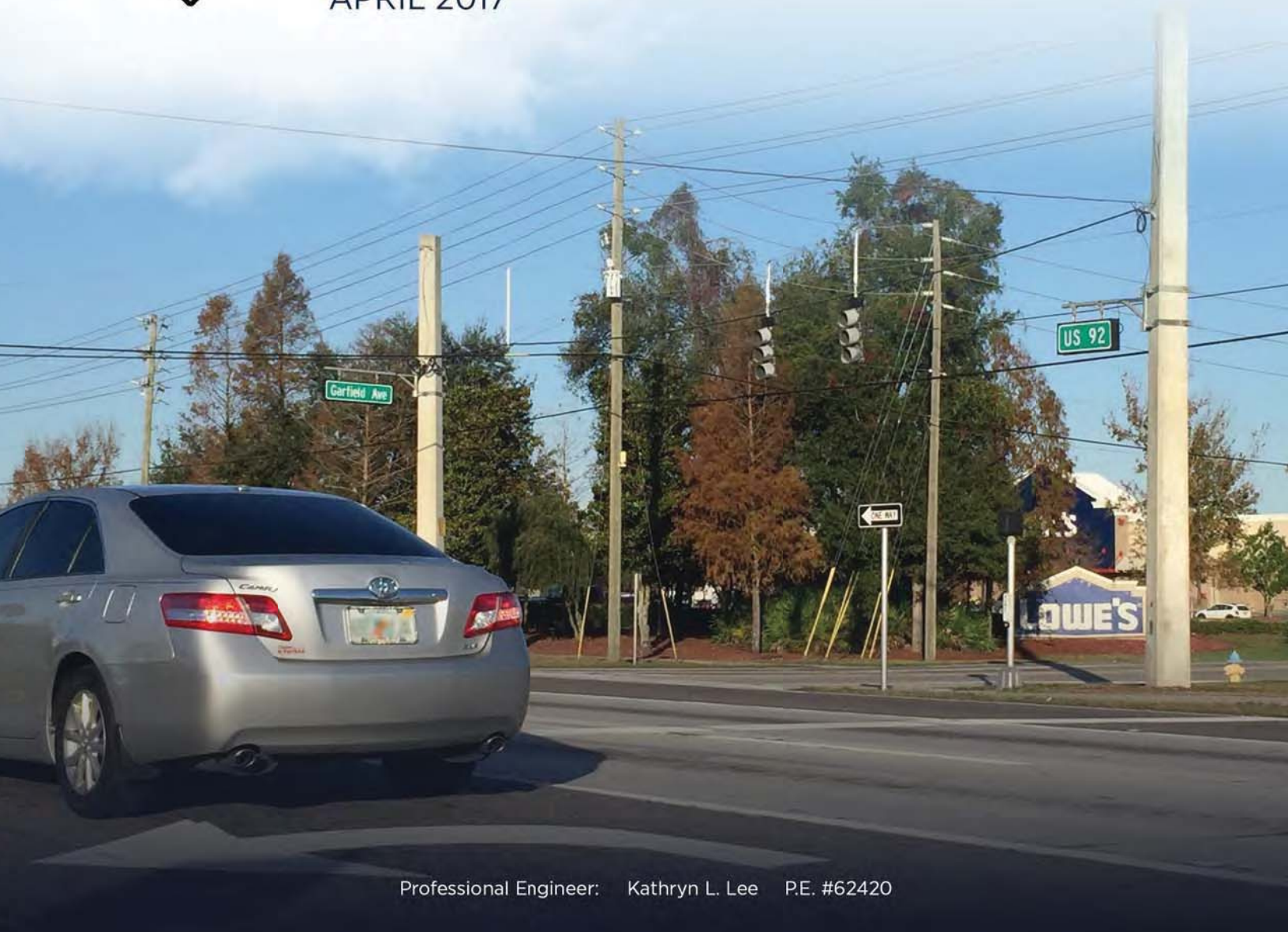
VHB, Inc.
250 E. Robinson St.
Orlando, FL 32803

River to Sea Transportation
Planning Organization (R2CTPO)
2570 W International Speedway Blvd.
Suite 100
Daytona Beach, FL 32114

INTERSECTION ANALYSIS

US 92/INTERNATIONAL SPEEDYWAY BLVD. at GARFIELD AVE.

APRIL 2017



Professional Engineer: Kathryn L. Lee P.E. #62420

Final Report

Intersection Analysis for US 92/International Speedway Blvd. at Garfield Ave.

April 2017

Prepared for:

River to Sea Transportation Planning Organization (R2CTPO)
2570 W. International Speedway Blvd., Suite 100
Daytona Beach, FL 32114-8145

Prepared by:
VHB, Inc.
225 E. Robinson Street,
Orlando, FL – 32801

Professional Engineer: Kathryn L. Lee
P.E. # 62420
April 07, 2017

Intersection Analysis
For
US 92/International Speedway Blvd. at Garfield Ave.

Task 2016-1-1
Work Order #1

VOLUSIA COUNTY

Prepared for:

Prepared by:

Vanasse Hangen Brustlin, Inc.
Orlando, FL

April 2017

EXECUTIVE SUMMARY

This report presents the results of an Intersection Analysis completed for US 92/International Speedway Boulevard at Garfield Avenue, which is located in the City of DeLand in Volusia County, Florida. This report was prompted by an application by Volusia County to construct a right turn lane along eastbound US 92/International Speedway Boulevard and to extend the existing left turn lane along westbound US 92/International Speedway Boulevard at Garfield Avenue.

The existing westbound left turn lane on US 92/International Speedway Boulevard is approximately 400 feet long with a taper of 50 feet. The proposed extension of the left turn will enable vehicles to move out of the through lane and move into the designated turn lane, and improve the overall intersection operations. Constructing an eastbound right turn lane will enable vehicles to move out of the way of through traffic and decelerate in a separate turn lane, thus decreasing delay to through vehicles and reducing the risk of rear end crashes. In addition to this improvement, this study recommends installing a northbound right turn lane and pedestrian safety improvements as mentioned below.

Based upon the crash analyses, qualitative assessment, field observations, intersection analysis, Benefit/Cost (B/C) analysis and engineering judgment, the following modifications are recommended to improve the safety and operation of the intersection:

1: Extend the existing left turn lane along westbound US 92/International Speedway Boulevard at Garfield Avenue. There were no physical constraints observed that would impede the 200' extension of the westbound left turn lane at the intersection of US 92/International Speedway Boulevard and Garfield Avenue. Therefore, the extension of the westbound left turn lane is considered feasible at this location. The left turn lane extension will have a beneficial effect to the operation of the westbound movement as well as to the intersection as a whole. The above modification can be implemented at an approximate cost of $13,871.97.

2: Construct a right turn lane along eastbound US 92/International Speedway Boulevard at Garfield Avenue. The right of way is sufficient to install a separate right turn lane on the

eastbound approach; however, the existing drainage swale would need to be reworked and the cross drain would need to be extended along the southwest quadrant of the intersection. The existing pedestrian signal, pull box and pedestrian landing, equipped with a handrail, would need to be relocated. A separate right turn lane will have a beneficial effect to the operation of the eastbound movement as well as to the intersection as a whole. The above modification can be implemented at an approximate cost of $72,244.04.

3: Construct a right turn lane along northbound Garfield Avenue at US 92/International Speedway Boulevard. Type F curb and gutter would be needed along the east side of Garfield Avenue to fit a separate northbound right turn lane within the limited right-of-way. As the improvements are conceptual, survey was not provided, and the right of way lines shown on the Improvement Diagram are based on lot and parcel lines pulled from the Volusia County Property Appraisers web page. It is not anticipated that the existing traffic signal poles will need to be relocated; however, there are overhead utilities along the east side of Garfield Avenue that would require relocation. The northbound right turn lane will reduce delay and queueing on Garfield Avenue. The above modification can be implemented at an approximate cost of $49,357.65 (not including any additional right-of-way or utility relocation that might be required).

Modifications 1-3 can be implemented at an approximate cost of $135,473.65 and yields a B/C ratio of 5.39, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications

4: Extend the existing sidewalks along the east and west sides of Garfield Avenue on the south approach all the way to the intersection of US 92/International Speedway Boulevard and Garfield Avenue. These connections will provide a safe passage for pedestrians by eliminating the need for them to walk on the pavement or in the grass. **Provide crosswalks along the east and south legs of the US 92/International Speedway Boulevard and Garfield Avenue intersection**. The cost for these recommendations (provided as a separate item) is estimated at $15,672.76.

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List of Figures

List of Exhibits

INTRODUCTION

VHB, Inc. was retained to perform an Intersection Analysis for US 92/International Speedway Boulevard at the intersection of Garfield Avenue, which is located in the City of DeLand in Volusia County, Florida, as illustrated in Figure 1. This report was prompted by an application by Volusia County to construct an eastbound right turn lane and to extend the existing westbound left turn lane at the US 92/International Speedway Boulevard and Garfield Avenue intersection. The purpose of the analysis is to identify cost feasible intersection improvements that may be appropriate to reduce intersection congestion and delay. In addition to these improvements, this study recommends installing a northbound right turn lane (based on information/comments provided by FDOT) and sidewalk improvements to promote pedestrian safety. This final report was revised based on the comments received from Volusia County and Florida Department of Transportation (FDOT) on the draft report. The comments provided by the County and FDOT, along with comment responses, are provided in **Appendix A**. The analysis will particularly consider the benefits and feasibility of adding a dedicated eastbound right turn lane, northbound right turn lane and extending the westbound left turn lane at the intersection of US 92/International Speedway Boulevard and Garfield Avenue.

The analysis methods used in completing this study are consistent with the Manual on Uniform Traffic Control Devices (MUTCD), the Manual on Uniform Traffic Studies (MUTS), the Traffic Engineering Manual (TEM) and engineering judgment. The remainder of this report documents existing conditions, vehicle and pedestrian counts, qualitative assessments, crash analyses, intersection analysis, B/C Analysis and recommendations.

\\vhb\proj\Orlando\62393.01 US 92 at Garfield R2CTPO\graphics\FIGURES\AI

Figure 1

Site Location Map

EXISTING CONDITIONS

Field Inventory

The intersection of US 92/International Speedway Boulevard and Garfield Avenue is located in the City of DeLand in Volusia County, Florida. The Existing Condition Diagram, Figure 2, depicts the existing conditions at the study intersection including the general roadway geometry, pavement markings, land use, and intersection traffic control. In addition, photographs of the existing conditions around the intersection are provided at the end of this section. The conditions stated in this report reflect conditions as observed on the date of the qualitative assessment.

The intersection of US 92/International Speedway Boulevard and Garfield Avenue is a "plus" shaped intersection with US 92/International Speedway Boulevard running east-west and Garfield Avenue running north-south. The intersection is under signal control.

US 92/International Speedway Boulevard is a 4-lane divided roadway and Garfield Avenue is a 2 – lane undivided roadway. At the intersection, there is a separate left turn lane for all approaches, except the northbound which has a shared left through and right turn lane. There is a separate right turn lane in westbound direction only. The posted speed limits are 45 mph along US 92/International Speedway Boulevard and 25 mph and 30 mph along Garfield Avenue north and south of the intersection, respectively.

The traffic signal is a box span strain pole design with concrete poles located in all four quadrants of the intersection. The signal phasing provides protected/permissive left turns from US 92/International Speedway Boulevard and permissive left turns from Garfield Avenue. There are signalized special emphasis pedestrian crosswalks across the north and west legs of the intersection. Sidewalks run along the north side of US 92/International Speedway Boulevard (west of intersection) and the east side of Garfield Avenue (north of intersection), and both east & west sides of Garfield Avenue (south of the intersection). The sidewalks along Garfield Avenue do not extend to the intersection. A shared-use trail runs along the north side of US 92/International Speedway Boulevard between the sidewalk and the roadway. There is no street lighting along US 92/International Speedway Boulevard or along Garfield Avenue.

The land use within the vicinity of the intersection consists of a Lowe's Home Improvement in the northwest quadrant, a DQ Grill & Chill restaurant in the northeast quadrant, a Dunkin Donuts and Comfort inn in the southwest quadrant and an AutoZone in the southeast quadrant. US 92/International Speedway Boulevard is a major arterial connecting the City of DeLand to I-95 and the City of Daytona Beach. Garfield Avenue is largely developed; it provides access to commercial and or residential development.

US 92/International Speedway Boulevard at Garfield Avenue

Exhibit 1: Looking west towards the intersection on WB US 92

Exhibit 2: Looking east away from the intersection on WB US 92

US 92/International Speedway Boulevard at Garfield Avenue

Exhibit 3: Looking east towards the intersection on EB US 92

Exhibit 4: Looking west away from the intersection on EB US 92

US 92/International Speedway Boulevard at Garfield Avenue

Exhibit 5: Looking north towards the intersection on NB Garfield Avenue

Exhibit 6: Looking south away from the intersection on NB Garfield Avenue

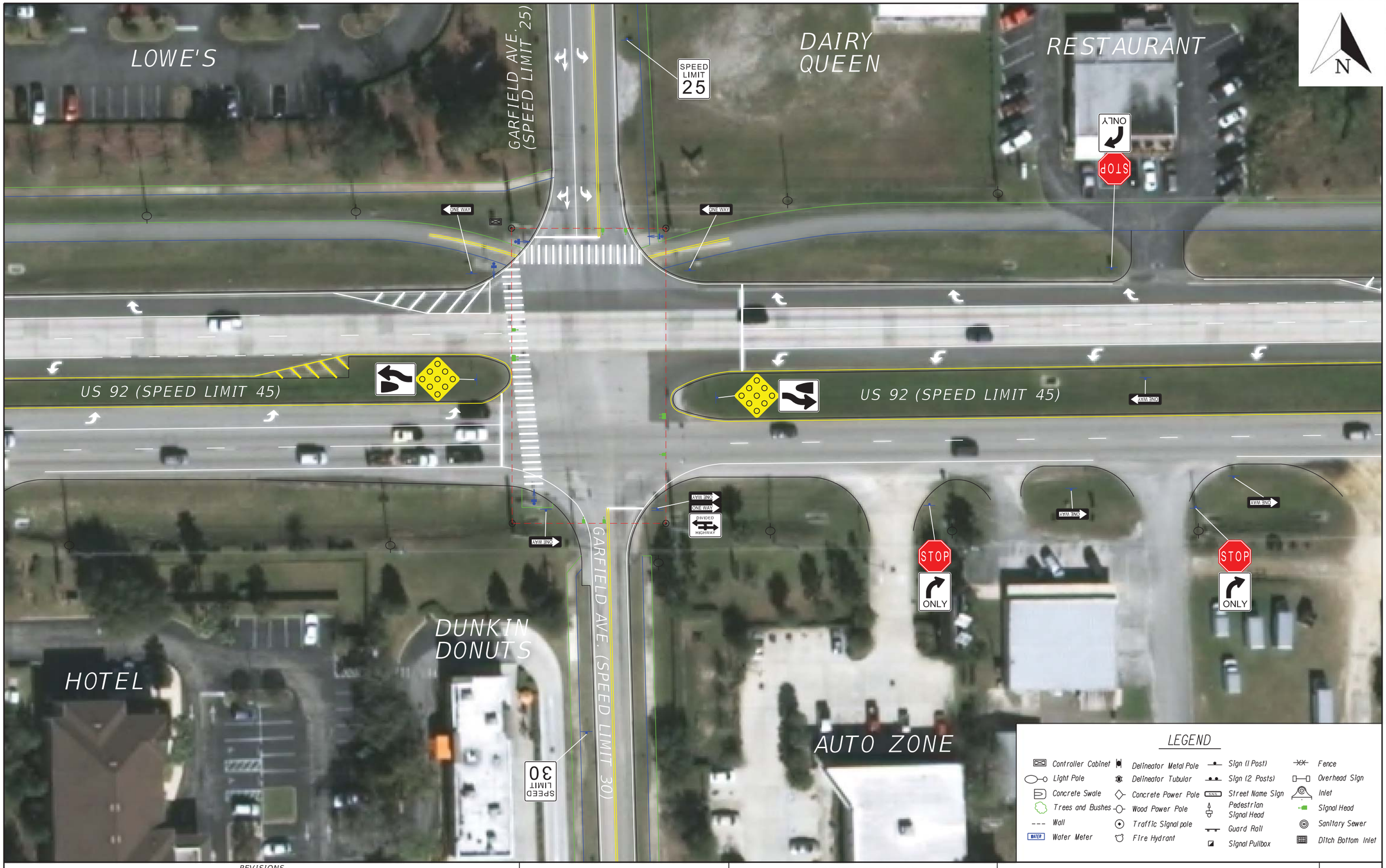
US 92/International Speedway Boulevard at Garfield Avenue

Exhibit 7: Looking south towards the intersection on SB Garfield Avenue

Exhibit 8: Looking north towards the intersection on SB Garfield Avenue

US 92/International Speedway Boulevard at Garfield Avenue

Exhibit 9: Tracking on shoulder - Looking east towards the intersection on EB US 92



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vhb
Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CONDITION DIAGRAM

FIGURE NO. 2

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Traffic Volume Data

The 8-hour intersection turning movement counts were collected on December 6, 2016 between 7:00 AM –9:00 AM, 11:00 AM – 1:00 PM and 2:00 PM – 6:00 PM along US 92/International Speedway Boulevard at Lowe's Entrance and Garfield Avenue intersections. From this data, the AM, mid-day and PM peak traffic hours were found to occur from 7:15 AM to 8:15 AM, 11:30 AM to 12:30 PM and 4:45 PM to 5:45 PM, respectively. The overall peak hour for the intersection was found to occur during the PM peak hour.

The turning movement counts on US 92/International Speedway Boulevard reveal that the traffic in eastbound direction peaks during AM conditions and traffic in westbound direction peaks during PM conditions. During Mid-day conditions, the traffic seems to be equally distributed in both the directions. The 8-hour turning movement counts and pedestrian/bicycle counts are provided in greater detail in Appendix B. The following table summarizes the distribution of turning movements through the study intersection:

Table 1: 8 Hour Turning Movement Percentages (All Vehicles)

Movement	Northbound	Southbound	Eastbound	Westbound
Left-turn/U-turn	32.3%	51.1%	3.7%	6.9%
Through	31.4%	21.1%	90.2%	85.3%
Right-turn	36.2%	27.8%	6.1%	7.8%

The existing field collected turning movement counts were balanced (based on the presence of additional access locations between study intersections) and used in the operational analysis.

Crash Data

Crash reports compiled by Florida Signal Four Analytics were provided by River to Sea Transportation Planning Organization (R2CTPO). Based on this data, there were 16 crashes reported within the influence area of the intersection during the latest 36-month period covering January 1, 2013 to December 31, 2015. The crashes consisted of 11 rear end crashes, 1 left turn crash, 2 sideswipe crashes and 2 angle crashes. The crashes caused 7 injuries, and total property damage amounted to approximately $115,700.00. There were no fatalities. Three of the crashes occurred at night and 10 crashes occurred either during the day or at dusk and unknown for the remaining 3. Pavement conditions were dry for 13 of the crashes and unknown for the remaining 3.

Based on this information, it is apparent that rear end crashes account for the majority of the crashes at the intersection, with most of them occurring on US 92/International Speedway Boulevard rather than on the side streets. Rear end crashes are inherent with signalized intersections, and there were no geometric constraints such as vertical or horizontal curves or trees that would promote rear end crashes or obstruct the visibility of the traffic signal.

Of the 11 rear end crashes, 4 crashes occurred on the outside through lane along eastbound US 92/International Speedway Boulevard. Although the crash reports did not specify whether the eastbound vehicles were traveling through or turning right at Garfield Avenue, 3 out of these 4 crashes occurred due to slowing down or stopping for the red light at the traffic signal.

A Crash Summary and Crash Diagram are provided in the following pages.

Table 2: Crash Summary (Jan 2013-Dec 2015)

#	Crash ID	Date	Time	Crash Type	Fatalities	Injuries	Property Damage	Day/Night	Wet/Dry
C1	11682558	1/19/2013	8:10 PM	Rear End	0	0	$4,000	Dark - Lighted	Dry
C2	73480069	7/19/2013	4:05 PM	Angle	0	1	$8,000	Daylight	Dry
C3	73480340	11/9/2013	4:45 PM	Rear End	0	1	$4,100	Dusk	Dry
C4	73480521	3/1/2014	12:23 PM	Rear End	0	0	$4,000	Daylight	Dry
C5	73480608	2/18/2014	6:20 AM	Rear End	0	0	$8,000	Unknown	Unknown
C6	73480886	12/23/2014	1:10 PM	Rear End	0	0	$6,000	Daylight	Dry
C7	73481401	12/3/2013	4:25 PM	Rear End	0	2	$46,100	Daylight	Dry
C8	73481835	11/20/2013	7:17 PM	Sideswipe	0	3	$2,000	Dark - Lighted	Dry
C9	73481845	11/15/2013	7:40 AM	Rear End	0	0	$0	Daylight	Dry
C10	73481904	1/21/2014	4:00 PM	Rear End	0	0	$1	Unknown	Unknown
C11	73483865	1/31/2014	2:25 PM	Rear End	0	0	$0	Unknown	Unknown
C12	73484840	9/15/2014	11:32 AM	Rear End	0	0	$2,000	Daylight	Dry
C13	85807797	7/31/2015	7:24 PM	Sideswipe	0	1	$4,000	Daylight	Dry
C14	85807937	4/1/2015	2:58 PM	Left Turn	0	4	$20,000	Daylight	Dry
C15	86161021	10/23/2015	7:18 PM	Rear End	0	0	$1,500	Dark - Lighted	Dry
C16	86161083	10/30/2015	5:54 PM	Angle	0	3	$6,000	Daylight	Dry

Crash Summary by Crash Types (Jan 2013-Dec 2015)

Crash Type	2013	2014	2015	2013-2015	Percent
Angle	1	0	1	**2**	**12.5%**
Rear End	4	6	1	**11**	**68.7%**
Head On	0	0	0	**0**	**0.0%**
Left Turn	0	0	1	**1**	**6.3%**
Sideswipe	1	0	1	**2**	**12.5%**
Pedestrian	0	0	0	**0**	**0.0%**
Right Turn	0	0	0	**0**	**0.0%**
Bicycle	0	0	0	**0**	**0.0%**
Other	0	0	0	**0**	**0.0%**
Total	***6***	***6***	***4***	***16***	***100.0%***

CRASH SYMBOL LEGEND

- Collision w/ Bicycle
- Fatality
- Fixed Object
- Rear End Crash
- Left Turn Crash
- Head-On Crash
- Sideswipe
- Off Road
- Overturned Vehicle
- Angle Crash
- Right Turn Crash

CRASH PERIOD: JANUARY 1, 2013 - DECEMBER 31, 2015

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

CRASH DIAGRAM

FIGURE NO. 3

dbrazeal 1/17/2017 12:00:04 PM \\vhb\proj\Orlando\62393.01 US 92 at Garfield R2CTPO\cad\te\eng\Microstation\Crash pl

QUALITATIVE ASSESSMENT

A qualitative assessment (QA) was conducted in the field in order to evaluate the existing operating conditions occurring on a typical weekday, and to identify areas where improvements would be potentially beneficial to the overall safety and efficiency of the location. A registered professional engineer performed the QA from 4:30 PM – 5:30 PM during the evening peak hour period.

1. During the QA, the intersection, as a whole, appeared to operate smoothly and with minimal delay. The volume of traffic observed on US 92/International Speedway Boulevard was significantly higher than the volumes observed on Garfield Avenue. The flow of traffic on US 92/International Speedway Boulevard was heavier in the westbound direction than in the eastbound direction. For a couple of cycles between 5:00 PM and 5:20 PM, queues on westbound US 92/International Speedway Boulevard were observed to back up approximately 800 feet, thus blocking the left turning vehicles and causing cycle failures (queues cleared up in the next cycle). During the same period (5:00 – 5:20 PM), the queues on westbound US 92/International Speedway Boulevard frequently backed up approximately 600 feet. During the remainder of the PM peak hour time period, the intersection operated without significant queues or cycle failures. It was observed that the outside through lane on eastbound US 92/International Speedway Boulevard was utilized more than the inside through lane. In a few instances, the queues on eastbound US 92/International Speedway Boulevard were backed up to the Lowe's Entrance; however, all queued vehicles were able to clear the intersection in one cycle.

2. The geometry of the intersection is, in general, straight and flat, so the sight distance to the signal is not impeded and was not observed to present any operational or safety concerns.

3. There are tracking marks on the shoulders of the eastbound approach which bear evidence that vehicles are traveling on the shoulders to get around stopped through traffic to proceed with their right turn.

4. There are crosswalks with pedestrian signals across the north and west legs of the US 92/International Speedway Boulevard and Garfield Avenue intersection. The crosswalks are marked with special emphasis pavement markings, which are appropriate for a crossing at a signalized intersection. The walk times provided appeared adequate for pedestrians to cross at a normal pace and within the allotted time.

5. Crosswalks are not provided on the south and east legs of the intersection. The sidewalks along the east and west side of Garfield Avenue (south leg) are terminated just before the intersection.

FEASIBILITY ANALYSIS

Background

An application was received from Volusia County to perform a feasibility study to construct an eastbound right turn lane and to extend the existing westbound left turn lane along US 92/International Speedway Boulevard at Garfield Avenue. The purpose of the eastbound right turn lane is to enable traffic to move out of the way of through traffic and decelerate in the separate turn lane, thus reducing delay for vehicles turning right onto Garfield Avenue. Adding a new eastbound right turn lane will reduce the likelihood of rear end crashes associated with traffic slowing down to make the turn onto Garfield Avenue. The traffic making the westbound left turn (sometimes) cannot reach the turn lane due to the westbound through queues. Therefore, extending the westbound left turn will enable traffic to move out of the through lane and move into the designated turn lane. A northbound right turn lane is also recommended at the intersection since the northbound right turn traffic consistently drives on the shoulder around northbound through traffic to turn right on red (based on information provided by FDOT).

Methodology

The methodology for determining the feasibility of constructing an eastbound right turn lane, a northbound right turn lane and extending the existing westbound left turn lane along US 92/International Speedway Boulevard at Garfield Avenue includes performing an assessment of the proposed site, a comparison of before and after operating conditions at the intersection utilizing traffic operation analysis software, and preparing a Benefit/Cost (B/C) analysis for any proposed improvements.

Assessment of Proposed Site

US 92/International Speedway Boulevard is a four-lane divided roadway with a wide grass median. At its intersection with Garfield Avenue, US 92/International Speedway Boulevard widens to include separate right and left turn lanes on the westbound approach and a separate left turn lane on the eastbound approach. The drainage system consists of open swales along

the north and south sides of the road, and a cross drain with mitered end sections running under the south leg of Garfield Avenue.

To install a separate right turn lane on the eastbound approach, the swale along the southwest quadrant would need to be re-worked and the cross drain extended to not conflict with the additional lane. The eastbound approach currently drains into the swale along US 17, and the addition of curb and gutter and associated flumes would not change that; although the volume of water will increase with the increased impervious surface area of the new lane. The swales should be analyzed to determine if they can accommodate the additional water. The southwest quadrant of the intersection also contains a pedestrian signal, pull box and a pedestrian landing equipped with a handrail that would need to be relocated to accommodate the additional lane.

In order to construct a northbound right turn lane, curb and gutter will be required to maintain the clear zone along the east side of Garfield Avenue. The northbound approach currently drains north towards the intersection and into the swales along US 17, and the addition of curb and gutter would not change that; although the volume of water will increase with the increased impervious surface area of the new lane. The swales should be analyzed to determine if they can accommodate the additional water. Survey was not provided for the Improvement Diagrams; however, from lot and parcel lines pulled from the Volusia County Property Appraisers web page, it appears that the turn lane could fit within the existing right of way. The overhead utility lines that run along the east side of Garfield Avenue would need to be relocated. It is not anticipated that the existing traffic signal pole in the southeast quadrant will need to be replaced since the curb and gutter will provide the appropriate clear zone.

There were no physical constraints observed that would impede the extension of the westbound left turn lane.

Operational Analysis

An intersection operation analysis was performed for before and after conditions. The before conditions assume that there is no change in intersection geometry and signal timings, whereas, the after conditions assume that the lane configuration on US 92/International Speedway Boulevard will be modified to include a separate eastbound right turn lane, a separate

northbound right turn lane and extension of the westbound left turn lane. The existing operating conditions of US 92/International Speedway Boulevard and Garfield Avenue were determined using Synchro 9/SimTraffic simulation software. The signal timing information was obtained from Volusia County. Table 2 summarizes the intersection delay and levels of service (LOS) for before and after conditions during the three peak periods. As shown in the table, the intersection of US 92/International Speedway Boulevard and Garfield Avenue is overall expected to operate better with the proposed improvements. The SimTraffic simulation results were provided in Appendix C.

Table 3: Before and After Operational Analysis Results

Intersection	AM Peak Hour				Mid-Day				PM Peak Hour			
	Before		After		Before		After		Before		After	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS
Overall	10.9	B	9.4	A	12.9	B	9.1	A	19.0	B	17.5	B

Note: The results are based on average of 10 random seed SimTraffic Simulation runs

Benefit/Cost Analysis

A benefit cost analysis was performed for the study intersection to estimate the effectiveness of the potential intersection improvements using SimTraffic simulation. The benefits are defined in terms of annualized cost savings associated with reductions in the following three measures of effectiveness (MOEs):

- Total Delay (Vehicle-Hours)
- Stops
- Fuel Consumption (Gallons)

The benefits were calculated for 300 days in a year accounting for reduced benefits anticipated due to lower traffic volumes during the weekend. The value of delay time per hour ($17.67) and fuel cost ($3.27) were obtained from "The Mobility Data for Orlando" published by Texas A&M University. Stops were estimated to cost $0.014 each. Table 4 summarizes the unit value of each MOE in a tabular format along with its source.

Table 4: Unit Value of MOEs		
MOE Values	**Unit Value**	**Source**
Stops ($)	0.014	Transyt 7F
Delay ($)	17.67	2014 Urban Mobility Report published by Texas A&M Transportation Institute (TTI)
Fuel ($/gal.)	3.27	2014 Urban Mobility Report published by TTI
Days per Year	300	Average days with observable peaking characteristics

The estimated cost for the proposed modification is $135,474 (present day value) and it has a corresponding annualized cost amounting to $9,968.39. The cost estimate does not include the potential cost of right of way or the relocation of existing utilities for the northbound right turn lane improvement. The service life for the modification is assumed 20 years and the interest rate used in the calculation of annualized costs is assumed 4%, which is a value frequently used by the Florida Department of Transportation (FDOT) in their benefit cost computations. The Cost Estimate for the proposed lane additions can be found in Appendix D.

Table 5 summarizes the benefit cost analysis for the proposed improvements. The analysis yields a B/C ratio of 5.39. The calculated B/C ratio indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications, with benefits derived through reduced costs associated with lower delay, stops and fuel consumption.

Table 5: Benefit/Cost Analysis Results				
Benefit Period		**Measures of Effectiveness**		
		Total Stops	Total Delay (veh-hrs)	Fuel Consumption (gal)
AM Peak Hour	Existing	678	7.2	13.8
	Proposed	673	6.1	13.3
Mid-Day	Existing	748	7.5	12.7
	Proposed	657	5.3	12.3
PM Peak Hour	Existing	1,236	15.1	18.7
	Proposed	1,195	13.7	18.2
Estimated Daily (AM + Mid + PM)	Existing	2,662	29.8	45.2
	Proposed	2,525	25.1	43.8
Estimated Daily Savings		137	4.7	1.4
Estimated Unit Cost		$0.014	$17.670	$3.270
Daily User Benefit by MOE		$1.92	$83.049	$4.578
Daily User Benefit Total		$179.09		
Annual User Benefit		**$53,727.00**		
Total Annual Cost		**$9,968.39**		
Benefit Cost Ratio		**5.39**		

Notes:

1) The service life of the improvements was kept at 20 years
2) Interest rate of 4% was used to determine the annual cost of improvements
3) Annual user benefit was calculated for 300 days with 2 hours each of AM, Mid-day and PM peak periods

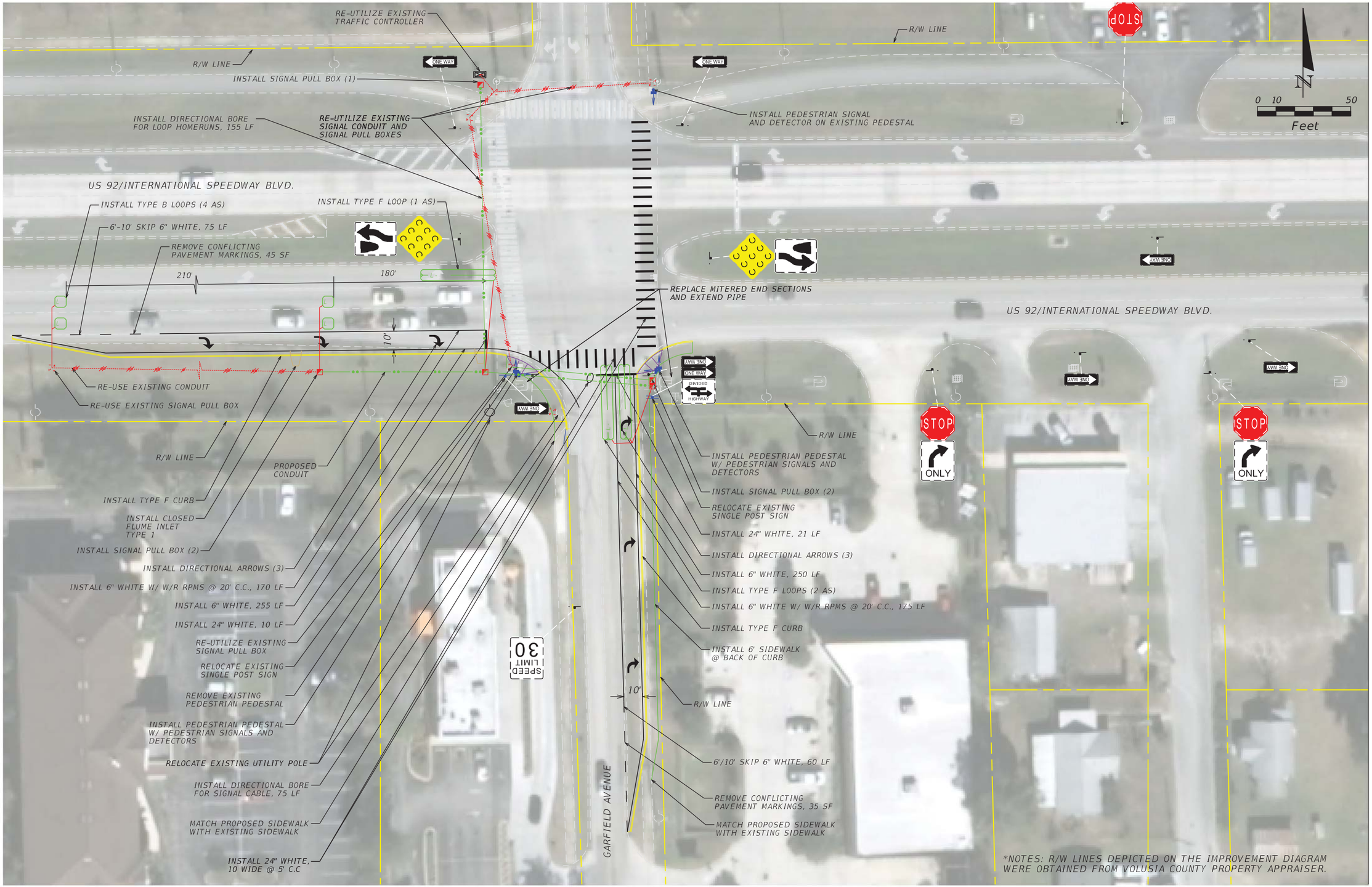
RECOMMENDATIONS

Based upon the crash and speed analyses, qualitative assessment, field observations, intersection analysis, B/C Analysis and engineering judgment, the following modifications are recommended to improve the safety and operation of the intersection:

1: Extend the existing westbound left turn lane, construct an eastbound right turn lane and construct a northbound right turn lane at the intersection of US 92/International Speedway Boulevard and Garfield Avenue. There were no physical constraints found that would impede the extension of the westbound left turn lane at the intersection of US 92/International Speedway Boulevard and Garfield Avenue. The right of way is sufficient to install a separate right turn lane on the eastbound approach; however, the existing drainage swale would need to be reworked and the cross drain would need to be extended along the southwest quadrant of the intersection. The existing pedestrian signal, pull box and pedestrian landing, equipped with a handrail, would need to be relocated. In order to construct a northbound right turn lane, curb and gutter would be required to maintain the clear zone along the east side of Garfield Avenue. Survey was not provided for the Improvement Diagrams; however, from lot and parcel lines pulled from the Volusia County Property Appraisers web page, it appears that the northbound turn lane could fit within the existing right of way; however, the overhead utility lines that run along the east side of Garfield Avenue would need to be relocated. It is not anticipated that the existing traffic signal pole in the southeast quadrant will need to be replaced since the curb and gutter will provide the appropriate clear zone. With both the eastbound and northbound right turn lanes, the swales along US 17 should be analyzed to determine if they can accommodate the additional water. These modifications can be implemented at an approximate cost of $135,473.65 (does not include the potential cost of right of way or relocation of the overhead utilities for the northbound right turn) and yields a B/C ratio of 5.39, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modification.

The proposed improvements are illustrated in the Figure 4 shown on the following page.

2: Extend the existing sidewalks along the east and west sides of Garfield Avenue on the south approach all the way to the intersection of US 92/International Speedway Boulevard and Garfield Avenue. These connections will provide a safe passage for pedestrians by eliminating the need for them to walk on the pavement or in the grass. **Provide crosswalks along the east and south legs of the US 92/International Speedway Boulevard and Garfield Avenue intersection**. The cost for these recommendations (provided as a separate item) is estimated at $15,672.76.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Vanasse Hangen Brustlin, Inc.
Transportation, Land Development, Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
Kathryn L. Lee, P.E.
PE # 62420

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM

FIGURE NO. 4.1

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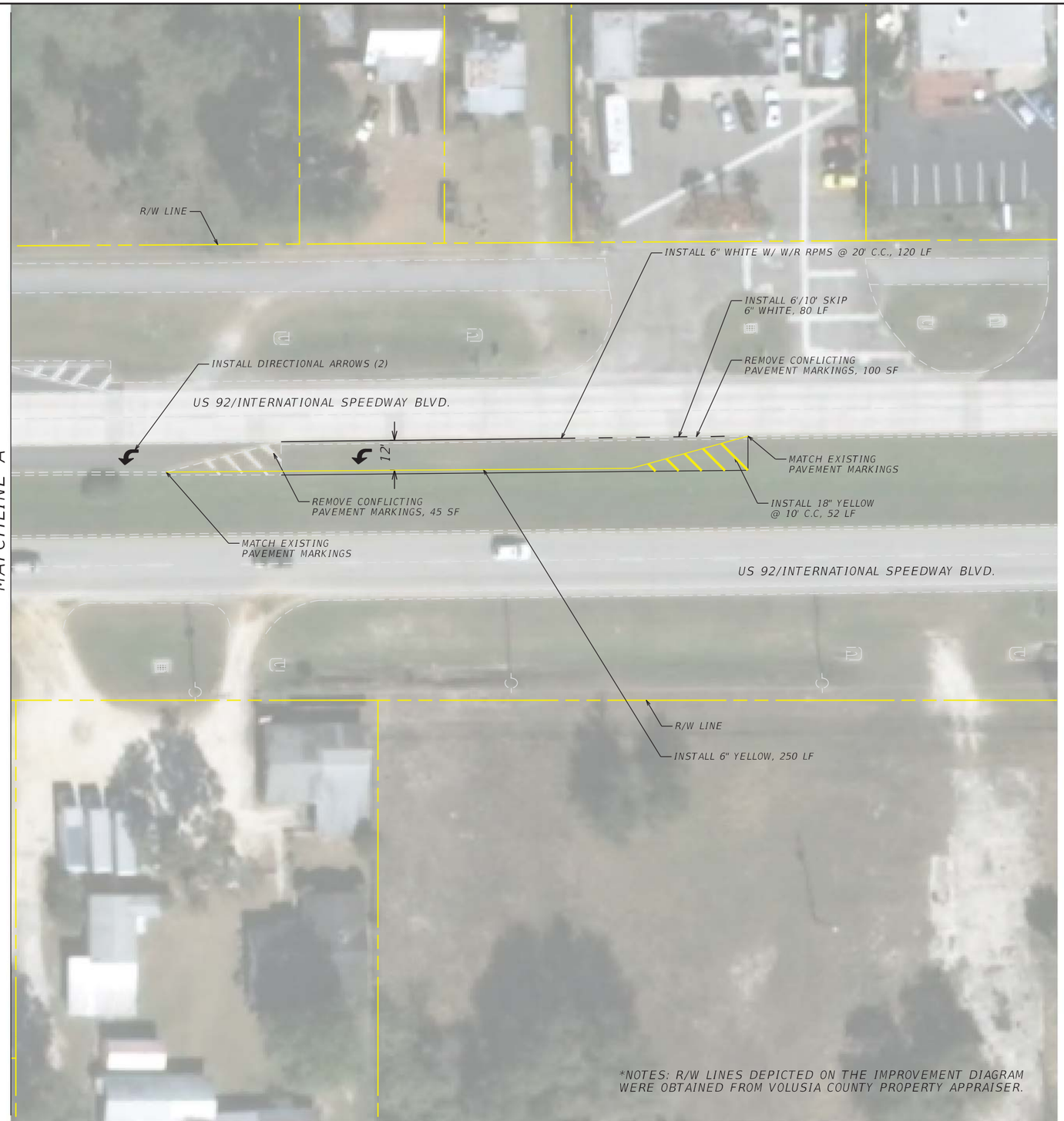

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DATE	DESCRIPTION	DATE	DESCRIPTION

Vanasse Hangen Brustlin, Inc.
Transportation, Land Development,
Environmental Services
225 E. Robinson St., Suite 300
Landmark Center Two
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 92	VOLUSIA	

IMPROVEMENT DIAGRAM

FIGURE NO. 4.2

APPENDICES

APPENDIX A: Responses to Comments

US 92 at Garfield Report – Comments

Comments from Amir Asgarinik(FDOT)

1. Shouldn't we use Optional Base Group 9 instead of 13?

Response: Base Group has been revised from 13 to 9.

2. Does the existing concrete signal assembly need to be upgraded based on the proposed improvements?

Response: It is anticipated that the existing span wire traffic signal can be maintained since no new signal heads will be required, and Type F curb and gutter is being proposed along the east side of the NB right turn lane since there is not enough right of way to maintain an 18' CZ.

3. Need 36" concrete pipes to accommodate the proposed turning movements and sidewalks.

Response: 36" round concrete pipe has been added to the estimate.

4. Most of the proposed sidewalks should be 6" thick due to its proximity to the EOP and traffic movement.

Response: The cost estimate considers that the ramps and sidewalk within the immediate vicinity of the curb radius will be 6" concrete.

5. 20% Contingency may be excessive.

Response: The contingency has been reduced to 15%.

Comments from Keith Riger (City of Deland)

1. I would like to point out that we have a proposed project in the hopper called the DeLand Greenway Trail North Extension, FIN 430217-2-38-01, Federal Aid Number 7777-182-A to build a trail to the SW corner of the intersection. Pertinent plans are attached. Let's coordinate.

Response: Comment Noted.

Comments from Jon Cheney (Volusia County)

1. No comments on justification for new turn lanes, but always a support new lanes.
2. Why is this separate from the other turn lane study in the same area? This project should be combined with other turn lane project on US-92 and administered by FDOT since work is on a State Roadway.

Response: Two different reports were created based on the two different feasibility study applications from Volusia county. However, the US 92 & Garfield report was included in the appendix of the US 92 from Woodland Boulevard to Garfield Avenue report.

3. Did they look at need for turn lanes on Garfield itself?

Response: As per the information provided by FDOT, additional northbound right turn lane is proposed at Garfield Avenue.

4. Not enough information to perform a constructability review, however most construction appears to be in FDOT ROW.

Comments from Christopher Cairns (FDOT)

1. Please clarify the input volumes utilized for the eastbound and westbound approaches in the Synchro analysis for AM, Midday, and PM.

Response: The turning movement counts, provided in Appendix A, were taken and adjusted (balanced) for reasonableness considering the presence or absence of additional access points between study intersections.

2. There is visible wear on the northbound approach leg from right turns. An exclusive right turn lane would appear to reduce peak hour delay and queuing on Garfield Avenue.

Response: Comment noted. Analysis is revised with the exclusive northbound right turn lane improvement.

3. Concur with need for sidewalk to extend to pedestrian signal on SW corner and for pedestrian features and crosswalk for the east and south approaches. Please show these improvements on the improvement diagram. Note that additional work may be required to make well designed sidewalk connectivity on these corners, which may cost more than estimated.

Response: Comment noted. All the proposed improvements are shown in the improvements diagram (figure 4).

4. Concur with need for an eastbound right turn lane as recommended. However, some form of bulb out should be considered to break up the right turn lane. We should avoid creating a new continuous EB auxiliary lane between Amelia and Garfield Avenue (that crosses a median opening).

Response: Comment noted. The proposed eastbound right turn lane will not create a continuous eastbound auxiliary lane between Amelia Avenue and Garfield Avenue

5. There does not appear to be any operational benefit to extending the existing 450' westbound left turn lane. We are not aware of any wear or queue storage issues to suggest a problem.

Response: Comment noted. During field observations, for a couple of cycles between 5:00 PM and 5:20 PM, queues on westbound US 92/International Speedway Boulevard were observed to back up approximately 800 feet, thus blocking the left turning vehicles and causing cycle failures (queues cleared up in the next cycle). During the same period (5:00 – 5:20 PM), the queues on westbound US 92/International Speedway Boulevard frequently backed up approximately 600 feet.

6. Can the existing signal structure support retroreflective back plates to enhance signal conspicuity and/or 4-section heads for FYA indications?

Response: Comment noted. The report provides conceptual improvements and there is insufficient information regarding the soil conditions, foundation design and capacity of the existing signal system to provide accurate structural analysis for the proposed modifications.

APPENDIX B: Traffic Data

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	6	7	252	0	1	138	1
7:15 AM - 7:30 AM	0	0	1	0	0	6	11	356	0	1	184	4
7:30 AM - 7:45 AM	0	0	0	0	0	6	11	246	0	2	248	3
7:45 AM - 8:00 AM	0	0	0	0	0	5	5	262	0	1	180	4
8:00 AM - 8:15 AM	0	0	1	0	0	11	14	263	0	1	176	5
8:15 AM - 8:30 AM	0	0	1	0	0	16	14	218	0	2	175	7
8:30 AM - 8:45 AM	0	0	0	0	0	13	10	142	0	5	179	6
8:45 AM - 9:00 AM	0	0	1	0	0	18	25	190	0	0	154	4
TOTAL	0	0	4	0	0	81	97	1,929	0	13	1,434	34
Peak Hour												
7:15 AM - 8:15 AM	**0**	**0**	**2**	**0**	**0**	**28**	**41**	**1,127**	**0**	**5**	**788**	**16**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	38	24	140	1	0	177	13
11:15 AM - 11:30 AM	0	0	0	0	0	23	15	184	0	0	204	4
11:30 AM - 11:45 AM	0	0	0	0	0	25	26	203	0	0	200	4
11:45 AM - 12:00 PM	0	0	3	0	0	26	24	216	0	3	188	6
12:00 PM - 12:15 PM	0	0	0	0	0	27	14	217	0	1	239	7
12:15 PM - 12:30 PM	0	0	1	0	0	25	25	190	0	0	206	5
12:30 PM - 12:45 PM	0	0	0	0	0	23	15	207	0	0	165	6
12:45 PM - 1:00 PM	0	0	1	0	0	19	16	201	0	0	208	10
TOTAL	0	0	5	0	0	206	159	1,558	1	4	1,587	55
Peak Hour												
11:30 AM - 12:30 PM	**0**	**0**	**4**	**0**	**0**	**103**	**89**	**826**	**0**	**4**	**833**	**22**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	2	0	0	27	23	172	0	1	191	4
2:15 PM - 2:30 PM	0	0	4	0	0	20	20	193	0	1	175	3
2:30 PM - 2:45 PM	0	0	2	0	0	22	30	195	0	0	212	5
2:45 PM - 3:00 PM	0	0	2	0	0	29	15	172	0	2	221	2
3:00 PM - 3:15 PM	0	0	1	0	0	25	13	208	0	1	236	10
3:15 PM - 3:30 PM	0	0	1	0	0	21	20	203	0	0	214	7
3:30 PM - 3:45 PM	0	0	0	0	0	30	20	199	0	0	264	9
3:45 PM - 4:00 PM	0	0	0	0	0	32	18	191	0	3	259	11
4:00 PM - 4:15 PM	0	0	2	0	0	11	11	213	0	0	246	2
4:15 PM - 4:30 PM	0	0	2	0	0	23	17	230	1	2	236	7
4:30 PM - 4:45 PM	0	0	0	0	0	17	20	229	0	1	273	6
4:45 PM - 5:00 PM	0	0	1	0	0	32	25	213	0	1	267	8
5:00 PM - 5:15 PM	0	0	3	0	0	32	9	295	0	1	348	6
5:15 PM - 5:30 PM	0	0	2	0	0	22	13	236	0	1	333	8
5:30 PM - 5:45 PM	0	0	0	0	0	14	10	238	0	0	334	8
5:45 PM - 6:00 PM	0	0	2	0	0	17	10	243	0	0	235	3
TOTAL	0	0	24	0	0	374	274	3,430	1	14	4,044	99
Peak Hour												
4:45 PM - 5:45 PM	**0**	**0**	**6**	**0**	**0**	**100**	**57**	**982**	**0**	**3**	**1,282**	**30**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	3	0	0	7	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	5	0	0	10	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	9	0	0	5	0
7:45 AM - 8:00 AM	0	0	0	0	0	1	0	13	0	0	4	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	1	10	0	0	10	0
8:15 AM - 8:30 AM	0	0	1	0	0	1	0	12	0	0	7	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	13	0	0	12	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	12	0	0	12	0
TOTAL	0	0	1	0	0	2	1	77	0	0	67	0
Peak Hour												
7:15 AM - 8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**37**	**0**	**0**	**29**	**0**
			0%			4%	2%	3%		0%	4%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	10	0	0	8	1
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	5	0	0	12	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	10	0	0	18	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	14	0	1	6	1
12:00 PM - 12:15 PM	0	0	0	0	0	0	1	10	0	0	13	0
12:15 PM - 12:30 PM	0	0	0	0	0	1	0	9	0	0	8	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	9	0	0	8	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	7	0	0	11	0
TOTAL	0	0	0	0	0	1	1	74	0	1	84	2
Peak Hour												
11:30 AM - 12:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**43**	**0**	**1**	**45**	**1**
			0%			1%	1%	5%		25%	5%	5%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	9	0	0	7	0
2:15 PM - 2:30 PM	0	0	0	0	0	1	1	8	0	0	18	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	9	0	0	11	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	4	0	0	10	0
3:00 PM - 3:15 PM	0	0	1	0	0	1	0	8	0	1	8	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	1	11	0	0	8	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	13	0	0	11	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	7	0	0	11	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	4	0	0	6	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	12	0	0	10	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	1	10	0	0	6	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	3	0	0	3	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	3	0	0	4	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	1	4	0	0	11	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	8	0	0	3	0
5:45 PM - 6:00 PM	0	0	1	0	0	0	0	4	0	0	1	0
TOTAL	0	0	2	0	0	2	4	117	0	1	128	0
Peak Hour												
4:45 PM - 5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**18**	**0**	**0**	**21**	**0**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **U-Turns & RTOR**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	3	0	0	2	0	0
TOTAL	0	0	0	0	0	0	8	0	0	5	0	0
Peak Hour												
8:00 AM - 9:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**4**	**0**	**0**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	4	0	0	1	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	2	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	4	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	1	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	13	0	0	3	0	0
Peak Hour												
11:00 AM - 12:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**1**	**0**	**0**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	4	0	0	2	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	4	0	0	1	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	4	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	2	0	0	2	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	5	0	0	3	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	2	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	2	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	2	0	0	1	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	2	0	0	2	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	1	0	0	2	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	2	0	0
TOTAL	0	0	0	0	0	0	34	0	0	19	0	0
Peak Hour												
2:15 PM - 3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**6**	**0**	**0**

Pedestrian & Bicycle Summary

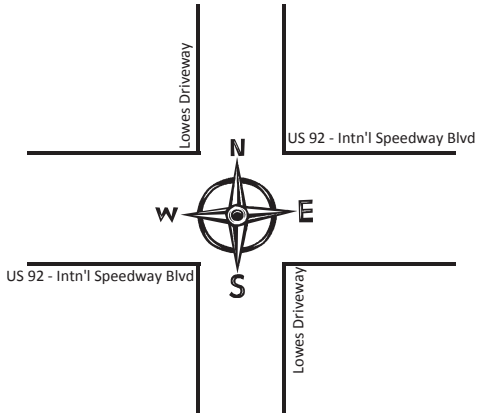
Project #: 62430.02
Date: 12/6/2016

NB/SB: Lowes Driveway
EB/WB: US 92 - Intn'l Speedway Blvd

Hour

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	▶ Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
Westbound	◀ Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound Ped ▼	Southbound Bike ▼	Northbound Ped ▲	Northbound Bike ▲
7:00	0	0	0	0
8:00	0	0	0	0
11:00	1	0	0	0
12:00	3	0	3	0
14:00	0	1	0	0
15:00	1	0	0	0
16:00	2	0	1	0
17:00	0	2	1	0
	7	**3**	**5**	**0**



Hour	Southbound Ped ▼	Southbound Bike ▼	Northbound Ped ▲	Northbound Bike ▲	Hour
7:00	0	1	0	0	7:00
8:00	0	0	1	0	8:00
11:00	0	1	0	0	11:00
12:00	0	0	0	0	12:00
14:00	2	1	0	0	14:00
15:00	0	0	1	0	15:00
16:00	0	0	0	0	16:00
17:00	1	1	0	0	17:00
	3	**4**	**2**	**0**	

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
Eastbound	▶ Bike	0	0	0	0	0	0	0	0	0
	Ped	1	0	0	0	0	0	0	0	1
Westbound	◀ Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour

	7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
	1	2	3	4	5	6	7	8

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Garfield Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	10	4	22	9	1	3	6	221	20	18	115	16
7:15 AM - 7:30 AM	11	10	27	10	3	1	5	321	17	22	180	20
7:30 AM - 7:45 AM	8	16	16	12	1	4	11	234	19	13	215	18
7:45 AM - 8:00 AM	10	14	13	12	2	4	4	235	9	25	187	33
8:00 AM - 8:15 AM	8	7	17	11	6	2	5	240	23	20	170	20
8:15 AM - 8:30 AM	16	8	22	17	5	4	3	207	16	23	171	21
8:30 AM - 8:45 AM	15	10	21	17	5	6	3	131	14	8	161	14
8:45 AM - 9:00 AM	7	9	12	12	5	7	3	175	8	15	158	19
TOTAL	85	78	150	100	28	31	40	1,764	126	144	1,357	161
Peak Hour												
7:15 AM - 8:15 AM	**37**	**47**	**73**	**45**	**12**	**11**	**25**	**1,030**	**68**	**80**	**752**	**91**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	11	11	10	17	7	6	5	116	11	10	165	11
11:15 AM - 11:30 AM	12	10	12	11	4	5	9	173	14	12	199	22
11:30 AM - 11:45 AM	12	9	13	16	10	9	8	183	16	17	183	16
11:45 AM - 12:00 PM	11	10	10	13	11	14	15	174	13	21	168	22
12:00 PM - 12:15 PM	8	5	8	18	6	16	6	194	12	24	222	24
12:15 PM - 12:30 PM	18	7	6	15	6	14	18	168	10	19	181	26
12:30 PM - 12:45 PM	7	5	9	16	5	13	6	181	10	18	150	9
12:45 PM - 1:00 PM	10	8	6	11	6	9	8	168	19	8	203	15
TOTAL	89	65	74	117	55	86	75	1,357	105	129	1,471	145
Peak Hour												
11:30 AM - 12:30 PM	**49**	**31**	**37**	**62**	**33**	**53**	**47**	**719**	**51**	**81**	**754**	**88**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	8	9	11	15	6	8	8	139	13	14	169	14
2:15 PM - 2:30 PM	6	11	16	15	9	6	7	170	17	9	173	27
2:30 PM - 2:45 PM	11	13	5	25	7	10	4	189	11	16	191	16
2:45 PM - 3:00 PM	12	14	10	16	8	16	12	151	9	16	197	27
3:00 PM - 3:15 PM	5	12	7	20	7	11	6	172	16	13	218	18
3:15 PM - 3:30 PM	9	8	15	15	12	17	18	192	16	19	192	22
3:30 PM - 3:45 PM	11	11	8	15	6	10	5	173	9	15	258	16
3:45 PM - 4:00 PM	9	12	5	14	5	7	10	178	10	12	244	21
4:00 PM - 4:15 PM	7	11	4	21	13	16	5	197	12	18	234	27
4:15 PM - 4:30 PM	12	8	10	21	7	12	9	210	11	13	223	17
4:30 PM - 4:45 PM	12	8	7	27	1	9	3	204	5	22	256	13
4:45 PM - 5:00 PM	13	14	10	24	9	12	11	184	10	17	241	19
5:00 PM - 5:15 PM	11	14	5	40	21	16	13	257	15	24	335	21
5:15 PM - 5:30 PM	11	9	7	19	12	19	8	233	14	21	300	16
5:30 PM - 5:45 PM	10	9	14	29	13	9	10	233	10	18	325	10
5:45 PM - 6:00 PM	4	10	6	14	7	3	9	208	11	13	217	12
TOTAL	151	173	140	330	143	181	138	3,090	189	260	3,773	296
Peak Hour												
4:45 PM - 5:45 PM	**45**	**46**	**36**	**112**	**55**	**56**	**42**	**907**	**49**	**80**	**1,201**	**66**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Garfield Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	2	0	0	0	3	0	1	4	0
7:15 AM - 7:30 AM	0	0	0	1	1	0	1	7	0	1	10	1
7:30 AM - 7:45 AM	0	0	0	4	0	0	0	8	0	1	3	0
7:45 AM - 8:00 AM	0	1	1	0	0	0	0	10	1	0	5	0
8:00 AM - 8:15 AM	0	0	0	0	0	1	0	8	1	0	10	1
8:15 AM - 8:30 AM	0	0	0	0	0	1	1	14	0	0	6	1
8:30 AM - 8:45 AM	0	0	1	4	0	1	1	12	0	0	12	1
8:45 AM - 9:00 AM	0	0	0	1	0	2	0	12	0	0	10	1
TOTAL	0	1	2	12	1	5	3	74	2	3	60	5
Peak Hour												
8:00 AM - 9:00 AM	**0**	**0**	**1**	**5**	**0**	**5**	**2**	**46**	**1**	**0**	**38**	**4**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	8	0	1	8	1
11:15 AM - 11:30 AM	1	0	0	0	0	0	0	7	0	0	12	1
11:30 AM - 11:45 AM	0	0	0	2	0	1	0	10	0	1	16	1
11:45 AM - 12:00 PM	0	0	0	1	0	0	1	13	0	0	8	1
12:00 PM - 12:15 PM	0	0	0	1	0	3	1	8	0	0	12	1
12:15 PM - 12:30 PM	0	0	0	1	0	0	1	9	0	0	8	1
12:30 PM - 12:45 PM	0	1	1	1	0	0	0	6	1	0	8	0
12:45 PM - 1:00 PM	0	0	0	3	0	0	1	7	0	1	13	0
TOTAL	1	1	1	10	0	4	4	68	1	3	85	6
Peak Hour												
11:15 AM - 12:15 PM	**1**	**0**	**0**	**4**	**0**	**4**	**2**	**38**	**0**	**1**	**48**	**4**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	1	0	0	1	8	1	1	6	1
2:15 PM - 2:30 PM	0	1	0	2	0	0	0	10	1	0	16	2
2:30 PM - 2:45 PM	0	0	0	1	0	0	0	11	0	0	10	0
2:45 PM - 3:00 PM	0	0	2	0	0	0	0	5	1	0	8	5
3:00 PM - 3:15 PM	1	0	1	1	0	0	1	6	0	0	8	1
3:15 PM - 3:30 PM	0	0	0	1	0	1	0	11	0	0	6	1
3:30 PM - 3:45 PM	0	0	1	2	0	1	0	10	0	0	10	1
3:45 PM - 4:00 PM	0	0	0	0	0	1	0	11	0	0	8	2
4:00 PM - 4:15 PM	0	0	1	0	0	0	0	5	0	1	6	1
4:15 PM - 4:30 PM	1	0	0	0	0	2	2	9	1	0	7	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	8	0	0	5	0
4:45 PM - 5:00 PM	0	0	0	0	0	1	0	5	0	0	2	0
5:00 PM - 5:15 PM	0	1	0	0	0	1	0	3	0	0	3	0
5:15 PM - 5:30 PM	0	0	0	0	0	2	1	3	0	0	9	0
5:30 PM - 5:45 PM	0	0	0	2	0	1	0	8	0	0	2	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	5	0	0	1	0
TOTAL	2	2	5	11	0	10	5	118	4	2	107	14
Peak Hour												
2:00 PM - 3:00 PM	**0**	**1**	**2**	**4**	**0**	**0**	**1**	**34**	**3**	**1**	**40**	**8**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Volusia	**City**	DeLand
Intersection	Garfield Ave	**&**	US 92-Intn'l Speedway Blvd
Date	December 6, 2016		**U-Turns & RTOR**
		VHB Project #:	62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	13	0	0	2	3	0	1	2	0	3
7:15 AM - 7:30 AM	0	0	10	0	0	0	1	0	2	3	0	4
7:30 AM - 7:45 AM	0	0	3	0	0	3	8	0	1	1	0	3
7:45 AM - 8:00 AM	0	0	4	0	0	3	1	0	0	4	0	10
8:00 AM - 8:15 AM	0	0	4	0	0	0	2	0	6	2	0	4
8:15 AM - 8:30 AM	0	0	5	0	0	2	1	0	3	2	0	6
8:30 AM - 8:45 AM	0	0	3	0	0	3	0	0	2	1	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	3	1	0	1	3	0	3
TOTAL	0	0	42	0	0	16	17	0	16	18	0	34
Peak Hour												
7:00 AM - 8:00 AM	**0**	**0**	**30**	**0**	**0**	**8**	**13**	**0**	**4**	**10**	**0**	**20**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	1	0	0	5	3	0	0	3	0	1
11:15 AM - 11:30 AM	0	0	5	0	0	5	2	0	3	1	0	7
11:30 AM - 11:45 AM	0	0	3	0	0	6	1	0	2	13	0	3
11:45 AM - 12:00 PM	0	0	1	0	0	11	1	0	4	9	0	7
12:00 PM - 12:15 PM	0	0	2	0	0	10	0	0	4	8	0	5
12:15 PM - 12:30 PM	0	0	1	0	0	6	1	0	2	5	0	8
12:30 PM - 12:45 PM	0	0	4	0	0	7	0	0	0	4	0	1
12:45 PM - 1:00 PM	0	0	3	0	0	7	0	0	3	3	0	3
TOTAL	0	0	20	0	0	57	8	0	18	46	0	35
Peak Hour												
11:15 AM - 12:15 PM	**0**	**0**	**11**	**0**	**0**	**32**	**4**	**0**	**13**	**31**	**0**	**22**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	5	0	0	6	1	0	4	3	0	2
2:15 PM - 2:30 PM	0	0	5	0	0	1	1	0	2	3	0	6
2:30 PM - 2:45 PM	0	0	0	0	0	8	0	0	2	7	0	3
2:45 PM - 3:00 PM	0	0	0	0	0	12	2	0	0	3	0	7
3:00 PM - 3:15 PM	0	0	0	0	0	9	1	0	7	4	0	0
3:15 PM - 3:30 PM	0	0	9	0	0	3	8	0	4	4	0	2
3:30 PM - 3:45 PM	0	0	5	0	0	8	0	0	2	4	0	2
3:45 PM - 4:00 PM	0	0	0	0	0	4	0	0	1	1	0	0
4:00 PM - 4:15 PM	0	0	1	0	0	8	1	0	1	3	0	9
4:15 PM - 4:30 PM	0	0	2	0	0	10	1	0	1	2	0	0
4:30 PM - 4:45 PM	0	0	1	0	0	8	0	0	1	8	0	4
4:45 PM - 5:00 PM	0	0	3	0	0	5	2	0	2	1	0	2
5:00 PM - 5:15 PM	0	0	3	0	0	4	2	0	3	4	0	8
5:15 PM - 5:30 PM	0	0	2	0	0	9	3	0	1	1	0	5
5:30 PM - 5:45 PM	0	0	6	0	0	3	3	0	1	5	0	2
5:45 PM - 6:00 PM	0	0	4	0	0	2	2	0	1	5	0	0
TOTAL	0	0	46	0	0	100	27	0	33	58	0	52
Peak Hour												
2:45 PM - 3:45 PM	**0**	**0**	**14**	**0**	**0**	**32**	**11**	**0**	**13**	**15**	**0**	**11**

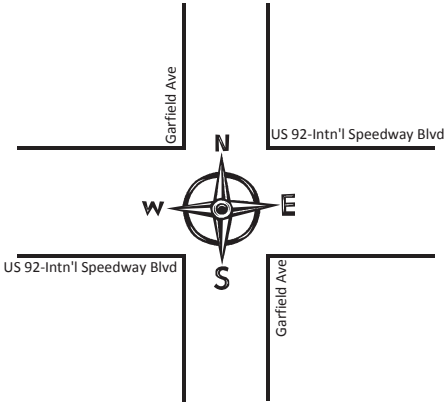
Pedestrian & Bicycle Summary

Project #: 62430.02 **NB/SB:** Garfield Ave

Date: 12/6/2016 **EB/WB:** US 92-Intn'l Speedway Blvd

			Hour								
			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	1	0	1	0	0	0	3	1	**6**
Westbound	◀	Bike	1	1	0	0	0	0	0	0	**2**
		Ped	0	0	0	0	1	0	0	0	**1**

Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike
1 7:00	1	0	0	1
2 8:00	0	0	0	0
3 11:00	1	0	0	0
4 12:00	0	0	0	0
5 14:00	0	0	0	0
6 15:00	1	0	0	0
7 16:00	0	0	0	0
8 17:00	0	1	1	0
	3	**1**	**1**	**1**



Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike	Hour
0	0	0	0	1 7:00
1	0	0	0	2 8:00
0	0	0	0	3 11:00
0	0	0	0	4 12:00
1	0	0	0	5 14:00
0	0	2	0	6 15:00
3	0	0	0	7 16:00
0	0	1	0	8 17:00
5	**0**	**3**	**0**	

Eastbound	▶	Bike	0	0	0	0	0	2	0	0	**2**
		Ped	0	0	0	0	1	0	0	1	**2**
Westbound	◀	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	1	0	0	0	**1**

7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
1	2	3	4	5	6	7	8	

22 **6** Hour

APPENDIX C: Traffic Operation Analysis (SimTraffic Results)

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: US 92 & Garfield Avenue
DeLand

ISOLATED:

DATE: 11/30/2015

SIGNAL #: 395

CO-ORD: X

Design By: M Tobin

System #: 4

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	EBL	WB	-	NB	WBL	EB	-	SB	
TURN TYPE	PERM/PROT	-	-	-	PERM/PROT	-	-	-	
MIN GREEN	7	17		7	7	17		7	
EXTENSION	3	3		3	3	3		3	
CLEARANCE	5	5		4	5	5		4	
ALL RED	2.5	2		2.5	3	2		3.5	
WALK	-	7		-	-	-		7	
FDW	-	22		-	-	-		38	
MAX 1	25	50		25	25	50		25	
MAX 2	27	75		39	27	75		39	
MAX 3	-	-		-	-	-		-	
ADJUST	-	-		-	-	-		-	
RECALL	-	MIN		-	-	MIN		-	
DETECTOR	NON-LOCK	LOCK		NON-LOCK	NON-LOCK	LOCK		NON-LOCK	
FLASH									
SET	-	-		-	-	-		-	
CLEAR	-	-		-	-	-		-	

BASE DAY		1	2	3	4	5	6	7	Crosswalk Length
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P2
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free				75 Feet
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P4
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				-
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P6
	TIME	08:00-18:00	18:00-00:00						
SAT #2	PLAN	C2O1S1	Free						-
	TIME	09:30-17:00	17:00-00:00						
SUN #3	PLAN	C1O1S1	Free						P8

CONTROLLER TYPE		CONDITION OF OVERHEAD	Fair	PROM NUMBER	
Econolite ASC/3		OVERHEAD STREET NAMES	NO		130 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES	YES		SIGNAL OWNER
CABINET TYPE	V	PRE-EMPTION	YES	IP ADDRESS	FDOT
CABINET DATE	03/2005	PRE-EMPTION TYPE	INFRARED	10.77.4.62	LED YES

REMARKS:

Max 2 for Coordination
Opticom not in Use

1	2	4
5	6	8

VOLUSIA COUNTY TRAFFIC ENGINEERING
SYSTEM INVENTORY

Switch IP.# 10.77.4.30
Controller IP.# 10.77.4.62
Camera IP # -

DATE: 5/16/2016 DESIGNED BY: M Tobin

LOCATION: US 92 & Garfield Avenue
CITY: DeLand SIGNAL ID NO: 395 SYSTEM ID: 4

CONTROLLER TIME CHART TP# 1

MVMNT	MIN	EXT	CLR	A.R.	WALK	FDW	MAX1	MAX2	MAX3	ADJST	REC	DET	FL	SET	CLR
1	7	3	5	2.5	-	-	25	27	-	-	-	NL	-	-	-
2	17	3	5	2	7	22	50	75	-	-	MIN	L	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7	3	4	2.5	-	-	25	39	-	-	-	NL	-	-	-
5	7	3	5	3	-	-	25	27	-	-	-	NL	-	-	-
6	17	3	5	2	-	-	50	75	-	-	MIN	L	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	7	3	4	3.5	7	38	25	39	-	-	-	NL	-	-	-

CO-ORDINATION

PLAN	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
CYCLE	120	135	135					
OFF 1	26	123	4					
OFF 2								
OFF 3								
OFF 4								
OFF 5								
PERM	10%	10%	10%	10%	10%	10%	10%	10%

PHASE SPLITS (seconds)

CY/SP	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
PH 1	20	20	25	-	-	-		
PH 2	65	70	73	-	-	-		
PH 3	-	-	-	-	-	-		
PH 4	35	35	37	-	-	-		
PH 5	20	20	25	-	-	-		
PH 6	65	70	73	-	-	-		
PH 7	-	-	-	-	-	-		
PH 8	35	35	37	-	-	-		

1	2	4
5	6	8

BASE DAY		1	2	3	4	5	6	7	8	9	10	11	
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	08:00-18:00	18:00-00:00										
SAT #2	PLAN	C2O1S1	Free										
	TIME	09:30-17:00	17:00-00:00										
SUN #3	PLAN	C1O1S1	Free										

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:20	7:20	7:20	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3702	3698	3828	3642	3678	3828	3760
Vehs Exited	3697	3720	3842	3655	3670	3827	3764
Starting Vehs	130	138	142	138	124	136	126
Ending Vehs	135	116	128	125	132	137	122
Denied Entry Before	0	1	1	1	0	0	1
Denied Entry After	0	0	2	0	1	2	2
Travel Distance (mi)	2829	2824	2914	2791	2811	2915	2865
Travel Time (hr)	133.9	134.0	141.3	135.2	133.3	137.9	137.9
Total Delay (hr)	57.2	57.6	61.9	59.6	56.9	59.0	60.2
Total Stops	4277	4158	4541	4327	4183	4359	4373
Fuel Used (gal)	109.5	108.8	114.4	109.1	108.9	112.7	111.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3816	3716	3789	3744
Vehs Exited	3843	3762	3806	3759
Starting Vehs	145	173	146	134
Ending Vehs	118	127	129	124
Denied Entry Before	1	0	1	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	2926	2860	2921	2866
Travel Time (hr)	140.5	135.9	139.6	136.9
Total Delay (hr)	61.1	58.2	60.4	59.2
Total Stops	4536	4368	4349	4347
Fuel Used (gal)	113.8	111.2	113.9	111.4

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3702	3698	3828	3642	3678	3828	3760
Vehs Exited	3697	3720	3842	3655	3670	3827	3764
Starting Vehs	130	138	142	138	124	136	126
Ending Vehs	135	116	128	125	132	137	122
Denied Entry Before	0	1	1	1	0	0	1
Denied Entry After	0	0	2	0	1	2	2
Travel Distance (mi)	2829	2824	2914	2791	2811	2915	2865
Travel Time (hr)	133.9	134.0	141.3	135.2	133.3	137.9	137.9
Total Delay (hr)	57.2	57.6	61.9	59.6	56.9	59.0	60.2
Total Stops	4277	4158	4541	4327	4183	4359	4373
Fuel Used (gal)	109.5	108.8	114.4	109.1	108.9	112.7	111.4

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3816	3716	3789	3744
Vehs Exited	3843	3762	3806	3759
Starting Vehs	145	173	146	134
Ending Vehs	118	127	129	124
Denied Entry Before	1	0	1	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	2926	2860	2921	2866
Travel Time (hr)	140.5	135.9	139.6	136.9
Total Delay (hr)	61.1	58.2	60.4	59.2
Total Stops	4536	4368	4349	4347
Fuel Used (gal)	113.8	111.2	113.9	111.4

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	0.2	2.7	0.4
Total Delay (hr)	2.7	1.9	1.8	0.8	7.2
Total Del/Veh (s)	8.1	7.3	38.1	42.3	10.9
Stop Delay (hr)	1.0	1.1	1.6	0.8	4.4
Stop Del/Veh (s)	2.9	4.1	34.7	40.7	6.7
Total Stops	233	243	141	61	678
Stop/Veh	0.20	0.26	0.84	0.87	0.29
Travel Dist (mi)	146.1	260.0	31.2	11.0	448.3
Travel Time (hr)	6.1	8.1	2.9	1.3	18.4
Avg Speed (mph)	24	33	11	9	25
Fuel Used (gal)	4.5	7.5	1.3	0.5	13.8
Fuel Eff. (mpg)	32.6	34.5	23.6	21.7	32.4
HC Emissions (g)	67	133	10	13	223
CO Emissions (g)	2074	4195	313	218	6800
NOx Emissions (g)	231	483	29	28	772
Vehicles Entered	1183	933	163	68	2347
Vehicles Exited	1184	934	164	68	2350
Hourly Exit Rate	1184	934	164	68	2350
Input Volume	1186	932	157	68	2343
% of Volume	100	100	104	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	310	741	349	1307	575
Occupancy (veh)	6	8	3	1	18

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:20	11:20	11:20	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4418	4490	4383	4405	4347	4380	4552
Vehs Exited	4436	4513	4442	4397	4373	4374	4547
Starting Vehs	161	164	179	157	176	150	150
Ending Vehs	143	141	120	165	150	156	155
Denied Entry Before	2	0	2	0	1	0	0
Denied Entry After	0	2	0	1	1	1	2
Travel Distance (mi)	3056	3095	2994	3032	2986	3018	3107
Travel Time (hr)	159.4	164.9	157.2	158.1	155.2	156.5	162.3
Total Delay (hr)	73.1	77.4	72.3	72.5	70.7	71.3	74.2
Total Stops	5310	5479	5152	5250	5128	5115	5462
Fuel Used (gal)	122.7	124.7	120.0	121.9	119.6	120.1	125.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4513	4297	4482	4425
Vehs Exited	4501	4301	4480	4438
Starting Vehs	165	163	158	158
Ending Vehs	177	159	160	147
Denied Entry Before	1	0	0	0
Denied Entry After	1	3	1	0
Travel Distance (mi)	3094	2920	3093	3039
Travel Time (hr)	165.6	155.5	165.6	160.0
Total Delay (hr)	77.8	72.5	78.1	74.0
Total Stops	5500	5205	5607	5324
Fuel Used (gal)	125.6	118.1	125.7	122.4

Interval #0 Information Seeding

Start Time	11:20
End Time	11:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4418	4490	4383	4405	4347	4380	4552
Vehs Exited	4436	4513	4442	4397	4373	4374	4547
Starting Vehs	161	164	179	157	176	150	150
Ending Vehs	143	141	120	165	150	156	155
Denied Entry Before	2	0	2	0	1	0	0
Denied Entry After	0	2	0	1	1	1	2
Travel Distance (mi)	3056	3095	2994	3032	2986	3018	3107
Travel Time (hr)	159.4	164.9	157.2	158.1	155.2	156.5	162.3
Total Delay (hr)	73.1	77.4	72.3	72.5	70.7	71.3	74.2
Total Stops	5310	5479	5152	5250	5128	5115	5462
Fuel Used (gal)	122.7	124.7	120.0	121.9	119.6	120.1	125.3

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4513	4297	4482	4425
Vehs Exited	4501	4301	4480	4438
Starting Vehs	165	163	158	158
Ending Vehs	177	159	160	147
Denied Entry Before	1	0	0	0
Denied Entry After	1	3	1	0
Travel Distance (mi)	3094	2920	3093	3039
Travel Time (hr)	165.6	155.5	165.6	160.0
Total Delay (hr)	77.8	72.5	78.1	74.0
Total Stops	5500	5205	5607	5324
Fuel Used (gal)	125.6	118.1	125.7	122.4

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	0.2	1.8	0.5
Total Delay (hr)	2.5	2.0	1.4	1.6	7.5
Total Del/Veh (s)	10.4	7.5	43.3	38.9	12.9
Stop Delay (hr)	1.3	1.1	1.3	1.5	5.1
Stop Del/Veh (s)	5.2	4.1	40.0	37.1	8.9
Total Stops	272	251	97	128	748
Stop/Veh	0.31	0.26	0.84	0.89	0.36
Travel Dist (mi)	105.7	261.9	21.9	22.8	412.2
Travel Time (hr)	5.0	8.2	2.2	2.6	18.0
Avg Speed (mph)	21	33	10	9	23
Fuel Used (gal)	3.1	7.6	1.0	1.1	12.7
Fuel Eff. (mpg)	34.4	34.6	22.3	21.7	32.5
HC Emissions (g)	71	186	4	15	276
CO Emissions (g)	1742	5066	179	307	7294
NOx Emissions (g)	210	613	14	38	875
Vehicles Entered	861	941	114	142	2058
Vehicles Exited	861	938	115	143	2057
Hourly Exit Rate	861	938	115	143	2057
Input Volume	859	926	117	148	2050
% of Volume	100	101	98	97	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	375	729	464	666	588
Occupancy (veh)	5	8	2	3	18

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:30	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:40	5:40	5:40	5:40	5:40	5:40	5:40
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5244	5420	5355	5224	5328	5289	5367
Vehs Exited	5233	5415	5355	5196	5330	5295	5349
Starting Vehs	218	205	239	199	220	233	199
Ending Vehs	229	210	239	227	218	227	217
Denied Entry Before	1	3	2	2	1	1	0
Denied Entry After	1	0	1	1	2	1	0
Travel Distance (mi)	3831	3985	3904	3852	3873	3848	3949
Travel Time (hr)	219.0	231.2	227.4	220.5	224.4	220.3	226.5
Total Delay (hr)	111.6	119.9	118.1	113.2	115.8	112.4	116.3
Total Stops	7243	7612	7496	7251	7417	7191	7483
Fuel Used (gal)	156.8	163.1	159.8	157.5	159.3	157.2	162.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:30	4:30	4:30	4:30
End Time	5:40	5:40	5:40	5:40
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5270	5299	5378	5319
Vehs Exited	5271	5297	5412	5315
Starting Vehs	223	214	257	217
Ending Vehs	222	216	223	220
Denied Entry Before	2	1	0	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	3835	3882	3966	3892
Travel Time (hr)	218.2	220.8	230.1	223.8
Total Delay (hr)	110.7	112.2	119.4	115.0
Total Stops	7125	7270	7548	7362
Fuel Used (gal)	155.6	158.5	162.5	159.2

Interval #0 Information Seeding

Start Time	4:30
End Time	4:40
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:40
End Time	5:40
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5244	5420	5355	5224	5328	5289	5367
Vehs Exited	5233	5415	5355	5196	5330	5295	5349
Starting Vehs	218	205	239	199	220	233	199
Ending Vehs	229	210	239	227	218	227	217
Denied Entry Before	1	3	2	2	1	1	0
Denied Entry After	1	0	1	1	2	1	0
Travel Distance (mi)	3831	3985	3904	3852	3873	3848	3949
Travel Time (hr)	219.0	231.2	227.4	220.5	224.4	220.3	226.5
Total Delay (hr)	111.6	119.9	118.1	113.2	115.8	112.4	116.3
Total Stops	7243	7612	7496	7251	7417	7191	7483
Fuel Used (gal)	156.8	163.1	159.8	157.5	159.3	157.2	162.0

Interval #1 Information Recording

Start Time	4:40
End Time	5:40
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5270	5299	5378	5319
Vehs Exited	5271	5297	5412	5315
Starting Vehs	223	214	257	217
Ending Vehs	222	216	223	220
Denied Entry Before	2	1	0	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	3835	3882	3966	3892
Travel Time (hr)	218.2	220.8	230.1	223.8
Total Delay (hr)	110.7	112.2	119.4	115.0
Total Stops	7125	7270	7548	7362
Fuel Used (gal)	155.6	158.5	162.5	159.2

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.3	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.7	0.2	2.1	0.5
Total Delay (hr)	5.2	5.1	1.8	3.0	15.1
Total Del/Veh (s)	17.5	12.9	49.4	45.4	19.0
Stop Delay (hr)	2.8	2.7	1.7	2.8	10.1
Stop Del/Veh (s)	9.6	6.7	46.0	43.1	12.6
Total Stops	463	461	113	199	1236
Stop/Veh	0.43	0.32	0.84	0.84	0.43
Travel Dist (mi)	131.2	392.9	25.1	37.0	586.2
Travel Time (hr)	8.3	14.4	2.7	4.7	30.0
Avg Speed (mph)	16	28	9	8	20
Fuel Used (gal)	4.2	11.5	1.2	1.8	18.7
Fuel Eff. (mpg)	31.1	34.2	21.4	20.1	31.3
HC Emissions (g)	38	106	7	14	166
CO Emissions (g)	1248	4740	248	370	6606
NOx Emissions (g)	137	453	22	42	654
Vehicles Entered	1067	1412	131	231	2841
Vehicles Exited	1057	1406	133	234	2830
Hourly Exit Rate	1057	1406	133	234	2830
Input Volume	1065	1407	127	223	2822
% of Volume	99	100	105	105	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	228	417	370	370	352
Occupancy (veh)	8	14	3	5	30

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3796	3758	3698	3714	3696	3662	3710
Vehs Exited	3788	3729	3713	3731	3712	3652	3718
Starting Vehs	126	112	132	138	130	112	115
Ending Vehs	134	141	117	121	114	122	107
Denied Entry Before	1	2	2	0	0	2	0
Denied Entry After	1	2	2	3	2	1	2
Travel Distance (mi)	2862	2863	2843	2862	2815	2824	2831
Travel Time (hr)	128.2	127.7	127.9	127.3	125.2	124.4	127.1
Total Delay (hr)	50.3	50.1	50.9	49.9	48.9	48.5	50.3
Total Stops	3917	3853	3908	3880	3777	3726	3834
Fuel Used (gal)	108.4	107.6	107.3	107.8	105.5	106.3	106.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3748	3738	3753	3724
Vehs Exited	3737	3757	3743	3727
Starting Vehs	118	143	114	121
Ending Vehs	129	124	124	118
Denied Entry Before	1	0	2	0
Denied Entry After	2	0	2	0
Travel Distance (mi)	2842	2893	2880	2852
Travel Time (hr)	125.9	129.8	127.3	127.1
Total Delay (hr)	49.0	51.6	49.3	49.9
Total Stops	3845	3968	3827	3851
Fuel Used (gal)	107.1	108.9	107.6	107.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3796	3758	3698	3714	3696	3662	3710
Vehs Exited	3788	3729	3713	3731	3712	3652	3718
Starting Vehs	126	112	132	138	130	112	115
Ending Vehs	134	141	117	121	114	122	107
Denied Entry Before	1	2	2	0	0	2	0
Denied Entry After	1	2	2	3	2	1	2
Travel Distance (mi)	2862	2863	2843	2862	2815	2824	2831
Travel Time (hr)	128.2	127.7	127.9	127.3	125.2	124.4	127.1
Total Delay (hr)	50.3	50.1	50.9	49.9	48.9	48.5	50.3
Total Stops	3917	3853	3908	3880	3777	3726	3834
Fuel Used (gal)	108.4	107.6	107.3	107.8	105.5	106.3	106.8

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3748	3738	3753	3724
Vehs Exited	3737	3757	3743	3727
Starting Vehs	118	143	114	121
Ending Vehs	129	124	124	118
Denied Entry Before	1	0	2	0
Denied Entry After	2	0	2	0
Travel Distance (mi)	2842	2893	2880	2852
Travel Time (hr)	125.9	129.8	127.3	127.1
Total Delay (hr)	49.0	51.6	49.3	49.9
Total Stops	3845	3968	3827	3851
Fuel Used (gal)	107.1	108.9	107.6	107.3

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.1	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	2.0	2.7	0.5
Total Delay (hr)	2.2	1.6	1.5	0.9	6.1
Total Del/Veh (s)	6.6	6.3	33.5	45.6	9.4
Stop Delay (hr)	1.2	0.9	1.3	0.8	4.3
Stop Del/Veh (s)	3.7	3.5	30.5	44.1	6.6
Total Stops	249	228	136	60	673
Stop/Veh	0.21	0.25	0.86	0.88	0.29
Travel Dist (mi)	146.7	254.7	30.1	10.7	442.2
Travel Time (hr)	5.6	7.7	2.6	1.4	17.3
Avg Speed (mph)	26	34	12	8	26
Fuel Used (gal)	4.2	7.4	1.2	0.5	13.3
Fuel Eff. (mpg)	34.7	34.6	24.2	21.0	33.1
HC Emissions (g)	63	137	8	10	218
CO Emissions (g)	1828	4190	285	178	6482
NOx Emissions (g)	235	492	26	23	776
Vehicles Entered	1188	916	158	67	2329
Vehicles Exited	1190	916	158	67	2331
Hourly Exit Rate	1190	916	158	67	2331
Input Volume	1186	932	157	68	2343
% of Volume	100	98	101	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	443	777	788	1275	707
Occupancy (veh)	6	8	3	1	17

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:57	11:57	11:57	11:57	11:57	11:57	11:57
End Time	1:07	1:07	1:07	1:07	1:07	1:07	1:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4254	4410	4486	4409	4334	4376	4491
Vehs Exited	4312	4425	4487	4441	4341	4380	4468
Starting Vehs	174	151	140	163	163	152	142
Ending Vehs	116	136	139	131	156	148	165
Denied Entry Before	0	1	2	2	0	2	1
Denied Entry After	1	3	0	2	3	0	2
Travel Distance (mi)	2895	3023	3073	3039	2997	2977	3058
Travel Time (hr)	145.9	154.9	155.8	152.8	150.0	150.6	154.3
Total Delay (hr)	63.8	69.1	69.0	66.9	65.4	66.3	67.9
Total Stops	4743	5017	5032	4928	4936	4812	5013
Fuel Used (gal)	114.6	120.2	121.9	120.2	117.5	117.0	120.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:57	11:57	11:57	11:57
End Time	1:07	1:07	1:07	1:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4393	4444	4454	4405
Vehs Exited	4420	4466	4479	4423
Starting Vehs	168	168	168	159
Ending Vehs	141	146	143	139
Denied Entry Before	0	3	1	0
Denied Entry After	3	2	1	1
Travel Distance (mi)	3012	3044	3084	3020
Travel Time (hr)	153.2	154.2	154.8	152.7
Total Delay (hr)	67.5	68.0	67.7	67.2
Total Stops	4986	5004	4948	4942
Fuel Used (gal)	120.2	119.9	120.9	119.3

Interval #0 Information Seeding

Start Time	11:57
End Time	12:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	12:07
End Time	1:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4254	4410	4486	4409	4334	4376	4491
Vehs Exited	4312	4425	4487	4441	4341	4380	4468
Starting Vehs	174	151	140	163	163	152	142
Ending Vehs	116	136	139	131	156	148	165
Denied Entry Before	0	1	2	2	0	2	1
Denied Entry After	1	3	0	2	3	0	2
Travel Distance (mi)	2895	3023	3073	3039	2997	2977	3058
Travel Time (hr)	145.9	154.9	155.8	152.8	150.0	150.6	154.3
Total Delay (hr)	63.8	69.1	69.0	66.9	65.4	66.3	67.9
Total Stops	4743	5017	5032	4928	4936	4812	5013
Fuel Used (gal)	114.6	120.2	121.9	120.2	117.5	117.0	120.3

Interval #1 Information Recording

Start Time	12:07
End Time	1:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4393	4444	4454	4405
Vehs Exited	4420	4466	4479	4423
Starting Vehs	168	168	168	159
Ending Vehs	141	146	143	139
Denied Entry Before	0	3	1	0
Denied Entry After	3	2	1	1
Travel Distance (mi)	3012	3044	3084	3020
Travel Time (hr)	153.2	154.2	154.8	152.7
Total Delay (hr)	67.5	68.0	67.7	67.2
Total Stops	4986	5004	4948	4942
Fuel Used (gal)	120.2	119.9	120.9	119.3

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.8	1.4	1.9	0.6
Total Delay (hr)	1.1	2.0	0.9	1.2	5.3
Total Del/Veh (s)	4.7	7.6	27.5	28.9	9.1
Stop Delay (hr)	0.6	1.1	0.8	1.1	3.6
Stop Del/Veh (s)	2.3	4.2	24.8	27.2	6.3
Total Stops	153	279	99	126	657
Stop/Veh	0.18	0.30	0.80	0.83	0.32
Travel Dist (mi)	105.6	259.4	22.8	23.9	411.7
Travel Time (hr)	3.6	8.2	1.8	2.3	16.0
Avg Speed (mph)	29	32	13	11	26
Fuel Used (gal)	2.9	7.5	0.9	1.0	12.3
Fuel Eff. (mpg)	36.0	34.5	25.6	24.1	33.4
HC Emissions (g)	76	181	4	14	275
CO Emissions (g)	1888	5050	171	287	7397
NOx Emissions (g)	242	598	14	37	890
Vehicles Entered	863	934	121	149	2067
Vehicles Exited	861	932	122	151	2066
Hourly Exit Rate	861	932	122	151	2066
Input Volume	859	926	117	148	2050
% of Volume	100	101	104	102	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	684	728	1143	751	768
Occupancy (veh)	4	8	2	2	16

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:57	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:07	6:07	6:07	6:07	6:07	6:07	6:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5238	5341	5210	5062	5341	5312	5377
Vehs Exited	5263	5371	5234	5107	5363	5330	5375
Starting Vehs	214	252	220	211	221	196	216
Ending Vehs	189	222	196	166	199	178	218
Denied Entry Before	2	0	0	2	2	1	3
Denied Entry After	2	1	2	0	1	2	1
Travel Distance (mi)	3821	3908	3797	3741	3888	3863	3904
Travel Time (hr)	202.2	210.9	203.2	191.5	207.3	208.7	209.2
Total Delay (hr)	95.3	101.6	96.8	87.3	98.6	100.3	99.8
Total Stops	6413	6588	6458	5972	6568	6542	6598
Fuel Used (gal)	151.5	155.5	150.8	146.9	153.8	153.3	155.1

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:57	4:57	4:57	4:57
End Time	6:07	6:07	6:07	6:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5309	5297	5321	5277
Vehs Exited	5336	5327	5305	5301
Starting Vehs	237	225	192	215
Ending Vehs	210	195	208	195
Denied Entry Before	1	2	0	0
Denied Entry After	1	3	2	0
Travel Distance (mi)	3888	3884	3891	3859
Travel Time (hr)	207.7	206.5	207.8	205.5
Total Delay (hr)	98.8	98.0	99.1	97.6
Total Stops	6612	6495	6556	6482
Fuel Used (gal)	154.8	154.2	155.0	153.1

Interval #0 Information Seeding

Start Time	4:57
End Time	5:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	5:07
End Time	6:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5238	5341	5210	5062	5341	5312	5377
Vehs Exited	5263	5371	5234	5107	5363	5330	5375
Starting Vehs	214	252	220	211	221	196	216
Ending Vehs	189	222	196	166	199	178	218
Denied Entry Before	2	0	0	2	2	1	3
Denied Entry After	2	1	2	0	1	2	1
Travel Distance (mi)	3821	3908	3797	3741	3888	3863	3904
Travel Time (hr)	202.2	210.9	203.2	191.5	207.3	208.7	209.2
Total Delay (hr)	95.3	101.6	96.8	87.3	98.6	100.3	99.8
Total Stops	6413	6588	6458	5972	6568	6542	6598
Fuel Used (gal)	151.5	155.5	150.8	146.9	153.8	153.3	155.1

Interval #1 Information Recording

Start Time	5:07
End Time	6:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5309	5297	5321	5277
Vehs Exited	5336	5327	5305	5301
Starting Vehs	237	225	192	215
Ending Vehs	210	195	208	195
Denied Entry Before	1	2	0	0
Denied Entry After	1	3	2	0
Travel Distance (mi)	3888	3884	3891	3859
Travel Time (hr)	207.7	206.5	207.8	205.5
Total Delay (hr)	98.8	98.0	99.1	97.6
Total Stops	6612	6495	6556	6482
Fuel Used (gal)	154.8	154.2	155.0	153.1

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.3	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.7	1.4	2.2	0.6
Total Delay (hr)	4.3	4.9	1.5	3.1	13.7
Total Del/Veh (s)	14.6	12.5	41.4	48.3	17.5
Stop Delay (hr)	2.7	2.6	1.4	2.9	9.6
Stop Del/Veh (s)	9.3	6.6	38.3	46.0	12.3
Total Stops	433	458	105	199	1195
Stop/Veh	0.41	0.32	0.82	0.87	0.42
Travel Dist (mi)	130.0	389.7	23.9	35.6	579.1
Travel Time (hr)	7.3	14.1	2.4	4.7	28.5
Avg Speed (mph)	18	28	10	8	21
Fuel Used (gal)	4.1	11.3	1.1	1.8	18.2
Fuel Eff. (mpg)	32.1	34.5	22.4	19.5	31.8
HC Emissions (g)	43	100	6	17	166
CO Emissions (g)	1308	4522	232	400	6462
NOx Emissions (g)	163	437	20	46	666
Vehicles Entered	1052	1403	124	222	2801
Vehicles Exited	1056	1399	126	224	2805
Hourly Exit Rate	1056	1399	126	224	2805
Input Volume	1065	1407	127	223	2822
% of Volume	99	99	99	100	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	338	422	864	367	428
Occupancy (veh)	7	14	2	5	28

APPENDIX D: Cost Estimates

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

Garfield Avenue Cost Estimate

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.290	$ 10,324.67	$ 2,994.15
0120 1	REGULAR EXCAVATION	CY	475.000	$ 7.58	$ 3,600.50
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	1,424.000	$ 2.15	$ 3,061.60
0285709	OPTIONAL BASE,BASE GROUP 09	SY	1,096.000	$ 16.38	$ 17,952.48
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	59.000	$ 95.94	$ 5,660.46
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	59.000	$ 121.82	$ 7,187.38
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	2.000	$ 1,869.73	$ 3,739.46
0425 1910	INLETS, CLOSED FLUME	EA	2.000	$ 3,819.86	$ 7,639.72
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	2.000	$ 3,698.65	$ 7,397.30
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	30.000	$ 107.83	$ 3,234.90
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	660.000	$ 17.50	$ 11,550.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	146.700	$ 34.09	$ 5,001.00
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	11.200	$ 52.00	$ 582.40
0527 2	DETECTABLE WARNINGS	SF	20.000	$ 40.00	$ 800.00
0570 1 2	PERFORMANCE TURF, SOD	SY	89.000	$ 4.00	$ 356.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	545.000	$ 6.24	$ 3,400.80
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	240.000	$ 18.00	$ 4,320.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	2.000	$ 4,968.18	$ 9,936.36
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	6.000	$ 637.13	$ 3,822.78
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	2.000	$ 1,154.08	$ 2,308.16
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1.000	$ 165.65	$ 165.65
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS	1.000	$ 648.24	$ 648.24
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	2.000	$ 1,086.35	$ 2,172.70
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS	4.000	$ 686.28	$ 2,745.12
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	3.000	$ 781.92	$ 2,345.76
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	5.000	$ 300.00	$ 1,500.00
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	2.000	$ 1,392.23	$ 2,784.46
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	2.000	$ 161.58	$ 323.16
0700 2 15	MULTI- POST SIGN, F&I GM, 51-100 SF	AS		$ 6,030.44	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	24.000	$ 3.34	$ 80.16
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF	52.000	$ 2.90	$ 150.80
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	351.000	$ 4.50	$ 1,579.50
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	8.000	$ 70.00	$ 560.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.040	$ 1,444.48	$ 57.78
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.169	$ 3,909.24	$ 660.66
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.047	$ 5,095.44	$ 239.49
0711 17	THERMOPLASTIC, REMOVE	SF	180.000	$ 1.99	$ 358.20
				TOTAL OF IMPROVEMENTS:	**$ 120,917.13**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 6,045.86**
				MAINTENANCE OF TRAFFIC (5%):	**$ 6,045.86**
				CONTINGENCY (15%):	**$ 18,137.57**
			COMPONENT TOTAL		**$ 151,146.42**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
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WB Left Turn at Garfield Avenue (L=200')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.070	$ 10,324.67	$ 722.73
0120 1	REGULAR EXCAVATION	CY	119.000	$ 7.58	$ 902.02
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	356.000	$ 2.15	$ 765.40
0285709	OPTIONAL BASE,BASE GROUP 09	SY	274.000	$ 16.38	$ 4,488.12
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	15.000	$ 95.94	$ 1,439.10
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	15.000	$ 121.82	$ 1,827.30
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY		$ 52.00	$ -
0527 2	DETECTABLE WARNINGS	SF		$ 40.00	$ -
0570 1 2	PERFORMANCE TURF, SOD	SY	23.000	$ 4.00	$ 92.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF		$ 6.24	$ -
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 15	MULTI- POST SIGN, F&I GM, 51-100 SF	AS		$ 6,030.44	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	6.000	$ 3.34	$ 20.04
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF	52.000	$ 2.90	$ 150.80
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF		$ 4.50	$ -
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	2.000	$ 70.00	$ 140.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.015	$ 1,444.48	$ 21.67
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.023	$ 3,909.24	$ 89.91
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.047	$ 5,095.44	$ 239.49
0711 17	THERMOPLASTIC, REMOVE	SF	100.000	$ 1.99	$ 199.00
				TOTAL OF IMPROVEMENTS:	**$ 11,097.57**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 554.88**
				MAINTENANCE OF TRAFFIC (5%):	**$ 554.88**
				CONTINGENCY (15%):	**$ 1,664.64**
			COMPONENT TOTAL		**$ 13,871.97**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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EB Right Turn at Garfield Avenue (L=250')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.110	$ 10,324.67	$ 1,135.71
0120 1	REGULAR EXCAVATION	CY	178.000	$ 7.58	$ 1,349.24
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	534.000	$ 2.15	$ 1,148.10
0285709	OPTIONAL BASE,BASE GROUP 09	SY	411.000	$ 16.38	$ 6,732.18
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	22.000	$ 95.94	$ 2,110.68
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	22.000	$ 121.82	$ 2,680.04
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	1.000	$ 1,869.73	$ 1,869.73
0425 1910	INLETS, CLOSED FLUME	EA	2.000	$ 3,819.86	$ 7,639.72
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	1.000	$ 3,698.65	$ 3,698.65
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	15.000	$ 107.83	$ 1,617.45
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	330.000	$ 17.50	$ 5,775.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	16.700	$ 34.09	$ 569.30
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	5.600	$ 52.00	$ 291.20
0527 2	DETECTABLE WARNINGS	SF	10.000	$ 40.00	$ 400.00
0570 1 2	PERFORMANCE TURF, SOD	SY	33.000	$ 4.00	$ 132.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	445.000	$ 6.24	$ 2,776.80
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	165.000	$ 18.00	$ 2,970.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	4.000	$ 637.13	$ 2,548.52
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	1.000	$ 1,154.08	$ 1,154.08
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1.000	$ 165.65	$ 165.65
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	1.000	$ 1,086.35	$ 1,086.35
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS	4.000	$ 686.28	$ 2,745.12
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	1.000	$ 781.92	$ 781.92
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	2.000	$ 300.00	$ 600.00
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	1.000	$ 161.58	$ 161.58
0700 2 15	MULTI- POST SIGN, F&I GM, 51-100 SF	AS		$ 6,030.44	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	9.000	$ 3.34	$ 30.06
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	10.000	$ 4.50	$ 45.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	3.000	$ 70.00	$ 210.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.014	$ 1,444.48	$ 20.22
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.075	$ 3,909.24	$ 293.19
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF	45.000	$ 1.99	$ 89.55
				TOTAL OF IMPROVEMENTS:	**$ 57,795.23**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 2,889.76**
				MAINTENANCE OF TRAFFIC (5%):	**$ 2,889.76**
				CONTINGENCY (15%):	**$ 8,669.28**
			COMPONENT TOTAL		**$ 72,244.04**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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NB Right Turn at Garfield Avenue (L=250')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.110	$ 10,324.67	$ 1,135.71
0120 1	REGULAR EXCAVATION	CY	178.000	$ 7.58	$ 1,349.24
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	534.000	$ 2.15	$ 1,148.10
0285709	OPTIONAL BASE,BASE GROUP 09	SY	411.000	$ 16.38	$ 6,732.18
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	22.000	$ 95.94	$ 2,110.68
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	22.000	$ 121.82	$ 2,680.04
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	1.000	$ 1,869.73	$ 1,869.73
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	1.000	$ 3,698.65	$ 3,698.65
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	15.000	$ 107.83	$ 1,617.45
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	330.000	$ 17.50	$ 5,775.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	130.000	$ 34.09	$ 4,431.70
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	5.600	$ 52.00	$ 291.20
0527 2	DETECTABLE WARNINGS	SF	10.000	$ 40.00	$ 400.00
0570 1 2	PERFORMANCE TURF, SOD	SY	33.000	$ 4.00	$ 132.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	50.000	$ 6.24	$ 312.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	75.000	$ 18.00	$ 1,350.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	1.000	$ 637.13	$ 637.13
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	2.000	$ 781.92	$ 1,563.84
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	1.000	$ 161.58	$ 161.58
0700 2 15	MULTI- POST SIGN, F&I GM, 51-100 SF	AS		$ 6,030.44	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	9.000	$ 3.34	$ 30.06
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	21.000	$ 4.50	$ 94.50
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	3.000	$ 70.00	$ 210.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.011	$ 1,444.48	$ 15.89
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.071	$ 3,909.24	$ 277.56
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF	35.000	$ 1.99	$ 69.65
				TOTAL OF IMPROVEMENTS:	**$ 39,486.12**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 1,974.31**
				MAINTENANCE OF TRAFFIC (5%):	**$ 1,974.31**
				CONTINGENCY (15%):	**$ 5,922.92**
			COMPONENT TOTAL		**$ 49,357.65**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
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Garfield Avenue Cost Estimate (Sidewalks & Crosswalks)

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC		$ 10,324.67	$ -
0120 1	REGULAR EXCAVATION	CY		$ 7.58	$ -
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY		$ 2.15	$ -
0285709	OPTIONAL BASE,BASE GROUP 09	SY		$ 16.38	$ -
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN		$ 95.94	$ -
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN		$ 121.82	$ -
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY		$ 52.00	$ -
0527 2	DETECTABLE WARNINGS	SF		$ 40.00	$ -
0570 1 2	PERFORMANCE TURF, SOD	SY		$ 4.00	$ -
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	50.000	$ 6.24	$ 312.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	1.000	$ 637.13	$ 637.13
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	1.000	$ 1,154.08	$ 1,154.08
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS	1.000	$ 648.24	$ 648.24
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	1.000	$ 1,086.35	$ 1,086.35
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	3.000	$ 300.00	$ 900.00
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 15	MULTI- POST SIGN, F&I GM, 51-100 SF	AS		$ 6,030.44	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA		$ 3.34	$ -
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	320.000	$ 4.50	$ 1,440.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA		$ 70.00	$ -
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM		$ 1,444.48	$ -
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM		$ 3,909.24	$ -
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF		$ 1.99	$ -
				TOTAL OF IMPROVEMENTS:	**$ 12,538.21**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 626.91**
				MAINTENANCE OF TRAFFIC (5%):	**$ 626.91**
				CONTINGENCY (15%):	**$ 1,880.73**
			COMPONENT TOTAL		**$ 15,672.76**

APPENDIX B:

Responses to Comments

US 92 from US 17 to Garfield Report – Comments

Comments from Amir Asgarinik

1. Shouldn't we use Optional Base Group 9 instead of 13?

Response: Base Group has been revised from 13 to 9.

2. Does the existing concrete signal assembly need to be upgraded based on the proposed improvements?

Response: It is anticipated that the existing span wire traffic signal can be maintained since no new signal heads will be required, and Type F curb and gutter is being proposed along the east side of the NB right turn lane since there is not enough right of way to maintain an 18' CZ from the signal pole using rural design criteria.

3. Need 36" concrete pipes to accommodate the proposed turning movements and sidewalks.

Response: 36" mitered end sections, which per the Basics of Estimates (BOE) include the pipe, are already proposed for under Garfield Ave. to accommodate the additional pavement for the EB right turn lane and sidewalks/ramps.

4. Most of the proposed sidewalks should be 6" thick due to its proximity to the EOP and traffic movement.

Response: The cost estimate considers that the ramps and sidewalk within the immediate vicinity of the curb radius will be 6" concrete.

5. 20% Contingency may be excessive.

Response: The contingency has been reduced to 15%.

Comments from Keith Riger

1. I would like to point out that we have a proposed project in the hopper called the DeLand Greenway Trail North Extension, FIN 430217-2-38-01, Federal Aid Number 7777-182-A to build a trail to the SW corner of the intersection. Pertinent plans are attached. Let's coordinate.

   Response: Comment Noted.

Comments from Jon Cheney – Volusia County

1. No comments on justification for new turn lanes, but always a support new lanes.
2. Why is this separate from the other turn lane study in the same area? This project should be combined with other turn lane project on US-92 and administered by FDOT since work is on a State Roadway.

Response: Two different reports were created based on the two different feasibility study applications from Volusia county. However, the US 92 & Garfield report was included in the appendix of the US 92 from Woodland Boulevard to Garfield Avenue report.

3. Did they look at need for turn lanes on Garfield itself?

Response: As per the information provided by FDOT, additional northbound right turn lane is proposed.

4. Not enough information to perform a constructability review, however most construction appears to be in FDOT ROW.

Comments from Christopher Cairns - FDOT

US 92 between US 17 (Woodland Blvd) and Garfield Avenue

1. Please clarify where the input volumes come from for the following Synchro analyses:
    a. US 17/ Woodland Boulevard and International Speedway Boulevard/ US 92 – Westbound approach (All time periods)
    b. Amelia Avenue and International Speedway Boulevard/ US 92 – Eastbound and Westbound approaches (All time periods)
    c. Garfield Avenue and International Speedway Boulevard/ US 92 – Eastbound and Westbound approaches (All time periods)

Response: The turning movement counts, provided in Appendix A, were taken and adjusted (balanced) for reasonableness considering the presence or absence of additional access points between study intersections.

2. The department's concrete rehab project (432441-1) recently made improvements for US 92 WB right turn lane at US 17 which is not shown on the condition diagram.

Response: Comment noted and Figures 2 & 3 were updated.

3. Do not concur with Alternative 1 or 2. There does not appear to be a significant capacity need to provide a continuous WB auxiliary lane in relation to potential for crash types to occur, specifically left turn crashes due to longer crossing distances across potentially higher speed outside through lane. Continuous right turn lanes may also increase conflicts for cyclists choosing to utilize the paved shoulder.

Response: Comment noted. The study evaluated Alternative 1 strictly based on the improvement requests mentioned in the feasibility application, which was not considered as the recommended alternative. Based on the input received FDOT and Volusia County on Alternative 2 shown in the Draft Report, this current report shows the modified Alternative 2.

4. Concur with recommendation to extend the existing sidewalk along the south side of International Speedway Boulevard/ US 92 from the east side of Alabama Avenue to Garfield Avenue would improve connectivity and pedestrian safety.

Response: Comment noted.

5. Concur with recommendation to install guidelines through the intersection at US 17/ Woodland Blvd to guide eastbound left turning vehicles into the inside northbound through lane will improve the safely and flow of traffic through the intersection.

Response: Comment noted.

APPENDIX C:

Traffic Data
and
Exhibits for US 92/International Speedway Blvd & US 17/Woodland Blvd Intersection

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection US 17-Woodland Blvd **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	3	34	43	95	83	16	21	142	4	25	63	50
7:15 AM - 7:30 AM	0	51	41	91	95	19	24	184	5	49	63	57
7:30 AM - 7:45 AM	7	75	44	89	125	28	26	147	11	61	79	61
7:45 AM - 8:00 AM	22	60	46	61	144	9	30	118	11	68	68	59
8:00 AM - 8:15 AM	9	59	64	92	105	16	28	131	9	41	75	45
8:15 AM - 8:30 AM	23	78	56	64	94	21	30	114	5	53	86	53
8:30 AM - 8:45 AM	28	60	36	60	107	22	42	78	13	43	81	53
8:45 AM - 9:00 AM	14	98	35	51	102	21	44	99	9	39	68	57
TOTAL	106	515	365	603	855	152	245	1,013	67	379	583	435
Peak Hour												
7:15 AM - 8:15 AM	**38**	**245**	**195**	**333**	**469**	**72**	**108**	**580**	**36**	**219**	**285**	**222**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	16	77	43	53	115	30	55	82	13	72	88	70
11:15 AM - 11:30 AM	18	107	66	47	114	31	50	96	11	62	63	71
11:30 AM - 11:45 AM	23	115	72	54	129	34	45	79	12	58	102	67
11:45 AM - 12:00 PM	20	89	77	70	112	29	53	96	14	60	97	66
12:00 PM - 12:15 PM	24	123	57	62	118	36	51	96	17	72	91	63
12:15 PM - 12:30 PM	29	132	67	61	125	36	51	75	13	74	103	65
12:30 PM - 12:45 PM	20	103	79	62	115	31	41	70	15	57	79	63
12:45 PM - 1:00 PM	22	124	51	56	108	34	51	79	12	65	73	72
TOTAL	172	870	512	465	936	261	397	673	107	520	696	537
Peak Hour												
11:30 AM - 12:30 PM	**96**	**459**	**273**	**247**	**484**	**135**	**200**	**346**	**56**	**264**	**393**	**261**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	10	108	56	64	96	41	51	75	11	63	75	91
2:15 PM - 2:30 PM	19	134	48	48	101	32	56	92	13	50	78	78
2:30 PM - 2:45 PM	20	110	67	77	129	43	54	74	10	61	107	65
2:45 PM - 3:00 PM	7	104	42	64	121	36	41	75	10	72	107	101
3:00 PM - 3:15 PM	23	124	53	70	95	41	62	88	8	50	97	84
3:15 PM - 3:30 PM	22	134	50	77	91	40	41	77	8	65	116	81
3:30 PM - 3:45 PM	24	128	44	70	121	39	51	77	10	62	129	120
3:45 PM - 4:00 PM	20	101	53	60	103	28	59	83	14	60	100	103
4:00 PM - 4:15 PM	19	126	54	84	124	37	45	75	10	57	125	91
4:15 PM - 4:30 PM	20	128	52	87	117	34	47	107	7	45	119	104
4:30 PM - 4:45 PM	15	133	58	77	112	30	57	92	13	61	111	103
4:45 PM - 5:00 PM	22	136	48	102	128	40	48	84	11	64	125	106
5:00 PM - 5:15 PM	17	148	70	108	129	40	73	105	10	78	150	149
5:15 PM - 5:30 PM	22	187	71	76	102	37	56	98	18	83	128	138
5:30 PM - 5:45 PM	30	145	41	87	124	39	39	102	9	65	154	146
5:45 PM - 6:00 PM	29	116	46	87	135	37	49	108	17	47	132	99
TOTAL	319	2,062	853	1,238	1,828	594	829	1,412	179	983	1,853	1,659
Peak Hour												
4:45 PM - 5:45 PM	**91**	**616**	**230**	**373**	**483**	**156**	**216**	**389**	**48**	**290**	**557**	**539**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection US 17-Woodland Blvd **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	2	0	2	2	2	0	3	0	0	2	4
7:15 AM - 7:30 AM	0	2	1	2	2	0	2	6	0	1	5	5
7:30 AM - 7:45 AM	0	3	0	1	1	2	3	11	1	1	2	2
7:45 AM - 8:00 AM	0	1	3	4	0	0	1	3	0	1	1	3
8:00 AM - 8:15 AM	0	1	3	5	3	0	2	4	0	1	4	3
8:15 AM - 8:30 AM	0	2	2	6	1	1	1	8	1	0	5	3
8:30 AM - 8:45 AM	0	1	3	9	1	2	0	4	0	2	4	3
8:45 AM - 9:00 AM	0	5	1	3	3	1	3	4	0	2	5	2
TOTAL	0	17	13	32	13	8	12	43	2	8	28	25
Peak Hour												
8:00 AM - 9:00 AM	**0**	**9**	**9**	**23**	**8**	**4**	**6**	**20**	**1**	**5**	**18**	**11**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	2	4	4	2	1	0	1	0	0	6	5
11:15 AM - 11:30 AM	0	1	1	3	3	1	3	2	0	2	3	2
11:30 AM - 11:45 AM	0	2	1	3	2	2	1	6	0	1	4	9
11:45 AM - 12:00 PM	0	3	5	6	4	0	3	6	0	0	1	6
12:00 PM - 12:15 PM	0	2	3	1	3	0	1	3	0	1	5	6
12:15 PM - 12:30 PM	1	2	4	2	2	1	1	1	0	1	4	5
12:30 PM - 12:45 PM	0	4	1	3	0	1	3	2	0	0	2	4
12:45 PM - 1:00 PM	1	2	2	2	0	0	2	2	0	3	1	5
TOTAL	2	18	21	24	16	6	14	23	0	8	26	42
Peak Hour												
11:30 AM - 12:30 PM	**1**	**9**	**13**	**12**	**11**	**3**	**6**	**16**	**0**	**3**	**14**	**26**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	2	0	2	3	0	2	7	1	2	3	5
2:15 PM - 2:30 PM	0	1	0	3	1	0	1	6	0	2	2	11
2:30 PM - 2:45 PM	1	4	1	4	5	2	2	4	0	2	3	9
2:45 PM - 3:00 PM	0	2	1	2	4	1	4	2	0	1	2	6
3:00 PM - 3:15 PM	0	5	1	1	4	0	0	4	0	0	3	6
3:15 PM - 3:30 PM	0	3	3	7	1	2	2	4	0	1	4	4
3:30 PM - 3:45 PM	0	1	4	5	2	1	0	4	1	3	5	3
3:45 PM - 4:00 PM	0	1	0	3	4	0	1	3	1	2	3	3
4:00 PM - 4:15 PM	0	2	2	2	1	1	5	2	0	0	2	5
4:15 PM - 4:30 PM	0	0	2	7	1	1	2	4	0	2	3	3
4:30 PM - 4:45 PM	0	3	0	6	1	1	1	4	0	0	2	2
4:45 PM - 5:00 PM	0	5	2	2	3	0	1	0	0	0	4	1
5:00 PM - 5:15 PM	2	1	1	1	1	0	1	1	0	2	2	1
5:15 PM - 5:30 PM	0	2	4	1	0	0	1	3	1	2	6	2
5:30 PM - 5:45 PM	0	0	0	3	0	3	1	2	0	0	0	3
5:45 PM - 6:00 PM	0	0	0	2	1	1	0	2	0	0	3	1
TOTAL	3	32	21	51	32	13	24	52	4	19	47	65
Peak Hour												
2:30 PM - 3:30 PM	**1**	**14**	**6**	**14**	**14**	**5**	**8**	**14**	**0**	**4**	**12**	**25**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Volusia	**City**	DeLand
Intersection	US 17-Woodland Blvd	**&**	US 92-Intn'l Speedway Blvd
Date	December 6, 2016		**U-Turns & RTOR**
		VHB Project #:	62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	22	1	0	6	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	22	0	0	11	0	0	1	0	0	0
7:30 AM - 7:45 AM	0	0	26	0	0	20	0	0	3	0	0	0
7:45 AM - 8:00 AM	0	0	31	0	0	6	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	34	0	0	11	0	0	1	0	0	0
8:15 AM - 8:30 AM	0	0	40	0	0	12	0	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	25	0	0	12	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	18	0	0	13	0	0	0	0	0	0
TOTAL	0	0	218	1	0	91	0	0	5	1	0	0
Peak Hour												
7:30 AM - 8:30 AM	**0**	**0**	**131**	**0**	**0**	**49**	**0**	**0**	**4**	**1**	**0**	**0**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	1	0	32	0	0	15	0	0	0	1	0	0
11:15 AM - 11:30 AM	1	0	40	0	0	12	0	0	2	1	0	0
11:30 AM - 11:45 AM	2	0	53	0	0	15	0	0	8	0	0	0
11:45 AM - 12:00 PM	0	0	53	0	0	13	0	0	1	1	0	0
12:00 PM - 12:15 PM	3	0	33	2	0	21	0	0	4	0	0	0
12:15 PM - 12:30 PM	1	0	41	0	0	13	0	0	3	1	0	0
12:30 PM - 12:45 PM	2	0	43	0	0	11	0	0	1	1	0	0
12:45 PM - 1:00 PM	2	0	35	1	0	21	0	0	2	1	0	0
TOTAL	12	0	330	3	0	121	0	0	21	6	0	0
Peak Hour												
11:30 AM - 12:30 PM	**6**	**0**	**180**	**2**	**0**	**62**	**0**	**0**	**16**	**2**	**0**	**0**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	32	0	0	14	0	0	2	0	0	0
2:15 PM - 2:30 PM	0	0	30	0	0	9	0	0	5	0	0	0
2:30 PM - 2:45 PM	1	0	35	1	0	14	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	31	1	0	10	0	0	0	0	0	0
3:00 PM - 3:15 PM	1	0	31	1	0	20	0	0	2	1	0	0
3:15 PM - 3:30 PM	2	0	29	1	0	16	0	0	3	0	0	0
3:30 PM - 3:45 PM	1	0	29	0	0	15	0	0	1	2	0	0
3:45 PM - 4:00 PM	0	0	40	0	0	16	0	0	3	3	0	0
4:00 PM - 4:15 PM	0	0	26	1	0	16	0	0	1	0	0	0
4:15 PM - 4:30 PM	0	0	32	4	0	9	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	30	0	0	18	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	35	3	0	18	0	0	3	0	0	0
5:00 PM - 5:15 PM	0	0	27	0	0	4	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	44	0	0	17	0	0	3	0	0	0
5:30 PM - 5:45 PM	0	0	29	1	0	21	0	0	1	1	0	0
5:45 PM - 6:00 PM	1	0	29	0	0	16	0	0	2	2	0	0
TOTAL	6	0	509	13	0	233	0	0	26	9	0	0
Peak Hour												
3:00 PM - 4:00 PM	**4**	**0**	**129**	**2**	**0**	**67**	**0**	**0**	**9**	**6**	**0**	**0**

Pedestrian & Bicycle Summary

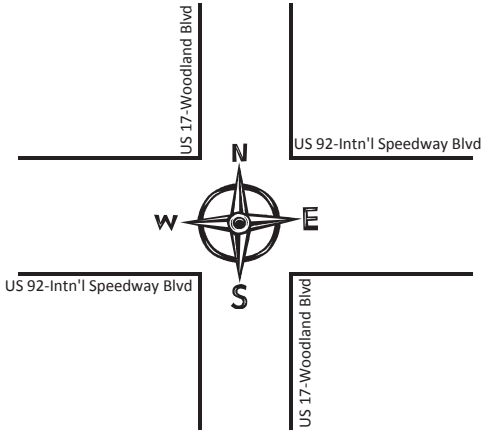
Project #: 62430.02 **NB/SB:** US 17-Woodland Blvd

Date: 12/6/2016 **EB/WB:** US 92-Intn'l Speedway Blvd

Hour

			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	1	0	**1**
		Ped	0	0	0	0	0	2	1	0	**3**
Westbound	◀	Bike	0	0	1	3	0	1	0	0	**5**
		Ped	1	0	1	2	2	1	6	3	**16**

	Southbound		Northbound		
Hour	Ped ▼	Bike	Ped ▲	Bike	
7:00	1	0	1	0	
8:00	1	0	0	0	
11:00	0	0	0	0	
12:00	3	0	0	0	
14:00	0	0	0	0	
15:00	3	0	0	0	
16:00	1	0	2	0	
17:00	1	0	2	0	
	10	**0**	**5**	**0**	



	Southbound		Northbound		
	Ped ▼	Bike	Ped ▲	Bike	Hour
1	4	0	0	0	7:00
2	2	0	1	0	8:00
3	0	0	0	0	11:00
4	0	0	2	0	12:00
5	0	0	0	0	14:00
6	0	0	3	0	15:00
7	0	0	3	0	16:00
8	0	0	0	0	17:00
	6	**0**	**9**	**0**	

			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	0	0	0	0	**0**
Westbound	◀	Bike	2	0	2	0	0	2	2	0	**8**
		Ped	3	4	1	1	2	0	1	1	**13**

Hour

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Amelia Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	8	5	11	5	7	7	5	243	6	9	128	9
7:15 AM - 7:30 AM	9	8	23	8	5	7	8	337	14	14	169	9
7:30 AM - 7:45 AM	11	15	27	5	7	12	14	223	11	27	185	12
7:45 AM - 8:00 AM	4	14	23	5	7	13	16	239	9	20	178	9
8:00 AM - 8:15 AM	10	15	25	5	10	17	12	236	6	15	144	14
8:15 AM - 8:30 AM	13	8	11	6	4	15	8	229	9	12	179	12
8:30 AM - 8:45 AM	8	12	17	8	9	12	21	127	9	11	159	4
8:45 AM - 9:00 AM	8	12	26	7	7	15	25	179	13	7	167	17
TOTAL	71	89	163	49	56	98	109	1,813	77	115	1,309	86
Peak Hour												
7:15 AM - 8:15 AM	**34**	**52**	**98**	**23**	**29**	**49**	**50**	**1,035**	**40**	**76**	**676**	**44**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	10	20	7	13	15	34	30	142	9	13	198	12
11:15 AM - 11:30 AM	11	28	24	19	12	36	27	150	8	20	184	22
11:30 AM - 11:45 AM	16	19	15	14	19	28	30	204	6	17	171	18
11:45 AM - 12:00 PM	11	20	18	16	16	26	39	208	13	26	184	19
12:00 PM - 12:15 PM	20	15	19	24	21	32	35	173	13	22	216	16
12:15 PM - 12:30 PM	12	19	22	19	23	25	32	183	16	20	182	21
12:30 PM - 12:45 PM	11	17	22	20	26	28	34	180	7	19	178	13
12:45 PM - 1:00 PM	7	16	21	17	12	28	19	165	7	17	183	12
TOTAL	98	154	148	142	144	237	246	1,405	79	154	1,496	133
Peak Hour												
11:30 AM - 12:30 PM	**59**	**73**	**74**	**73**	**79**	**111**	**136**	**768**	**48**	**85**	**753**	**74**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	20	14	17	22	16	27	26	154	7	19	183	20
2:15 PM - 2:30 PM	19	22	31	17	13	17	22	147	4	18	174	19
2:30 PM - 2:45 PM	12	26	23	18	16	38	36	196	10	11	175	30
2:45 PM - 3:00 PM	26	22	20	19	16	29	26	148	5	16	229	19
3:00 PM - 3:15 PM	13	23	15	28	22	26	25	165	10	10	220	20
3:15 PM - 3:30 PM	21	21	26	26	21	42	29	163	13	15	193	25
3:30 PM - 3:45 PM	20	19	17	23	25	35	23	169	6	23	261	23
3:45 PM - 4:00 PM	21	29	21	20	20	25	15	152	8	12	246	25
4:00 PM - 4:15 PM	22	19	16	26	19	24	33	188	11	13	215	19
4:15 PM - 4:30 PM	19	19	16	26	25	24	33	211	16	17	241	31
4:30 PM - 4:45 PM	26	20	29	33	34	36	32	190	10	25	209	18
4:45 PM - 5:00 PM	18	24	22	22	26	25	33	193	10	16	253	33
5:00 PM - 5:15 PM	21	28	22	24	33	57	22	248	7	27	308	29
5:15 PM - 5:30 PM	24	28	18	30	32	38	34	196	13	23	289	31
5:30 PM - 5:45 PM	18	27	23	34	24	34	26	200	9	22	271	48
5:45 PM - 6:00 PM	9	26	16	25	38	28	20	209	8	10	213	23
TOTAL	309	367	332	393	380	505	435	2,929	147	277	3,680	413
Peak Hour												
4:45 PM - 5:45 PM	**81**	**107**	**85**	**110**	**115**	**154**	**115**	**837**	**39**	**88**	**1,121**	**141**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Amelia Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	3	0	0	7	1
7:15 AM - 7:30 AM	0	1	0	0	0	1	2	7	0	0	11	1
7:30 AM - 7:45 AM	0	1	0	0	0	2	0	8	0	0	2	0
7:45 AM - 8:00 AM	0	0	0	0	0	1	1	13	0	0	5	0
8:00 AM - 8:15 AM	0	0	2	0	0	0	0	8	0	1	8	1
8:15 AM - 8:30 AM	0	0	1	1	0	0	1	15	0	0	6	1
8:30 AM - 8:45 AM	0	1	1	1	0	0	2	10	1	1	12	0
8:45 AM - 9:00 AM	0	1	0	2	0	1	2	12	1	2	6	2
TOTAL	0	4	4	4	0	5	8	76	2	4	57	6
Peak Hour												
8:00 AM - 9:00 AM	**0**	**2**	**4**	**4**	**0**	**1**	**5**	**45**	**2**	**4**	**32**	**4**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	1	0	2	1	8	0	0	8	0
11:15 AM - 11:30 AM	0	1	0	0	0	0	0	5	1	0	12	1
11:30 AM - 11:45 AM	0	2	0	0	0	0	2	8	0	0	15	0
11:45 AM - 12:00 PM	0	0	1	1	0	1	1	13	0	1	8	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	9	0	1	15	0
12:15 PM - 12:30 PM	0	1	0	0	0	0	0	10	0	0	9	1
12:30 PM - 12:45 PM	0	0	1	0	0	1	2	7	0	2	7	0
12:45 PM - 1:00 PM	0	0	0	1	0	0	0	6	0	1	7	0
TOTAL	0	4	2	3	0	4	6	66	1	5	81	2
Peak Hour												
11:30 AM - 12:30 PM	**0**	**3**	**1**	**1**	**0**	**1**	**3**	**40**	**0**	**2**	**47**	**1**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	1	0	3	2	1	1	9	0	0	8	0
2:15 PM - 2:30 PM	0	1	0	0	0	0	1	11	0	0	17	2
2:30 PM - 2:45 PM	1	1	0	1	0	3	2	10	0	1	10	0
2:45 PM - 3:00 PM	2	1	0	0	1	1	1	5	0	0	9	1
3:00 PM - 3:15 PM	1	0	0	1	1	0	0	5	0	0	9	0
3:15 PM - 3:30 PM	0	2	0	0	0	1	2	9	0	0	8	1
3:30 PM - 3:45 PM	0	0	0	1	0	2	1	10	0	0	10	1
3:45 PM - 4:00 PM	0	1	0	2	0	0	0	6	0	1	10	0
4:00 PM - 4:15 PM	1	0	0	0	0	0	0	5	1	1	4	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	2	11	0	0	8	2
4:30 PM - 4:45 PM	0	0	1	1	2	0	0	10	0	0	4	0
4:45 PM - 5:00 PM	0	0	0	0	0	1	1	4	0	0	2	1
5:00 PM - 5:15 PM	0	0	0	1	1	1	0	2	0	0	5	0
5:15 PM - 5:30 PM	0	0	0	0	0	1	1	5	1	0	9	0
5:30 PM - 5:45 PM	0	1	0	1	0	0	1	7	0	0	3	2
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	4	0	0	1	0
TOTAL	5	8	1	11	7	11	13	113	2	3	117	10
Peak Hour												
2:00 PM - 3:00 PM	**3**	**4**	**0**	**4**	**3**	**5**	**5**	**35**	**0**	**1**	**44**	**3**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Volusia	**City**	DeLand
Intersection	Amelia Ave	**&**	US 92-Intn'l Speedway Blvd
Date	December 6, 2016		**U-Turns & RTOR**
		VHB Project #:	62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	3	0	0	4	0	0	1	0	0	2
7:15 AM - 7:30 AM	0	0	2	0	0	4	0	0	1	0	0	1
7:30 AM - 7:45 AM	0	0	11	0	0	1	2	0	2	0	0	1
7:45 AM - 8:00 AM	0	0	7	0	0	6	4	0	3	1	0	2
8:00 AM - 8:15 AM	0	0	11	0	0	1	0	0	0	0	0	5
8:15 AM - 8:30 AM	0	0	7	0	0	5	1	0	0	0	0	2
8:30 AM - 8:45 AM	0	0	8	0	0	2	0	0	4	1	0	1
8:45 AM - 9:00 AM	0	0	12	0	0	0	2	0	1	0	0	4
TOTAL	0	0	61	0	0	23	9	0	12	2	0	18
Peak Hour												
7:30 AM - 8:30 AM	**0**	**0**	**36**	**0**	**0**	**13**	**7**	**0**	**5**	**1**	**0**	**10**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	2	0	0	10	2	0	8	1	0	6
11:15 AM - 11:30 AM	0	0	10	0	0	11	0	0	7	2	0	4
11:30 AM - 11:45 AM	0	0	4	0	0	12	5	0	3	2	0	6
11:45 AM - 12:00 PM	0	0	1	0	0	11	4	0	8	4	0	8
12:00 PM - 12:15 PM	0	0	2	0	0	8	3	0	13	4	0	3
12:15 PM - 12:30 PM	0	0	3	0	0	13	3	0	14	4	0	6
12:30 PM - 12:45 PM	0	0	1	0	0	5	1	0	4	3	0	7
12:45 PM - 1:00 PM	0	0	3	0	0	20	1	0	6	7	0	6
TOTAL	0	0	26	0	0	90	19	0	63	27	0	46
Peak Hour												
11:30 AM - 12:30 PM	**0**	**0**	**10**	**0**	**0**	**44**	**15**	**0**	**38**	**14**	**0**	**23**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	12	0	0	8	2	0	6	1	0	11
2:15 PM - 2:30 PM	0	0	16	0	0	5	5	0	2	0	0	3
2:30 PM - 2:45 PM	0	0	3	0	0	16	1	0	6	0	0	15
2:45 PM - 3:00 PM	0	0	6	0	0	9	2	0	4	2	0	8
3:00 PM - 3:15 PM	0	0	3	0	0	5	1	0	8	1	0	11
3:15 PM - 3:30 PM	0	0	5	0	0	12	1	0	10	0	0	7
3:30 PM - 3:45 PM	0	0	3	0	0	4	0	0	6	2	0	9
3:45 PM - 4:00 PM	0	0	1	0	0	9	1	0	6	0	0	5
4:00 PM - 4:15 PM	0	0	2	0	0	10	2	0	7	1	0	8
4:15 PM - 4:30 PM	0	0	8	0	0	6	2	0	9	1	0	11
4:30 PM - 4:45 PM	0	0	8	0	0	1	1	0	6	0	0	15
4:45 PM - 5:00 PM	0	0	7	0	0	15	3	0	8	0	0	9
5:00 PM - 5:15 PM	0	0	4	0	0	21	0	0	4	1	0	21
5:15 PM - 5:30 PM	0	0	7	0	0	11	1	0	9	3	0	18
5:30 PM - 5:45 PM	0	0	2	0	0	11	3	0	6	2	0	18
5:45 PM - 6:00 PM	0	0	3	0	0	10	0	0	7	1	0	7
TOTAL	0	0	90	0	0	153	25	0	104	15	0	176
Peak Hour												
4:45 PM - 5:45 PM	**0**	**0**	**20**	**0**	**0**	**58**	**7**	**0**	**27**	**6**	**0**	**66**

Pedestrian & Bicycle Summary

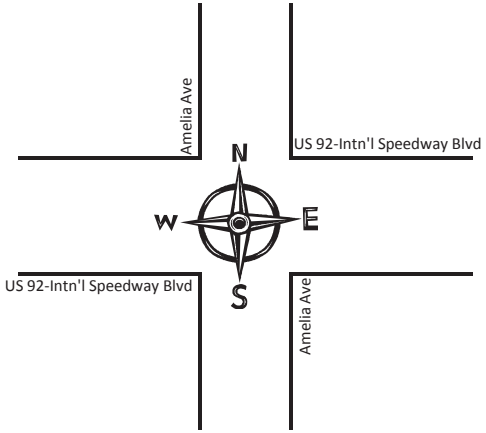
Project #: 62430.02 **NB/SB:** Amelia Ave

Date: 12/6/2016 **EB/WB:** US 92-Intn'l Speedway Blvd

Hour

			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	0	1	**1**
		Ped	0	2	1	2	3	0	1	1	**10**
Westbound	◀	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	0	1	0	0	**1**

Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike
7:00	0	0	0	0
8:00	1	0	0	0
11:00	1	0	0	0
12:00	1	0	3	0
14:00	1	0	3	0
15:00	0	0	0	0
16:00	1	0	0	0
17:00	0	0	0	0
	5	**0**	**6**	**0**



Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike	Hour
1	0	0	0	0	7:00
2	2	0	0	0	8:00
3	0	0	0	0	11:00
4	0	0	0	0	12:00
5	1	0	0	0	14:00
6	0	0	1	0	15:00
7	1	0	0	0	16:00
8	1	0	0	0	17:00
	5	**0**	**1**	**0**	

			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	0	1	2	1	**4**
Westbound	◀	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	0	0	0	0	**0**

Hour

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	6	7	252	0	1	138	1
7:15 AM - 7:30 AM	0	0	1	0	0	6	11	356	0	1	184	4
7:30 AM - 7:45 AM	0	0	0	0	0	6	11	246	0	2	248	3
7:45 AM - 8:00 AM	0	0	0	0	0	5	5	262	0	1	180	4
8:00 AM - 8:15 AM	0	0	1	0	0	11	14	263	0	1	176	5
8:15 AM - 8:30 AM	0	0	1	0	0	16	14	218	0	2	175	7
8:30 AM - 8:45 AM	0	0	0	0	0	13	10	142	0	5	179	6
8:45 AM - 9:00 AM	0	0	1	0	0	18	25	190	0	0	154	4
TOTAL	0	0	4	0	0	81	97	1,929	0	13	1,434	34
Peak Hour												
7:15 AM - 8:15 AM	**0**	**0**	**2**	**0**	**0**	**28**	**41**	**1,127**	**0**	**5**	**788**	**16**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	38	24	140	1	0	177	13
11:15 AM - 11:30 AM	0	0	0	0	0	23	15	184	0	0	204	4
11:30 AM - 11:45 AM	0	0	0	0	0	25	26	203	0	0	200	4
11:45 AM - 12:00 PM	0	0	3	0	0	26	24	216	0	3	188	6
12:00 PM - 12:15 PM	0	0	0	0	0	27	14	217	0	1	239	7
12:15 PM - 12:30 PM	0	0	1	0	0	25	25	190	0	0	206	5
12:30 PM - 12:45 PM	0	0	0	0	0	23	15	207	0	0	165	6
12:45 PM - 1:00 PM	0	0	1	0	0	19	16	201	0	0	208	10
TOTAL	0	0	5	0	0	206	159	1,558	1	4	1,587	55
Peak Hour												
11:30 AM - 12:30 PM	**0**	**0**	**4**	**0**	**0**	**103**	**89**	**826**	**0**	**4**	**833**	**22**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	2	0	0	27	23	172	0	1	191	4
2:15 PM - 2:30 PM	0	0	4	0	0	20	20	193	0	1	175	3
2:30 PM - 2:45 PM	0	0	2	0	0	22	30	195	0	0	212	5
2:45 PM - 3:00 PM	0	0	2	0	0	29	15	172	0	2	221	2
3:00 PM - 3:15 PM	0	0	1	0	0	25	13	208	0	1	236	10
3:15 PM - 3:30 PM	0	0	1	0	0	21	20	203	0	0	214	7
3:30 PM - 3:45 PM	0	0	0	0	0	30	20	199	0	0	264	9
3:45 PM - 4:00 PM	0	0	0	0	0	32	18	191	0	3	259	11
4:00 PM - 4:15 PM	0	0	2	0	0	11	11	213	0	0	246	2
4:15 PM - 4:30 PM	0	0	2	0	0	23	17	230	1	2	236	7
4:30 PM - 4:45 PM	0	0	0	0	0	17	20	229	0	1	273	6
4:45 PM - 5:00 PM	0	0	1	0	0	32	25	213	0	1	267	8
5:00 PM - 5:15 PM	0	0	3	0	0	32	9	295	0	1	348	6
5:15 PM - 5:30 PM	0	0	2	0	0	22	13	236	0	1	333	8
5:30 PM - 5:45 PM	0	0	0	0	0	14	10	238	0	0	334	8
5:45 PM - 6:00 PM	0	0	2	0	0	17	10	243	0	0	235	3
TOTAL	0	0	24	0	0	374	274	3,430	1	14	4,044	99
Peak Hour												
4:45 PM - 5:45 PM	**0**	**0**	**6**	**0**	**0**	**100**	**57**	**982**	**0**	**3**	**1,282**	**30**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	3	0	0	7	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	5	0	0	10	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	9	0	0	5	0
7:45 AM - 8:00 AM	0	0	0	0	0	1	0	13	0	0	4	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	1	10	0	0	10	0
8:15 AM - 8:30 AM	0	0	1	0	0	1	0	12	0	0	7	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	13	0	0	12	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	12	0	0	12	0
TOTAL	0	0	1	0	0	2	1	77	0	0	67	0
Peak Hour												
7:15 AM - 8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**37**	**0**	**0**	**29**	**0**
			0%			4%	2%	3%		0%	4%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	10	0	0	8	1
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	5	0	0	12	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	10	0	0	18	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	14	0	1	6	1
12:00 PM - 12:15 PM	0	0	0	0	0	0	1	10	0	0	13	0
12:15 PM - 12:30 PM	0	0	0	0	0	1	0	9	0	0	8	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	9	0	0	8	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	7	0	0	11	0
TOTAL	0	0	0	0	0	1	1	74	0	1	84	2
Peak Hour												
11:30 AM - 12:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**43**	**0**	**1**	**45**	**1**
			0%			1%	1%	5%		25%	5%	5%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	9	0	0	7	0
2:15 PM - 2:30 PM	0	0	0	0	0	1	1	8	0	0	18	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	9	0	0	11	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	4	0	0	10	0
3:00 PM - 3:15 PM	0	0	1	0	0	1	0	8	0	1	8	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	1	11	0	0	8	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	13	0	0	11	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	7	0	0	11	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	4	0	0	6	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	12	0	0	10	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	1	10	0	0	6	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	3	0	0	3	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	3	0	0	4	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	1	4	0	0	11	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	8	0	0	3	0
5:45 PM - 6:00 PM	0	0	1	0	0	0	0	4	0	0	1	0
TOTAL	0	0	2	0	0	2	4	117	0	1	128	0
Peak Hour												
4:45 PM - 5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**18**	**0**	**0**	**21**	**0**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Lowes Driveway **&** US 92 - Intn'l Speedway Blvd

Date December 6, 2016 **U-Turns & RTOR**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	3	0	0	2	0	0
TOTAL	0	0	0	0	0	0	8	0	0	5	0	0
Peak Hour												
8:00 AM - 9:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**4**	**0**	**0**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	4	0	0	1	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	2	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	4	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	1	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	13	0	0	3	0	0
Peak Hour												
11:00 AM - 12:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**1**	**0**	**0**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	4	0	0	2	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	4	0	0	1	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	4	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	2	0	0	2	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	5	0	0	3	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	2	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	2	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	2	0	0	1	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	2	0	0	2	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	1	0	0	2	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	2	0	0
TOTAL	0	0	0	0	0	0	34	0	0	19	0	0
Peak Hour												
2:15 PM - 3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**6**	**0**	**0**

Pedestrian & Bicycle Summary

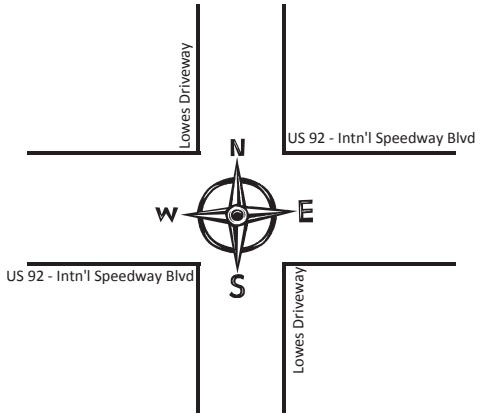
Project #: 62430.02
Date: 12/6/2016

NB/SB: Lowes Driveway
EB/WB: US 92 - Intn'l Speedway Blvd

Hour

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	▶ Bike	0	0	0	0	0	0	0	0	**0**
	Ped	0	0	0	0	0	0	0	0	**0**
Westbound	◀ Bike	0	0	0	0	0	0	0	0	**0**
	Ped	0	0	0	0	0	0	0	0	**0**

Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	1	0	0	0
12:00	3	0	3	0
14:00	0	1	0	0
15:00	1	0	0	0
16:00	2	0	1	0
17:00	0	2	1	0
	7	**3**	**5**	**0**



Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike	Hour
7:00	0	1	0	0	7:00
8:00	0	0	1	0	8:00
11:00	0	1	0	0	11:00
12:00	0	0	0	0	12:00
14:00	2	1	0	0	14:00
15:00	0	0	1	0	15:00
16:00	0	0	0	0	16:00
17:00	1	1	0	0	17:00
	3	**4**	**2**	**0**	

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
Eastbound	▶ Bike	0	0	0	0	0	0	0	0	**0**
	Ped	1	0	0	0	0	0	0	0	**1**
Westbound	◀ Bike	0	0	0	0	0	0	0	0	**0**
	Ped	0	0	0	0	0	0	0	0	**0**

Hour

	7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
	1	2	3	4	5	6	7	8

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Garfield Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **All Vehicles**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	10	4	22	9	1	3	6	221	20	18	115	16
7:15 AM - 7:30 AM	11	10	27	10	3	1	5	321	17	22	180	20
7:30 AM - 7:45 AM	8	16	16	12	1	4	11	234	19	13	215	18
7:45 AM - 8:00 AM	10	14	13	12	2	4	4	235	9	25	187	33
8:00 AM - 8:15 AM	8	7	17	11	6	2	5	240	23	20	170	20
8:15 AM - 8:30 AM	16	8	22	17	5	4	3	207	16	23	171	21
8:30 AM - 8:45 AM	15	10	21	17	5	6	3	131	14	8	161	14
8:45 AM - 9:00 AM	7	9	12	12	5	7	3	175	8	15	158	19
TOTAL	85	78	150	100	28	31	40	1,764	126	144	1,357	161
Peak Hour												
7:15 AM - 8:15 AM	**37**	**47**	**73**	**45**	**12**	**11**	**25**	**1,030**	**68**	**80**	**752**	**91**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	11	11	10	17	7	6	5	116	11	10	165	11
11:15 AM - 11:30 AM	12	10	12	11	4	5	9	173	14	12	199	22
11:30 AM - 11:45 AM	12	9	13	16	10	9	8	183	16	17	183	16
11:45 AM - 12:00 PM	11	10	10	13	11	14	15	174	13	21	168	22
12:00 PM - 12:15 PM	8	5	8	18	6	16	6	194	12	24	222	24
12:15 PM - 12:30 PM	18	7	6	15	6	14	18	168	10	19	181	26
12:30 PM - 12:45 PM	7	5	9	16	5	13	6	181	10	18	150	9
12:45 PM - 1:00 PM	10	8	6	11	6	9	8	168	19	8	203	15
TOTAL	89	65	74	117	55	86	75	1,357	105	129	1,471	145
Peak Hour												
11:30 AM - 12:30 PM	**49**	**31**	**37**	**62**	**33**	**53**	**47**	**719**	**51**	**81**	**754**	**88**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	8	9	11	15	6	8	8	139	13	14	169	14
2:15 PM - 2:30 PM	6	11	16	15	9	6	7	170	17	9	173	27
2:30 PM - 2:45 PM	11	13	5	25	7	10	4	189	11	16	191	16
2:45 PM - 3:00 PM	12	14	10	16	8	16	12	151	9	16	197	27
3:00 PM - 3:15 PM	5	12	7	20	7	11	6	172	16	13	218	18
3:15 PM - 3:30 PM	9	8	15	15	12	17	18	192	16	19	192	22
3:30 PM - 3:45 PM	11	11	8	15	6	10	5	173	9	15	258	16
3:45 PM - 4:00 PM	9	12	5	14	5	7	10	178	10	12	244	21
4:00 PM - 4:15 PM	7	11	4	21	13	16	5	197	12	18	234	27
4:15 PM - 4:30 PM	12	8	10	21	7	12	9	210	11	13	223	17
4:30 PM - 4:45 PM	12	8	7	27	1	9	3	204	5	22	256	13
4:45 PM - 5:00 PM	13	14	10	24	9	12	11	184	10	17	241	19
5:00 PM - 5:15 PM	11	14	5	40	21	16	13	257	15	24	335	21
5:15 PM - 5:30 PM	11	9	7	19	12	19	8	233	14	21	300	16
5:30 PM - 5:45 PM	10	9	14	29	13	9	10	233	10	18	325	10
5:45 PM - 6:00 PM	4	10	6	14	7	3	9	208	11	13	217	12
TOTAL	151	173	140	330	143	181	138	3,090	189	260	3,773	296
Peak Hour												
4:45 PM - 5:45 PM	**45**	**46**	**36**	**112**	**55**	**56**	**42**	**907**	**49**	**80**	**1,201**	**66**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia **City** DeLand

Intersection Garfield Ave **&** US 92-Intn'l Speedway Blvd

Date December 6, 2016 **Trucks**

VHB Project #: 62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	2	0	0	0	3	0	1	4	0
7:15 AM - 7:30 AM	0	0	0	1	1	0	1	7	0	1	10	1
7:30 AM - 7:45 AM	0	0	0	4	0	0	0	8	0	1	3	0
7:45 AM - 8:00 AM	0	1	1	0	0	0	0	10	1	0	5	0
8:00 AM - 8:15 AM	0	0	0	0	0	1	0	8	1	0	10	1
8:15 AM - 8:30 AM	0	0	0	0	0	1	1	14	0	0	6	1
8:30 AM - 8:45 AM	0	0	1	4	0	1	1	12	0	0	12	1
8:45 AM - 9:00 AM	0	0	0	1	0	2	0	12	0	0	10	1
TOTAL	0	1	2	12	1	5	3	74	2	3	60	5
Peak Hour												
8:00 AM - 9:00 AM	**0**	**0**	**1**	**5**	**0**	**5**	**2**	**46**	**1**	**0**	**38**	**4**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	8	0	1	8	1
11:15 AM - 11:30 AM	1	0	0	0	0	0	0	7	0	0	12	1
11:30 AM - 11:45 AM	0	0	0	2	0	1	0	10	0	1	16	1
11:45 AM - 12:00 PM	0	0	0	1	0	0	1	13	0	0	8	1
12:00 PM - 12:15 PM	0	0	0	1	0	3	1	8	0	0	12	1
12:15 PM - 12:30 PM	0	0	0	1	0	0	1	9	0	0	8	1
12:30 PM - 12:45 PM	0	1	1	1	0	0	0	6	1	0	8	0
12:45 PM - 1:00 PM	0	0	0	3	0	0	1	7	0	1	13	0
TOTAL	1	1	1	10	0	4	4	68	1	3	85	6
Peak Hour												
11:15 AM - 12:15 PM	**1**	**0**	**0**	**4**	**0**	**4**	**2**	**38**	**0**	**1**	**48**	**4**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	1	0	0	1	8	1	1	6	1
2:15 PM - 2:30 PM	0	1	0	2	0	0	0	10	1	0	16	2
2:30 PM - 2:45 PM	0	0	0	1	0	0	0	11	0	0	10	0
2:45 PM - 3:00 PM	0	0	2	0	0	0	0	5	1	0	8	5
3:00 PM - 3:15 PM	1	0	1	1	0	0	1	6	0	0	8	1
3:15 PM - 3:30 PM	0	0	0	1	0	1	0	11	0	0	6	1
3:30 PM - 3:45 PM	0	0	1	2	0	1	0	10	0	0	10	1
3:45 PM - 4:00 PM	0	0	0	0	0	1	0	11	0	0	8	2
4:00 PM - 4:15 PM	0	0	1	0	0	0	0	5	0	1	6	1
4:15 PM - 4:30 PM	1	0	0	0	0	2	2	9	1	0	7	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	8	0	0	5	0
4:45 PM - 5:00 PM	0	0	0	0	0	1	0	5	0	0	2	0
5:00 PM - 5:15 PM	0	1	0	0	0	1	0	3	0	0	3	0
5:15 PM - 5:30 PM	0	0	0	0	0	2	1	3	0	0	9	0
5:30 PM - 5:45 PM	0	0	0	2	0	1	0	8	0	0	2	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	5	0	0	1	0
TOTAL	2	2	5	11	0	10	5	118	4	2	107	14
Peak Hour												
2:00 PM - 3:00 PM	**0**	**1**	**2**	**4**	**0**	**0**	**1**	**34**	**3**	**1**	**40**	**8**

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Volusia	**City**	DeLand
Intersection	Garfield Ave	**&**	US 92-Intn'l Speedway Blvd
Date	December 6, 2016		**U-Turns & RTOR**
		VHB Project #:	62430.02

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	13	0	0	2	3	0	1	2	0	3
7:15 AM - 7:30 AM	0	0	10	0	0	0	1	0	2	3	0	4
7:30 AM - 7:45 AM	0	0	3	0	0	3	8	0	1	1	0	3
7:45 AM - 8:00 AM	0	0	4	0	0	3	1	0	0	4	0	10
8:00 AM - 8:15 AM	0	0	4	0	0	0	2	0	6	2	0	4
8:15 AM - 8:30 AM	0	0	5	0	0	2	1	0	3	2	0	6
8:30 AM - 8:45 AM	0	0	3	0	0	3	0	0	2	1	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	3	1	0	1	3	0	3
TOTAL	0	0	42	0	0	16	17	0	16	18	0	34
Peak Hour												
7:00 AM - 8:00 AM	**0**	**0**	**30**	**0**	**0**	**8**	**13**	**0**	**4**	**10**	**0**	**20**

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	1	0	0	5	3	0	0	3	0	1
11:15 AM - 11:30 AM	0	0	5	0	0	5	2	0	3	1	0	7
11:30 AM - 11:45 AM	0	0	3	0	0	6	1	0	2	13	0	3
11:45 AM - 12:00 PM	0	0	1	0	0	11	1	0	4	9	0	7
12:00 PM - 12:15 PM	0	0	2	0	0	10	0	0	4	8	0	5
12:15 PM - 12:30 PM	0	0	1	0	0	6	1	0	2	5	0	8
12:30 PM - 12:45 PM	0	0	4	0	0	7	0	0	0	4	0	1
12:45 PM - 1:00 PM	0	0	3	0	0	7	0	0	3	3	0	3
TOTAL	0	0	20	0	0	57	8	0	18	46	0	35
Peak Hour												
11:15 AM - 12:15 PM	**0**	**0**	**11**	**0**	**0**	**32**	**4**	**0**	**13**	**31**	**0**	**22**

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	5	0	0	6	1	0	4	3	0	2
2:15 PM - 2:30 PM	0	0	5	0	0	1	1	0	2	3	0	6
2:30 PM - 2:45 PM	0	0	0	0	0	8	0	0	2	7	0	3
2:45 PM - 3:00 PM	0	0	0	0	0	12	2	0	0	3	0	7
3:00 PM - 3:15 PM	0	0	0	0	0	9	1	0	7	4	0	0
3:15 PM - 3:30 PM	0	0	9	0	0	3	8	0	4	4	0	2
3:30 PM - 3:45 PM	0	0	5	0	0	8	0	0	2	4	0	2
3:45 PM - 4:00 PM	0	0	0	0	0	4	0	0	1	1	0	0
4:00 PM - 4:15 PM	0	0	1	0	0	8	1	0	1	3	0	9
4:15 PM - 4:30 PM	0	0	2	0	0	10	1	0	1	2	0	0
4:30 PM - 4:45 PM	0	0	1	0	0	8	0	0	1	8	0	4
4:45 PM - 5:00 PM	0	0	3	0	0	5	2	0	2	1	0	2
5:00 PM - 5:15 PM	0	0	3	0	0	4	2	0	3	4	0	8
5:15 PM - 5:30 PM	0	0	2	0	0	9	3	0	1	1	0	5
5:30 PM - 5:45 PM	0	0	6	0	0	3	3	0	1	5	0	2
5:45 PM - 6:00 PM	0	0	4	0	0	2	2	0	1	5	0	0
TOTAL	0	0	46	0	0	100	27	0	33	58	0	52
Peak Hour												
2:45 PM - 3:45 PM	**0**	**0**	**14**	**0**	**0**	**32**	**11**	**0**	**13**	**15**	**0**	**11**

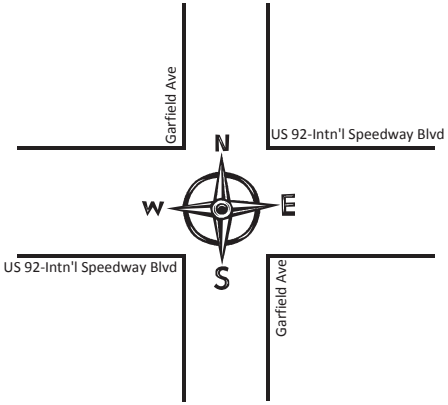
Pedestrian & Bicycle Summary

Project #: 62430.02 **NB/SB:** Garfield Ave

Date: 12/6/2016 **EB/WB:** US 92-Intn'l Speedway Blvd

			Hour								
			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	
Eastbound	▶	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	1	0	1	0	0	0	3	1	**6**
Westbound	◀	Bike	1	1	0	0	0	0	0	0	**2**
		Ped	0	0	0	0	1	0	0	0	**1**

	Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike
1	7:00	1	0	0	1
2	8:00	0	0	0	0
3	11:00	1	0	0	0
4	12:00	0	0	0	0
5	14:00	0	0	0	0
6	15:00	1	0	0	0
7	16:00	0	0	0	0
8	17:00	0	1	1	0
		3	**1**	**1**	**1**



	Hour	Southbound Ped ▼	Southbound Bike	Northbound Ped ▲	Northbound Bike	
1	7:00	0	0	0	0	1
2	8:00	1	0	0	0	2
3	11:00	0	0	0	0	3
4	12:00	0	0	0	0	4
5	14:00	1	0	0	0	5
6	15:00	0	0	2	0	6
7	16:00	3	0	0	0	7
8	17:00	0	0	1	0	8
		5	**0**	**3**	**0**	

Eastbound	▶	Bike	0	0	0	0	0	2	0	0	**2**
		Ped	0	0	0	0	1	0	0	1	**2**
Westbound	◀	Bike	0	0	0	0	0	0	0	0	**0**
		Ped	0	0	0	0	1	0	0	0	**1**
			7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
			1	2	3	4	5	6	7	8	

22 **6** Hour

TRAFFIC COUNT DATA

VHB PROJECT NO: 62393.02
LOCATION CODE: 1
COUNT LOCATION: US 92 WB Approach of US 17 intersection (between US 17 and Alabama)
EQUIPMENT ID: P250

TYPE OF COUNT: 72 Hour Classification Count

TIME OF COUNT:

Start Date:	12/6/2016	Start Time:	Midnight
End Date:	12/9/2016	End Time:	Midnight

VOLUMES:

		Peak Hour Start Time:	4:45 PM
Average Daily:	12,144	Average Peak Hour:	1,118
Daily Truck Avg:	1,472	Max Hour Truck Avg:	142
		Peak Hour Truck Avg:	137

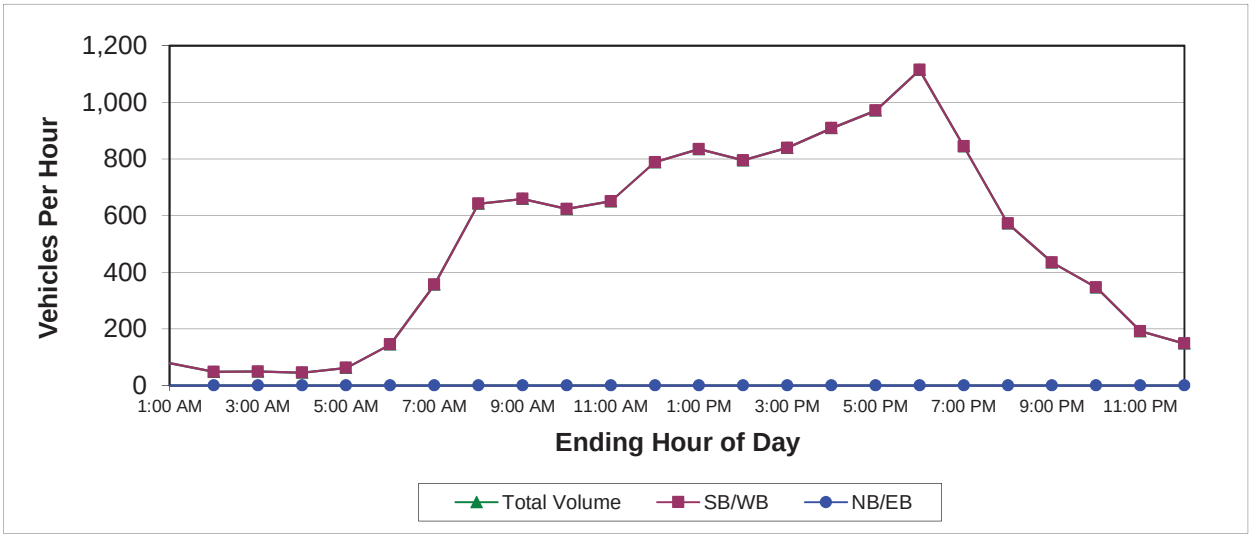
TRAVEL CHARACTERISTICS:

K MEASURED		D MEASURED	
K=	9.2%	D=	100.0%
T Max Hour	12.7%	T daily	12.1%
T med (max)	6.9%	T med Daily	7.5%
T heavy (max)	5.8%	T heavy Daily	4.6%
T Peak Hour	12.2%		
T med Peak Hour	6.5%		
T heavy Peak Hour	5.8%		

HOURLY DISTRIBUTIONS OF TRAFFIC VOLUMES

VHB PROJECT NO: 62393.02
LOCATION CODE: 1
COUNT LOCATION: US 92 WB Approach of US 17 intersection (between US 17 and Alabama)
EQUIPMENT ID: P250

HOUR ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS	DISTRIBUTION PERCENT DIRECTION (NB OR EB)	DISTRIBUTION PERCENT DIRECTION (SB OR WB)	TOTAL PERCENT BOTH DIRECTIONS
1:00 AM	0	78	78		0.65%	0.65%
2:00 AM	0	48	48		0.39%	0.39%
3:00 AM	0	49	49		0.40%	0.40%
4:00 AM	0	45	45		0.37%	0.37%
5:00 AM	0	62	62		0.51%	0.51%
6:00 AM	0	145	145		1.19%	1.19%
7:00 AM	0	356	356		2.93%	2.93%
8:00 AM	0	642	642		5.28%	5.28%
9:00 AM	0	659	659		5.42%	5.42%
10:00 AM	0	623	623		5.13%	5.13%
11:00 AM	0	651	651		5.36%	5.36%
12:00 PM	0	788	788		6.49%	6.49%
1:00 PM	0	835	835		6.87%	6.87%
2:00 PM	0	795	795		6.55%	6.55%
3:00 PM	0	839	839		6.91%	6.91%
4:00 PM	0	908	908		7.48%	7.48%
5:00 PM	0	971	971		7.99%	7.99%
6:00 PM	0	1,114	1,114		9.18%	9.18%
7:00 PM	0	845	845		6.96%	6.96%
8:00 PM	0	572	572		4.71%	4.71%
9:00 PM	0	434	434		3.58%	3.58%
10:00 PM	0	347	347		2.85%	2.85%
11:00 PM	0	192	192		1.58%	1.58%
12:00 AM	0	148	148		1.22%	1.22%
TOTALS	0	12,144	12,144		100.0%	100.0%



ANNUAL VEHICLE CLASSIFICATION REPORT

VHB PROJECT NO: 62393.02
LOCATION CODE: 1
COUNT LOCATION: US 92 WB Approach of US 17 intersection (between US 17 and Alabama)
EQUIPMENT ID: P250

Vehicle Classification	Vehicle Type	Average Daily Statistics	
		Volume	Percentage
Class 1	Motorcycles	206	1.13%
Class 2	Cars	12,942	71.03%
Class 3	Pick-Ups & Vans	2,862	15.71%
Class 4	Buses	107	0.59%
Class 5	2 Axle, Single Unit Trucks	1,260	6.92%
Class 6	3 Axle, Single Unit Trucks	338	1.86%
Class 7	4 Axle, Single Unit Trucks	104	0.57%
Class 8	2 Axle Trctr with 1 or 2 Axle Trlr, 3 Axle Trctr with 1 Axle	114	0.63%
Class 9	3 Axle Tractor with 2 Axle Trailer	126	0.69%
Class 10	3 Axle Tractor with 3 Axle Trailer	13	0.07%
Class 11	5 Axle Multi Trailer	62	0.34%
Class 12	6 Axle Multi Trailer	35	0.19%
Class 13	7 or more Axles	52	0.29%
Class 14	Not Used	0	0.00%
Class 15	Other	0	0.00%
TOTALS		**18,221**	**100.00%**

US 92/International Speedway Boulevard at US 17/Woodland Boulevard

Exhibit 1: Looking west towards the intersection on WB US 92

Exhibit 2: Looking east away from the intersection on WB US 92

US 92/International Speedway Boulevard at US 17/Woodland Boulevard

Exhibit 3: Looking east towards the intersection on EB US 92

Exhibit 4: Looking west away from the intersection on EB US 92

US 92/International Speedway Boulevard at US 17/Woodland Boulevard

Exhibit 5: Looking north towards the intersection on NB US 17/Woodland Boulevard

Exhibit 6: Looking south away from the intersection on NB US 17/Woodland Boulevard

US 92/International Speedway Boulevard at US 17/Woodland Boulevard

Exhibit 7: Looking south towards the intersection on SB US 17/Woodland Boulevard

Exhibit 8: Looking north towards the intersection on SB US 17/Woodland Boulevard

APPENDIX D: Crash Data

US 92/International Speedway Blvd from US 17/Woodland Blvd to Garfield Ave - Crash Summary
(Jan 1, 2013 - Dec 31, 2015)

#	Crash ID	Date	Time	Crash Type	Fatalities	Injuries	Property Damage	Day/Night	Wet/Dry
US 92/International Speedway Blvd & US 17/Woodland Blvd									
A1	11278992	3/4/2014	7:47 PM	Rear End	0	0	$0	Unknown	Unknown
A2	11682048	6/18/2013	9:22 AM	Left Turn	0	0	$600	Daylight	Dry
A3	11682057	1/4/2013	5:50 PM	Rear End	0	0	$0	Unknown	Unknown
A4	12161441	4/9/2013	10:18 PM	Rear End	0	0	$0	Unknown	Unknown
A5	12161476	3/6/2013	6:29 PM	Rear End	0	0	$1,000	Daylight	Dry
A6	12162139	4/25/2013	7:45 AM	Rear End	0	0	$50	Unknown	Unknown
A7	12162339	4/26/2014	9:49 PM	Rear End	0	0	$0	Unknown	Unknown
A8	73480015	6/6/2013	4:10 PM	Rear End	0	0	$0	Daylight	Wet
A9	73480055	2/25/2013	4:48 PM	Rear End	0	0	$500	Daylight	Dry
A10	73480193	6/17/2014	10:48 AM	Rear End	0	0	$89	Unknown	Unknown
A11	73480260	7/22/2013	8:45 AM	Sideswipe	0	0	$1,000	Unknown	Unknown
A12	73480302	5/28/2013	9:50 AM	Off Road	0	1	$1,000	Dark - Lighted	Dry
A13	73480326	6/14/2013	8:10 AM	Rear End	0	0	$1,000	Daylight	Dry
A14	73480369	2/15/2015	9:11 PM	Left Turn	0	1	$8,000	Dark - Not Lighted	Dry
A15	73480472	9/30/2013	5:31 PM	Rear End	0	0	$0	Unknown	Unknown
A16	73480640	3/29/2014	11:12 AM	Rear End	0	0	$0	Unknown	Unknown
A17	73480641	3/29/2014	9:34 PM	Rear End	0	1	$600	Dark - Lighted	Dry
A18	73480705	5/6/2014	8:47 PM	Left Turn	0	2	$8,000	Dark - Lighted	Dry
A19	73480721	2/8/2015	12:46 PM	Left Turn	0	0	$3,000	Daylight	Dry
A20	73480743	10/6/2014	5:00 PM	Rear End	0	1	$200	Daylight	Dry
A21	73480763	10/26/2014	9:12 PM	Rear End	0	0	$6,000	Dark - Lighted	Dry
A22	73480801	1/4/2014	8:28 PM	Rear End	0	1	$101	Dark - Not Lighted	Dry
A23	73480878	12/5/2014	11:49 AM	Rear End	0	0	$0	Unknown	Unknown
A24	73480908	11/25/2014	2:01 PM	Sideswipe	0	0	$3,000	Unknown	Unknown
A25	73481188	3/28/2013	9:37 PM	Rear End	0	4	$7,500	Dark - Lighted	Dry
A26	73481742	11/2/2013	8:22 PM	Rear End	0	1	$200	Dark - Lighted	Dry
A27	73481854	12/3/2013	4:13 PM	Rear End	0	0	$800	Daylight	Dry
A28	73481894	1/16/2014	9:07 AM	Rear End	0	0	$0	Unknown	Unknown
A29	73481899	1/16/2014	7:00 PM	Rear End	0	0	$1,000	Unknown	Unknown
A30	73481923	3/21/2014	1:25 PM	Rear End	0	0	$0	Unknown	Unknown
A31	73481940	3/7/2014	7:39 PM	Rear End	0	1	$0	Daylight	Dry
A32	73483592	8/11/2014	12:42 PM	Sideswipe	0	0	$12,000	Daylight	Dry
A33	73484804	9/20/2014	2:00 AM	Rear End	0	0	$1,500	Unknown	Unknown
A34	73484815	7/14/2014	3:14 PM	Left Turn	0	0	$10,000	Daylight	Dry
A35	73484974	12/9/2014	2:50 PM	Rear End	0	0	$250	Daylight	Dry
A36	75508265	4/13/2015	11:17 PM	Rear End	0	0	$2,500	Unknown	Unknown
A37	75509754	8/16/2014	11:49 AM	Rear End	0	1	$3,601	Daylight	Dry
A38	75509771	9/27/2015	1:24 AM	Sideswipe	0	0	$1,000	Dark - Lighted	Dry
A39	85807723	3/4/2015	11:58 PM	Rear End	0	0	$0	Unknown	Unknown
A40	85807776	4/11/2015	10:29 PM	Right Turn	0	0	$2,000	Dark - Lighted	Dry
A41	85807822	4/15/2015	9:11 AM	Rear End	0	0	$2,000	Daylight	Dry
A42	85807871	8/24/2015	8:04 AM	Rear End	0	0	$500	Daylight	Dry
A43	85807904	6/23/2015	12:46 PM	Rear End	0	0	$0	Unknown	Unknown
A44	85807926	8/10/2015	12:07 PM	Rear End	0	0	$0	Unknown	Unknown
A45	85808036	5/6/2015	9:01 PM	Rear End	0	3	$3,900	Dark - Lighted	Dry
A46	85808071	5/19/2015	6:33 AM	Rear End	0	0	$1,000	Dawn	Dry
A47	85808113	10/20/2015	3:36 PM	Rear End	0	0	$1,001	Daylight	Dry
A48	86160781	8/27/2015	5:25 PM	Rear End	0	0	$2	Unknown	Unknown
A49	86161282	12/15/2015	1:25 PM	Rear End	0	0	$0	Unknown	Unknown

US 92/International Speedway Blvd from US 17/Woodland Blvd to Garfield Ave - Crash Summary
(Jan 1, 2013 - Dec 31, 2015)

#	Crash ID	Date	Time	Crash Type	Fatalities	Injuries	Property Damage	Day/Night	Wet/Dry
US 92/International Speedway Blvd : B/W US 17/Woodland Blvd & Amelia Ave									
S1	11278472	3/16/2013	11:13 AM	Rear End	0	0	$9,000	Unknown	Unknown
S2	73480654	4/10/2014	6:40 AM	Sideswipe	0	0	$1,200	Dawn	Dry
S3	73480717	10/28/2014	2:25 PM	Sideswipe	0	0	$0	Unknown	Unknown
US 92/International Speedway Blvd & Amelia Ave									
B1	12162186	4/11/2013	9:02 AM	Left Turn	0	2	$7,000	Daylight	Dry
B2	12162374	3/22/2013	9:56 AM	Sideswipe	0	1	$1,400	Unknown	Unknown
B3	73480241	5/2/2013	9:25 PM	Angle	0	0	$0	Unknown	Unknown
B4	73480352	6/23/2013	6:23 PM	Right Turn	0	0	$3,500	Daylight	Dry
B5	73480491	10/30/2014	3:27 PM	Rear End	0	0	$2	Unknown	Unknown
B6	73480578	4/29/2014	12:59 PM	Rear End	0	0	$3,000	Unknown	Unknown
B7	73480813	11/2/2014	10:30 AM	Angle	0	0	$0	Unknown	Unknown
B8	73480894	1/5/2015	9:56 AM	Right Turn	0	0	$1,800	Daylight	Dry
B9	73481837	11/23/2013	7:36 AM	Angle	0	1	$24,000	Daylight	Dry
B10	73481913	2/18/2014	10:06 AM	Sideswipe	0	0	$0	Unknown	Unknown
B11	73482701	5/20/2013	9:04 PM	Left Turn	0	4	$20,000	Dusk	Wet
B12	73482868	3/31/2014	7:34 PM	Rear End	0	0	$0	Unknown	Unknown
B13	73483558	12/20/2014	9:40 PM	Rear End	0	0	$400	Dark - Lighted	Dry
B14	73483582	8/24/2014	4:39 PM	Rear End	0	3	$3,000	Daylight	Dry
B15	75507009	10/22/2013	7:34 AM	Sideswipe	0	0	$3,000	Daylight	Dry
B16	81959770	1/4/2013	12:04 PM	Rear End	0	1	$7,500	Daylight	Wet
B17	85807725	4/12/2015	2:50 PM	Rear End	0	0	$2,000	Daylight	Dry
B18	86160783	9/17/2015	5:27 PM	Rear End	0	1	$15,000	Daylight	Wet
B19	86161017	10/8/2015	11:38 AM	Left Turn	0	0	$7,000	Daylight	Dry
US 92/International Speedway Blvd: B/W Amelia Ave & Garfield Ave									
S5	85807734	2/13/2015	5:13 PM	Left Turn	0	0	$12,000	Daylight	Dry
S6	85807839	3/5/2015	4:44 PM	Angle	0	0	$900	Daylight	Dry
US 92/International Speedway Blvd & Garfield Ave									
C1	11682558	1/19/2013	8:10 PM	Rear End	0	0	$4,000	Dark - Lighted	Dry
C2	73480069	7/19/2013	4:05 PM	Angle	0	1	$8,000	Daylight	Dry
C3	73480340	11/9/2013	4:45 PM	Rear End	0	1	$4,100	Dusk	Dry
C4	73480521	3/1/2014	12:23 PM	Rear End	0	0	$4,000	Daylight	Dry
C5	73480608	2/18/2014	6:20 AM	Rear End	0	0	$8,000	Unknown	Unknown
C6	73480886	12/23/2014	1:10 PM	Rear End	0	0	$6,000	Daylight	Dry
C7	73481401	12/3/2013	4:25 PM	Rear End	0	2	$46,100	Daylight	Dry
C8	73481835	11/20/2013	7:17 PM	Sideswipe	0	3	$2,000	Dark - Lighted	Dry
C9	73481845	11/15/2013	7:40 AM	Rear End	0	0	$0	Daylight	Dry
C10	73481904	1/21/2014	4:00 PM	Rear End	0	0	$1	Unknown	Unknown
C11	73483865	1/31/2014	2:25 PM	Rear End	0	0	$0	Unknown	Unknown
C12	73484840	9/15/2014	11:32 AM	Rear End	0	0	$2,000	Daylight	Dry
C13	85807797	7/31/2015	7:24 PM	Sideswipe	0	1	$4,000	Daylight	Dry
C14	85807937	4/1/2015	2:58 PM	Left Turn	0	4	$20,000	Daylight	Dry
C15	86161021	10/23/2015	7:18 PM	Rear End	0	0	$1,500	Dark - Lighted	Dry
C16	86161083	10/30/2015	5:54 PM	Angle	0	3	$6,000	Daylight	Dry

APPENDIX E: Traffic Operation Analysis
And
Signal Timing Sheets

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:20	7:20	7:20	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3702	3698	3828	3642	3678	3828	3760
Vehs Exited	3697	3720	3842	3655	3670	3827	3764
Starting Vehs	130	138	142	138	124	136	126
Ending Vehs	135	116	128	125	132	137	122
Denied Entry Before	0	1	1	1	0	0	1
Denied Entry After	0	0	2	0	1	2	2
Travel Distance (mi)	2829	2824	2914	2791	2811	2915	2865
Travel Time (hr)	133.9	134.0	141.3	135.2	133.3	137.9	137.9
Total Delay (hr)	57.2	57.6	61.9	59.6	56.9	59.0	60.2
Total Stops	4277	4158	4541	4327	4183	4359	4373
Fuel Used (gal)	109.5	108.8	114.4	109.1	108.9	112.7	111.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3816	3716	3789	3744
Vehs Exited	3843	3762	3806	3759
Starting Vehs	145	173	146	134
Ending Vehs	118	127	129	124
Denied Entry Before	1	0	1	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	2926	2860	2921	2866
Travel Time (hr)	140.5	135.9	139.6	136.9
Total Delay (hr)	61.1	58.2	60.4	59.2
Total Stops	4536	4368	4349	4347
Fuel Used (gal)	113.8	111.2	113.9	111.4

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3702	3698	3828	3642	3678	3828	3760
Vehs Exited	3697	3720	3842	3655	3670	3827	3764
Starting Vehs	130	138	142	138	124	136	126
Ending Vehs	135	116	128	125	132	137	122
Denied Entry Before	0	1	1	1	0	0	1
Denied Entry After	0	0	2	0	1	2	2
Travel Distance (mi)	2829	2824	2914	2791	2811	2915	2865
Travel Time (hr)	133.9	134.0	141.3	135.2	133.3	137.9	137.9
Total Delay (hr)	57.2	57.6	61.9	59.6	56.9	59.0	60.2
Total Stops	4277	4158	4541	4327	4183	4359	4373
Fuel Used (gal)	109.5	108.8	114.4	109.1	108.9	112.7	111.4

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3816	3716	3789	3744
Vehs Exited	3843	3762	3806	3759
Starting Vehs	145	173	146	134
Ending Vehs	118	127	129	124
Denied Entry Before	1	0	1	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	2926	2860	2921	2866
Travel Time (hr)	140.5	135.9	139.6	136.9
Total Delay (hr)	61.1	58.2	60.4	59.2
Total Stops	4536	4368	4349	4347
Fuel Used (gal)	113.8	111.2	113.9	111.4

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.0	0.2	0.3	0.7
Denied Del/Veh (s)	0.5	0.0	1.6	1.4	0.8
Total Delay (hr)	8.3	7.5	3.5	9.2	28.4
Total Del/Veh (s)	41.1	35.3	25.6	36.6	35.6
Stop Delay (hr)	7.0	6.6	2.7	7.7	24.1
Stop Del/Veh (s)	34.7	31.4	20.3	30.7	30.1
Total Stops	567	454	214	641	1876
Stop/Veh	0.78	0.60	0.44	0.71	0.65
Travel Dist (mi)	196.6	35.8	129.8	241.3	603.5
Travel Time (hr)	14.2	8.6	6.8	15.4	44.9
Avg Speed (mph)	14	4	20	16	14
Fuel Used (gal)	7.1	2.4	4.4	8.3	22.1
Fuel Eff. (mpg)	27.7	15.2	29.5	29.2	27.3
HC Emissions (g)	94	12	63	105	274
CO Emissions (g)	2280	337	2476	3687	8779
NOx Emissions (g)	270	30	208	348	855
Vehicles Entered	716	758	479	879	2832
Vehicles Exited	720	759	478	881	2838
Hourly Exit Rate	720	759	478	881	2838
Input Volume	724	759	478	874	2835
% of Volume	99	100	100	101	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	306	162	877	480	422
Occupancy (veh)	14	9	7	15	44

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	0.8	0.1	0.0	1.1
Total Del/Veh (s)	0.8	3.5	3.1	4.2	2.0
Stop Delay (hr)	0.0	0.1	0.1	0.0	0.2
Stop Del/Veh (s)	0.0	0.5	2.6	4.0	0.3
Total Stops	0	21	85	12	118
Stop/Veh	0.00	0.03	1.00	1.00	0.06
Travel Dist (mi)	47.2	96.9	3.9	0.5	148.5
Travel Time (hr)	1.3	3.1	0.3	0.0	4.7
Avg Speed (mph)	36	31	14	12	31
Fuel Used (gal)	1.7	5.2	0.1	0.0	7.0
Fuel Eff. (mpg)	28.1	18.5	40.2	43.4	21.1
HC Emissions (g)	40	107	1	0	148
CO Emissions (g)	1554	4366	24	1	5944
NOx Emissions (g)	119	355	2	0	475
Vehicles Entered	1134	794	85	12	2025
Vehicles Exited	1133	796	85	12	2026
Hourly Exit Rate	1133	796	85	12	2026
Input Volume	1134	795	89	11	2029
% of Volume	100	100	96	109	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	510	798			763
Occupancy (veh)	1	3	0	0	5

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.0	1.1	0.1
Total Delay (hr)	6.4	5.2	1.8	1.0	14.4
Total Del/Veh (s)	19.0	22.3	34.6	34.2	22.1
Stop Delay (hr)	4.0	4.0	1.6	0.9	10.5
Stop Del/Veh (s)	11.7	17.1	30.7	31.6	16.0
Total Stops	576	437	157	91	1261
Stop/Veh	0.47	0.52	0.85	0.88	0.54
Travel Dist (mi)	144.5	101.3	26.1	17.1	288.9
Travel Time (hr)	9.9	7.7	2.7	1.6	21.8
Avg Speed (mph)	15	13	10	11	13
Fuel Used (gal)	5.2	3.4	1.2	0.7	10.5
Fuel Eff. (mpg)	28.0	29.6	21.2	23.5	27.4
HC Emissions (g)	60	47	12	11	129
CO Emissions (g)	1932	1281	499	323	4035
NOx Emissions (g)	194	143	36	30	402
Vehicles Entered	1200	833	183	104	2320
Vehicles Exited	1201	835	182	104	2322
Hourly Exit Rate	1201	835	182	104	2322
Input Volume	1205	830	184	101	2320
% of Volume	100	101	99	103	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	254	334	569	1112	382
Occupancy (veh)	10	8	3	2	22

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	1.6	0.4	0.0	0.0	2.1
Total Del/Veh (s)	4.7	1.9	11.7	2.9	3.6
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	0.3	0.1	12.0	2.7	0.3
Total Stops	29	3	2	29	63
Stop/Veh	0.02	0.00	1.00	1.00	0.03
Travel Dist (mi)	153.9	101.3	0.1	1.7	256.9
Travel Time (hr)	5.3	2.8	0.0	0.1	8.2
Avg Speed (mph)	29	36	5	16	31
Fuel Used (gal)	8.2	4.3	0.0	0.0	12.5
Fuel Eff. (mpg)	18.8	23.8	22.7	44.9	20.6
HC Emissions (g)	143	80	0	1	223
CO Emissions (g)	6116	3228	0	13	9357
NOx Emissions (g)	494	275	0	1	770
Vehicles Entered	1223	824	2	29	2078
Vehicles Exited	1222	826	2	29	2079
Hourly Exit Rate	1222	826	2	29	2079
Input Volume	1225	824	2	28	2079
% of Volume	100	100	100	104	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	492	892			674
Occupancy (veh)	5	3	0	0	8

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	0.2	2.7	0.4
Total Delay (hr)	2.7	1.9	1.8	0.8	7.2
Total Del/Veh (s)	8.1	7.3	38.1	42.3	10.9
Stop Delay (hr)	1.0	1.1	1.6	0.8	4.4
Stop Del/Veh (s)	2.9	4.1	34.7	40.7	6.7
Total Stops	233	243	141	61	678
Stop/Veh	0.20	0.26	0.84	0.87	0.29
Travel Dist (mi)	146.1	260.0	31.2	11.0	448.3
Travel Time (hr)	6.1	8.1	2.9	1.3	18.4
Avg Speed (mph)	24	33	11	9	25
Fuel Used (gal)	4.5	7.5	1.3	0.5	13.8
Fuel Eff. (mpg)	32.6	34.5	23.6	21.7	32.4
HC Emissions (g)	67	133	10	13	223
CO Emissions (g)	2074	4195	313	218	6800
NOx Emissions (g)	231	483	29	28	772
Vehicles Entered	1183	933	163	68	2347
Vehicles Exited	1184	934	164	68	2350
Hourly Exit Rate	1184	934	164	68	2350
Input Volume	1186	932	157	68	2343
% of Volume	100	100	104	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	310	741	349	1307	575
Occupancy (veh)	6	8	3	1	18

Total Network Performance

Denied Delay (hr)	1.0
Denied Del/Veh (s)	1.0
Total Delay (hr)	58.2
Total Del/Veh (s)	54.0
Stop Delay (hr)	40.2
Stop Del/Veh (s)	37.3
Total Stops	4347
Stop/Veh	1.12
Travel Dist (mi)	2865.7
Travel Time (hr)	136.9
Avg Speed (mph)	21
Fuel Used (gal)	111.4
Fuel Eff. (mpg)	25.7
HC Emissions (g)	1746
CO Emissions (g)	59740
NOx Emissions (g)	5773
Vehicles Entered	3744
Vehicles Exited	3759
Hourly Exit Rate	3759
Input Volume	18968
% of Volume	20
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	362
Occupancy (veh)	136

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:20	11:20	11:20	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4418	4490	4383	4405	4347	4380	4552
Vehs Exited	4436	4513	4442	4397	4373	4374	4547
Starting Vehs	161	164	179	157	176	150	150
Ending Vehs	143	141	120	165	150	156	155
Denied Entry Before	2	0	2	0	1	0	0
Denied Entry After	0	2	0	1	1	1	2
Travel Distance (mi)	3056	3095	2994	3032	2986	3018	3107
Travel Time (hr)	159.4	164.9	157.2	158.1	155.2	156.5	162.3
Total Delay (hr)	73.1	77.4	72.3	72.5	70.7	71.3	74.2
Total Stops	5310	5479	5152	5250	5128	5115	5462
Fuel Used (gal)	122.7	124.7	120.0	121.9	119.6	120.1	125.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4513	4297	4482	4425
Vehs Exited	4501	4301	4480	4438
Starting Vehs	165	163	158	158
Ending Vehs	177	159	160	147
Denied Entry Before	1	0	0	0
Denied Entry After	1	3	1	0
Travel Distance (mi)	3094	2920	3093	3039
Travel Time (hr)	165.6	155.5	165.6	160.0
Total Delay (hr)	77.8	72.5	78.1	74.0
Total Stops	5500	5205	5607	5324
Fuel Used (gal)	125.6	118.1	125.7	122.4

Interval #0 Information Seeding

Start Time	11:20
End Time	11:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4418	4490	4383	4405	4347	4380	4552
Vehs Exited	4436	4513	4442	4397	4373	4374	4547
Starting Vehs	161	164	179	157	176	150	150
Ending Vehs	143	141	120	165	150	156	155
Denied Entry Before	2	0	2	0	1	0	0
Denied Entry After	0	2	0	1	1	1	2
Travel Distance (mi)	3056	3095	2994	3032	2986	3018	3107
Travel Time (hr)	159.4	164.9	157.2	158.1	155.2	156.5	162.3
Total Delay (hr)	73.1	77.4	72.3	72.5	70.7	71.3	74.2
Total Stops	5310	5479	5152	5250	5128	5115	5462
Fuel Used (gal)	122.7	124.7	120.0	121.9	119.6	120.1	125.3

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4513	4297	4482	4425
Vehs Exited	4501	4301	4480	4438
Starting Vehs	165	163	158	158
Ending Vehs	177	159	160	147
Denied Entry Before	1	0	0	0
Denied Entry After	1	3	1	0
Travel Distance (mi)	3094	2920	3093	3039
Travel Time (hr)	165.6	155.5	165.6	160.0
Total Delay (hr)	77.8	72.5	78.1	74.0
Total Stops	5500	5205	5607	5324
Fuel Used (gal)	125.6	118.1	125.7	122.4

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.3	0.9
Denied Del/Veh (s)	1.0	0.1	1.5	1.4	1.0
Total Delay (hr)	9.1	8.2	7.5	10.5	35.4
Total Del/Veh (s)	53.4	30.8	31.5	42.5	38.3
Stop Delay (hr)	8.2	7.1	6.0	9.0	30.3
Stop Del/Veh (s)	47.6	26.8	25.0	36.3	32.7
Total Stops	513	521	424	652	2110
Stop/Veh	0.83	0.54	0.49	0.73	0.63
Travel Dist (mi)	164.2	44.8	229.5	239.3	677.9
Travel Time (hr)	14.2	9.6	13.4	16.7	53.9
Avg Speed (mph)	12	5	18	15	13
Fuel Used (gal)	6.6	2.8	7.8	8.6	25.9
Fuel Eff. (mpg)	24.7	16.1	29.3	27.9	26.2
HC Emissions (g)	83	17	112	110	322
CO Emissions (g)	2108	475	4233	3930	10746
NOx Emissions (g)	238	44	358	354	994
Vehicles Entered	600	955	847	872	3274
Vehicles Exited	605	943	848	875	3271
Hourly Exit Rate	605	943	848	875	3271
Input Volume	602	958	828	866	3254
% of Volume	100	98	102	101	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	306	145	443	441	352
Occupancy (veh)	14	10	13	16	53

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.0
Total Delay (hr)	0.2	1.3	0.1	0.1	1.8
Total Del/Veh (s)	0.7	4.9	3.6	5.5	3.0
Stop Delay (hr)	0.0	0.2	0.1	0.1	0.4
Stop Del/Veh (s)	0.0	0.8	2.9	4.9	0.8
Total Stops	1	55	119	97	272
Stop/Veh	0.00	0.06	1.00	1.00	0.13
Travel Dist (mi)	37.4	118.2	5.5	4.0	165.1
Travel Time (hr)	1.0	4.4	0.4	0.4	6.2
Avg Speed (mph)	37	27	14	11	27
Fuel Used (gal)	1.5	7.2	0.1	0.1	9.0
Fuel Eff. (mpg)	24.4	16.5	36.8	34.0	18.4
HC Emissions (g)	40	149	1	1	190
CO Emissions (g)	1575	6077	34	26	7712
NOx Emissions (g)	116	490	3	3	611
Vehicles Entered	905	982	119	98	2104
Vehicles Exited	904	978	119	97	2098
Hourly Exit Rate	904	978	119	97	2098
Input Volume	892	976	116	97	2081
% of Volume	101	100	103	100	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	655	568			588
Occupancy (veh)	1	4	0	0	6

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	1.4	1.3	0.3
Total Delay (hr)	6.9	8.2	2.3	2.9	20.3
Total Del/Veh (s)	24.4	30.9	38.3	39.3	29.8
Stop Delay (hr)	5.2	6.2	2.0	2.6	16.0
Stop Del/Veh (s)	18.5	23.4	34.0	35.1	23.5
Total Stops	557	640	178	219	1594
Stop/Veh	0.55	0.67	0.83	0.83	0.65
Travel Dist (mi)	119.8	115.8	29.8	42.4	307.7
Travel Time (hr)	10.0	11.1	3.3	4.4	28.8
Avg Speed (mph)	12	10	9	10	11
Fuel Used (gal)	5.0	4.6	1.5	2.0	13.1
Fuel Eff. (mpg)	24.0	25.0	19.9	21.5	23.5
HC Emissions (g)	77	72	15	13	176
CO Emissions (g)	2462	1896	601	651	5611
NOx Emissions (g)	225	191	43	43	503
Vehicles Entered	1016	943	208	258	2425
Vehicles Exited	1010	951	210	260	2431
Hourly Exit Rate	1010	951	210	260	2431
Input Volume	998	943	206	263	2410
% of Volume	101	101	102	99	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	253	230	463	402	290
Occupancy (veh)	10	11	3	4	29

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	1.2	0.6	0.0	0.1	1.9
Total Del/Veh (s)	4.5	2.3	9.5	3.6	3.5
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.4
Stop Del/Veh (s)	0.9	0.1	9.7	2.9	0.7
Total Stops	64	4	4	102	174
Stop/Veh	0.07	0.00	1.00	1.00	0.09
Travel Dist (mi)	119.6	107.5	0.1	5.8	232.9
Travel Time (hr)	4.2	3.2	0.0	0.4	7.7
Avg Speed (mph)	28	34	6	15	30
Fuel Used (gal)	6.5	4.7	0.0	0.2	11.4
Fuel Eff. (mpg)	18.4	22.9	24.3	36.8	20.5
HC Emissions (g)	156	123	0	1	280
CO Emissions (g)	5826	4260	0	38	10125
NOx Emissions (g)	493	379	0	3	876
Vehicles Entered	949	866	4	102	1921
Vehicles Exited	947	868	4	102	1921
Hourly Exit Rate	947	868	4	102	1921
Input Volume	938	864	4	103	1909
% of Volume	101	100	100	99	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	619	795			715
Occupancy (veh)	4	3	0	0	8

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	0.2	1.8	0.5
Total Delay (hr)	2.5	2.0	1.4	1.6	7.5
Total Del/Veh (s)	10.4	7.5	43.3	38.9	12.9
Stop Delay (hr)	1.3	1.1	1.3	1.5	5.1
Stop Del/Veh (s)	5.2	4.1	40.0	37.1	8.9
Total Stops	272	251	97	128	748
Stop/Veh	0.31	0.26	0.84	0.89	0.36
Travel Dist (mi)	105.7	261.9	21.9	22.8	412.2
Travel Time (hr)	5.0	8.2	2.2	2.6	18.0
Avg Speed (mph)	21	33	10	9	23
Fuel Used (gal)	3.1	7.6	1.0	1.1	12.7
Fuel Eff. (mpg)	34.4	34.6	22.3	21.7	32.5
HC Emissions (g)	71	186	4	15	276
CO Emissions (g)	1742	5066	179	307	7294
NOx Emissions (g)	210	613	14	38	875
Vehicles Entered	861	941	114	142	2058
Vehicles Exited	861	938	115	143	2057
Hourly Exit Rate	861	938	115	143	2057
Input Volume	859	926	117	148	2050
% of Volume	100	101	98	97	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	375	729	464	666	588
Occupancy (veh)	5	8	2	3	18

Total Network Performance

Denied Delay (hr)	1.3
Denied Del/Veh (s)	1.1
Total Delay (hr)	72.6
Total Del/Veh (s)	57.0
Stop Delay (hr)	53.4
Stop Del/Veh (s)	41.9
Total Stops	5324
Stop/Veh	1.16
Travel Dist (mi)	3039.3
Travel Time (hr)	160.0
Avg Speed (mph)	19
Fuel Used (gal)	122.4
Fuel Eff. (mpg)	24.8
HC Emissions (g)	2153
CO Emissions (g)	68912
NOx Emissions (g)	6753
Vehicles Entered	4425
Vehicles Exited	4438
Hourly Exit Rate	4438
Input Volume	19576
% of Volume	23
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	310
Occupancy (veh)	159

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:30	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:40	5:40	5:40	5:40	5:40	5:40	5:40
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5244	5420	5355	5224	5328	5289	5367
Vehs Exited	5233	5415	5355	5196	5330	5295	5349
Starting Vehs	218	205	239	199	220	233	199
Ending Vehs	229	210	239	227	218	227	217
Denied Entry Before	1	3	2	2	1	1	0
Denied Entry After	1	0	1	1	2	1	0
Travel Distance (mi)	3831	3985	3904	3852	3873	3848	3949
Travel Time (hr)	219.0	231.2	227.4	220.5	224.4	220.3	226.5
Total Delay (hr)	111.6	119.9	118.1	113.2	115.8	112.4	116.3
Total Stops	7243	7612	7496	7251	7417	7191	7483
Fuel Used (gal)	156.8	163.1	159.8	157.5	159.3	157.2	162.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:30	4:30	4:30	4:30
End Time	5:40	5:40	5:40	5:40
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5270	5299	5378	5319
Vehs Exited	5271	5297	5412	5315
Starting Vehs	223	214	257	217
Ending Vehs	222	216	223	220
Denied Entry Before	2	1	0	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	3835	3882	3966	3892
Travel Time (hr)	218.2	220.8	230.1	223.8
Total Delay (hr)	110.7	112.2	119.4	115.0
Total Stops	7125	7270	7548	7362
Fuel Used (gal)	155.6	158.5	162.5	159.2

Interval #0 Information Seeding

Start Time	4:30
End Time	4:40
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:40
End Time	5:40
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5244	5420	5355	5224	5328	5289	5367
Vehs Exited	5233	5415	5355	5196	5330	5295	5349
Starting Vehs	218	205	239	199	220	233	199
Ending Vehs	229	210	239	227	218	227	217
Denied Entry Before	1	3	2	2	1	1	0
Denied Entry After	1	0	1	1	2	1	0
Travel Distance (mi)	3831	3985	3904	3852	3873	3848	3949
Travel Time (hr)	219.0	231.2	227.4	220.5	224.4	220.3	226.5
Total Delay (hr)	111.6	119.9	118.1	113.2	115.8	112.4	116.3
Total Stops	7243	7612	7496	7251	7417	7191	7483
Fuel Used (gal)	156.8	163.1	159.8	157.5	159.3	157.2	162.0

Interval #1 Information Recording

Start Time	4:40
End Time	5:40
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5270	5299	5378	5319
Vehs Exited	5271	5297	5412	5315
Starting Vehs	223	214	257	217
Ending Vehs	222	216	223	220
Denied Entry Before	2	1	0	0
Denied Entry After	1	2	0	0
Travel Distance (mi)	3835	3882	3966	3892
Travel Time (hr)	218.2	220.8	230.1	223.8
Total Delay (hr)	110.7	112.2	119.4	115.0
Total Stops	7125	7270	7548	7362
Fuel Used (gal)	155.6	158.5	162.5	159.2

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.5	1.0
Denied Del/Veh (s)	1.0	0.1	1.1	1.6	0.9
Total Delay (hr)	8.2	13.8	11.4	13.1	46.5
Total Del/Veh (s)	44.8	34.9	42.3	45.9	41.0
Stop Delay (hr)	7.2	11.9	9.1	11.2	39.5
Stop Del/Veh (s)	39.2	30.2	33.7	39.3	34.8
Total Stops	516	1012	616	789	2933
Stop/Veh	0.78	0.71	0.64	0.77	0.72
Travel Dist (mi)	179.0	64.5	258.0	274.9	776.3
Travel Time (hr)	13.8	15.8	17.8	20.4	67.7
Avg Speed (mph)	13	4	15	14	12
Fuel Used (gal)	6.8	4.6	9.1	10.1	30.6
Fuel Eff. (mpg)	26.4	14.1	28.2	27.2	25.4
HC Emissions (g)	58	16	81	82	238
CO Emissions (g)	1723	530	3763	3797	9814
NOx Emissions (g)	184	49	291	305	828
Vehicles Entered	655	1413	948	1001	4017
Vehicles Exited	643	1394	957	1017	4011
Hourly Exit Rate	643	1394	957	1017	4011
Input Volume	653	1395	937	1012	3997
% of Volume	98	100	102	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	317	88	331	362	280
Occupancy (veh)	14	16	17	20	67

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	2.5	0.1	0.1	2.9
Total Del/Veh (s)	0.8	6.2	3.2	10.9	4.1
Stop Delay (hr)	0.0	0.2	0.1	0.1	0.4
Stop Del/Veh (s)	0.0	0.5	2.7	10.5	0.6
Total Stops	0	46	92	49	187
Stop/Veh	0.00	0.03	0.99	1.02	0.07
Travel Dist (mi)	41.9	181.2	4.2	2.0	229.2
Travel Time (hr)	1.2	7.0	0.3	0.3	8.8
Avg Speed (mph)	36	26	14	8	26
Fuel Used (gal)	1.4	10.4	0.1	0.1	12.0
Fuel Eff. (mpg)	30.7	17.3	38.0	28.0	19.1
HC Emissions (g)	26	147	1	0	174
CO Emissions (g)	1138	6736	29	11	7914
NOx Emissions (g)	80	551	3	1	634
Vehicles Entered	986	1462	92	49	2589
Vehicles Exited	986	1457	92	48	2583
Hourly Exit Rate	986	1457	92	48	2583
Input Volume	994	1436	93	48	2571
% of Volume	99	101	99	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	570	353			412
Occupancy (veh)	1	7	0	0	9

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.2	0.3
Denied Del/Veh (s)	0.0	0.0	1.4	1.5	0.3
Total Delay (hr)	10.9	16.0	3.2	4.6	34.7
Total Del/Veh (s)	36.3	39.4	39.7	42.5	38.8
Stop Delay (hr)	8.2	11.4	2.8	4.0	26.4
Stop Del/Veh (s)	27.5	28.0	34.5	37.0	29.5
Total Stops	687	1086	240	320	2333
Stop/Veh	0.64	0.74	0.84	0.82	0.72
Travel Dist (mi)	129.2	177.8	40.5	63.2	410.7
Travel Time (hr)	14.1	20.4	4.6	6.8	45.9
Avg Speed (mph)	9	9	9	9	9
Fuel Used (gal)	5.7	8.0	2.0	2.9	18.7
Fuel Eff. (mpg)	22.8	22.1	20.0	21.6	22.0
HC Emissions (g)	45	54	15	24	138
CO Emissions (g)	1548	1908	735	1007	5199
NOx Emissions (g)	143	173	49	73	438
Vehicles Entered	1063	1433	284	384	3164
Vehicles Exited	1074	1454	281	383	3192
Hourly Exit Rate	1074	1454	281	383	3192
Input Volume	1074	1429	273	379	3155
% of Volume	100	102	103	101	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	179	125	337	257	182
Occupancy (veh)	14	20	4	7	46

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	1.9	1.6	0.0	0.1	3.7
Total Del/Veh (s)	6.0	4.3	10.9	4.6	5.0
Stop Delay (hr)	0.3	0.0	0.0	0.1	0.5
Stop Del/Veh (s)	1.0	0.1	11.1	3.9	0.7
Total Stops	42	7	8	104	161
Stop/Veh	0.04	0.01	1.14	1.00	0.06
Travel Dist (mi)	141.5	170.1	0.2	5.9	317.7
Travel Time (hr)	5.4	5.7	0.0	0.4	11.5
Avg Speed (mph)	26	30	6	14	28
Fuel Used (gal)	8.2	7.0	0.0	0.2	15.4
Fuel Eff. (mpg)	17.3	24.2	24.1	35.0	20.7
HC Emissions (g)	115	97	0	1	213
CO Emissions (g)	5844	4469	1	40	10354
NOx Emissions (g)	415	347	0	4	766
Vehicles Entered	1122	1374	8	104	2608
Vehicles Exited	1115	1372	7	104	2598
Hourly Exit Rate	1115	1372	7	104	2598
Input Volume	1116	1371	6	100	2593
% of Volume	100	100	117	104	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	482	443			481
Occupancy (veh)	5	6	0	0	11

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.3	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.7	0.2	2.1	0.5
Total Delay (hr)	5.2	5.1	1.8	3.0	15.1
Total Del/Veh (s)	17.5	12.9	49.4	45.4	19.0
Stop Delay (hr)	2.8	2.7	1.7	2.8	10.1
Stop Del/Veh (s)	9.6	6.7	46.0	43.1	12.6
Total Stops	463	461	113	199	1236
Stop/Veh	0.43	0.32	0.84	0.84	0.43
Travel Dist (mi)	131.2	392.9	25.1	37.0	586.2
Travel Time (hr)	8.3	14.4	2.7	4.7	30.0
Avg Speed (mph)	16	28	9	8	20
Fuel Used (gal)	4.2	11.5	1.2	1.8	18.7
Fuel Eff. (mpg)	31.1	34.2	21.4	20.1	31.3
HC Emissions (g)	38	106	7	14	166
CO Emissions (g)	1248	4740	248	370	6606
NOx Emissions (g)	137	453	22	42	654
Vehicles Entered	1067	1412	131	231	2841
Vehicles Exited	1057	1406	133	234	2830
Hourly Exit Rate	1057	1406	133	234	2830
Input Volume	1065	1407	127	223	2822
% of Volume	99	100	105	105	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	228	417	370	370	352
Occupancy (veh)	8	14	3	5	30

Total Network Performance

Denied Delay (hr)	1.7
Denied Del/Veh (s)	1.1
Total Delay (hr)	113.3
Total Del/Veh (s)	73.7
Stop Delay (hr)	80.1
Stop Del/Veh (s)	52.1
Total Stops	7362
Stop/Veh	1.33
Travel Dist (mi)	3892.5
Travel Time (hr)	223.8
Avg Speed (mph)	18
Fuel Used (gal)	159.2
Fuel Eff. (mpg)	24.4
HC Emissions (g)	1629
CO Emissions (g)	66849
NOx Emissions (g)	5880
Vehicles Entered	5319
Vehicles Exited	5315
Hourly Exit Rate	5315
Input Volume	25152
% of Volume	21
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	221
Occupancy (veh)	222

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:20	7:20	7:20	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3703	3749	3802	3703	3741	3608	3780
Vehs Exited	3693	3729	3790	3719	3766	3599	3768
Starting Vehs	134	118	132	126	139	142	124
Ending Vehs	144	138	144	110	114	151	136
Denied Entry Before	2	0	1	1	2	2	0
Denied Entry After	0	1	0	1	0	1	0
Travel Distance (mi)	2826	2875	2887	2835	2863	2777	2874
Travel Time (hr)	135.5	135.3	139.9	136.9	137.1	131.1	138.6
Total Delay (hr)	59.1	57.3	61.2	60.1	59.2	55.9	60.7
Total Stops	4308	4195	4467	4383	4323	4188	4408
Fuel Used (gal)	109.3	109.7	112.0	109.5	110.7	106.8	111.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3667	3769	3799	3733
Vehs Exited	3658	3768	3772	3725
Starting Vehs	119	140	114	125
Ending Vehs	128	141	141	129
Denied Entry Before	1	0	1	1
Denied Entry After	0	1	1	0
Travel Distance (mi)	2777	2857	2915	2849
Travel Time (hr)	133.5	136.8	139.6	136.4
Total Delay (hr)	57.9	59.0	60.6	59.1
Total Stops	4252	4422	4469	4344
Fuel Used (gal)	107.7	110.8	112.7	110.0

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3703	3749	3802	3703	3741	3608	3780
Vehs Exited	3693	3729	3790	3719	3766	3599	3768
Starting Vehs	134	118	132	126	139	142	124
Ending Vehs	144	138	144	110	114	151	136
Denied Entry Before	2	0	1	1	2	2	0
Denied Entry After	0	1	0	1	0	1	0
Travel Distance (mi)	2826	2875	2887	2835	2863	2777	2874
Travel Time (hr)	135.5	135.3	139.9	136.9	137.1	131.1	138.6
Total Delay (hr)	59.1	57.3	61.2	60.1	59.2	55.9	60.7
Total Stops	4308	4195	4467	4383	4323	4188	4408
Fuel Used (gal)	109.3	109.7	112.0	109.5	110.7	106.8	111.0

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3667	3769	3799	3733
Vehs Exited	3658	3768	3772	3725
Starting Vehs	119	140	114	125
Ending Vehs	128	141	141	129
Denied Entry Before	1	0	1	1
Denied Entry After	0	1	1	0
Travel Distance (mi)	2777	2857	2915	2849
Travel Time (hr)	133.5	136.8	139.6	136.4
Total Delay (hr)	57.9	59.0	60.6	59.1
Total Stops	4252	4422	4469	4344
Fuel Used (gal)	107.7	110.8	112.7	110.0

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.0	0.2	0.3	0.6
Denied Del/Veh (s)	0.5	0.0	1.6	1.4	0.8
Total Delay (hr)	8.3	7.6	3.4	9.3	28.7
Total Del/Veh (s)	41.0	36.4	26.0	37.0	36.0
Stop Delay (hr)	7.0	6.8	2.7	7.8	24.3
Stop Del/Veh (s)	34.6	32.4	20.7	31.0	30.6
Total Stops	570	458	217	648	1893
Stop/Veh	0.78	0.61	0.46	0.71	0.66
Travel Dist (mi)	196.7	35.6	126.8	243.3	602.5
Travel Time (hr)	14.2	8.7	6.7	15.6	45.2
Avg Speed (mph)	14	4	19	16	14
Fuel Used (gal)	7.1	2.4	4.2	8.3	22.0
Fuel Eff. (mpg)	27.8	14.9	29.9	29.3	27.3
HC Emissions (g)	91	12	60	104	267
CO Emissions (g)	2222	328	2339	3667	8556
NOx Emissions (g)	261	28	201	345	836
Vehicles Entered	719	752	469	889	2829
Vehicles Exited	719	753	468	887	2827
Hourly Exit Rate	719	753	468	887	2827
Input Volume	724	759	478	874	2835
% of Volume	99	99	98	101	100
Denied Entry Before	0	0	0	1	1
Denied Entry After	0	0	0	0	0
Density (ft/veh)	306	159	888	473	420
Occupancy (veh)	14	9	7	15	45

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	0.8	0.1	0.0	1.2
Total Del/Veh (s)	0.8	3.8	3.1	4.0	2.1
Stop Delay (hr)	0.0	0.1	0.1	0.0	0.2
Stop Del/Veh (s)	0.0	0.5	2.6	3.9	0.3
Total Stops	0	30	86	11	127
Stop/Veh	0.00	0.04	1.00	1.00	0.06
Travel Dist (mi)	47.0	96.2	3.9	0.5	147.5
Travel Time (hr)	1.3	3.2	0.3	0.0	4.8
Avg Speed (mph)	36	30	14	13	31
Fuel Used (gal)	1.7	5.2	0.1	0.0	7.0
Fuel Eff. (mpg)	28.2	18.3	39.1	46.5	21.0
HC Emissions (g)	40	99	1	0	140
CO Emissions (g)	1543	4248	26	1	5818
NOx Emissions (g)	120	335	2	0	457
Vehicles Entered	1128	789	86	11	2014
Vehicles Exited	1126	789	86	11	2012
Hourly Exit Rate	1126	789	86	11	2012
Input Volume	1134	795	89	11	2029
% of Volume	99	99	97	100	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	510	807			769
Occupancy (veh)	1	3	0	0	5

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.0	1.1	0.1
Total Delay (hr)	6.6	5.5	2.0	1.0	15.0
Total Del/Veh (s)	19.5	23.6	36.4	36.5	23.1
Stop Delay (hr)	4.1	4.2	1.8	0.9	11.0
Stop Del/Veh (s)	12.2	18.3	32.4	33.4	16.9
Total Stops	598	447	167	87	1299
Stop/Veh	0.49	0.54	0.86	0.86	0.55
Travel Dist (mi)	143.5	100.4	27.7	16.5	288.1
Travel Time (hr)	10.0	7.9	2.9	1.6	22.4
Avg Speed (mph)	14	13	10	11	13
Fuel Used (gal)	5.2	3.4	1.3	0.7	10.7
Fuel Eff. (mpg)	27.6	29.2	20.8	23.0	27.0
HC Emissions (g)	59	44	15	8	127
CO Emissions (g)	1964	1222	578	274	4037
NOx Emissions (g)	193	136	44	25	397
Vehicles Entered	1194	825	193	102	2314
Vehicles Exited	1194	824	194	101	2313
Hourly Exit Rate	1194	824	194	101	2313
Input Volume	1205	830	184	101	2320
% of Volume	99	99	105	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	251	324	521	1102	371
Occupancy (veh)	10	8	3	2	22

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	1.6	0.4	0.0	0.0	2.0
Total Del/Veh (s)	4.6	2.0	17.5	2.8	3.5
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	0.3	0.2	17.8	2.6	0.3
Total Stops	30	4	2	29	65
Stop/Veh	0.02	0.00	1.00	1.00	0.03
Travel Dist (mi)	153.3	100.6	0.1	1.6	255.6
Travel Time (hr)	5.2	2.8	0.0	0.1	8.1
Avg Speed (mph)	29	36	4	16	31
Fuel Used (gal)	8.4	4.2	0.0	0.0	12.7
Fuel Eff. (mpg)	18.1	23.9	16.6	43.7	20.1
HC Emissions (g)	139	74	0	1	214
CO Emissions (g)	6189	3122	0	14	9325
NOx Emissions (g)	496	260	0	2	758
Vehicles Entered	1217	820	2	29	2068
Vehicles Exited	1217	819	2	29	2067
Hourly Exit Rate	1217	819	2	29	2067
Input Volume	1225	824	2	28	2079
% of Volume	99	99	100	104	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	498	899			681
Occupancy (veh)	5	3	0	0	8

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.0	0.7	0.2	2.7	0.4
Total Delay (hr)	1.9	1.8	1.8	0.8	6.3
Total Del/Veh (s)	5.8	7.0	39.8	44.4	9.7
Stop Delay (hr)	0.8	1.0	1.6	0.8	4.2
Stop Del/Veh (s)	2.5	3.9	36.6	42.7	6.5
Total Stops	184	234	139	59	616
Stop/Veh	0.16	0.25	0.87	0.89	0.26
Travel Dist (mi)	145.5	256.1	30.1	10.4	442.1
Travel Time (hr)	5.3	7.9	2.9	1.3	17.4
Avg Speed (mph)	27	33	11	8	26
Fuel Used (gal)	4.4	7.4	1.3	0.5	13.6
Fuel Eff. (mpg)	33.0	34.5	23.4	21.2	32.5
HC Emissions (g)	67	128	8	8	210
CO Emissions (g)	2043	4097	273	141	6555
NOx Emissions (g)	246	469	24	18	756
Vehicles Entered	1179	919	158	65	2321
Vehicles Exited	1178	922	156	65	2321
Hourly Exit Rate	1178	922	156	65	2321
Input Volume	1186	932	157	68	2343
% of Volume	99	99	99	96	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	468	761	348	1342	644
Occupancy (veh)	5	8	3	1	17

Total Network Performance

Denied Delay (hr)	1.0
Denied Del/Veh (s)	1.0
Total Delay (hr)	58.1
Total Del/Veh (s)	54.3
Stop Delay (hr)	40.9
Stop Del/Veh (s)	38.2
Total Stops	4344
Stop/Veh	1.13
Travel Dist (mi)	2848.6
Travel Time (hr)	136.4
Avg Speed (mph)	21
Fuel Used (gal)	110.0
Fuel Eff. (mpg)	25.9
HC Emissions (g)	1648
CO Emissions (g)	57076
NOx Emissions (g)	5533
Vehicles Entered	3733
Vehicles Exited	3725
Hourly Exit Rate	3725
Input Volume	18968
% of Volume	20
Denied Entry Before	1
Denied Entry After	0
Density (ft/veh)	368
Occupancy (veh)	135

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:20	11:20	11:20	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4289	4355	4412	4450	4354	4471	4460
Vehs Exited	4312	4331	4416	4443	4363	4439	4408
Starting Vehs	172	142	136	128	159	142	133
Ending Vehs	149	166	132	135	150	174	185
Denied Entry Before	0	0	2	0	2	1	1
Denied Entry After	1	0	0	0	2	2	0
Travel Distance (mi)	2954	2997	3029	3061	2965	3069	3013
Travel Time (hr)	145.4	151.4	150.9	153.2	148.8	154.3	160.8
Total Delay (hr)	61.9	66.6	65.2	66.6	64.6	67.4	75.1
Total Stops	4723	4828	4907	4935	4875	5058	5118
Fuel Used (gal)	116.1	117.8	119.4	120.0	116.4	120.7	120.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:20	11:20	11:20	11:20
End Time	12:30	12:30	12:30	12:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4438	4421	4381	4406
Vehs Exited	4437	4445	4381	4398
Starting Vehs	139	164	144	143
Ending Vehs	140	140	144	152
Denied Entry Before	1	0	0	0
Denied Entry After	1	1	0	0
Travel Distance (mi)	3064	3042	3006	3020
Travel Time (hr)	154.2	153.5	150.7	152.3
Total Delay (hr)	67.2	67.4	65.4	66.8
Total Stops	4978	4992	4785	4919
Fuel Used (gal)	120.3	120.0	118.6	119.0

Interval #0 Information Seeding

Start Time	11:20
End Time	11:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4289	4355	4412	4450	4354	4471	4460
Vehs Exited	4312	4331	4416	4443	4363	4439	4408
Starting Vehs	172	142	136	128	159	142	133
Ending Vehs	149	166	132	135	150	174	185
Denied Entry Before	0	0	2	0	2	1	1
Denied Entry After	1	0	0	0	2	2	0
Travel Distance (mi)	2954	2997	3029	3061	2965	3069	3013
Travel Time (hr)	145.4	151.4	150.9	153.2	148.8	154.3	160.8
Total Delay (hr)	61.9	66.6	65.2	66.6	64.6	67.4	75.1
Total Stops	4723	4828	4907	4935	4875	5058	5118
Fuel Used (gal)	116.1	117.8	119.4	120.0	116.4	120.7	120.5

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4438	4421	4381	4406
Vehs Exited	4437	4445	4381	4398
Starting Vehs	139	164	144	143
Ending Vehs	140	140	144	152
Denied Entry Before	1	0	0	0
Denied Entry After	1	1	0	0
Travel Distance (mi)	3064	3042	3006	3020
Travel Time (hr)	154.2	153.5	150.7	152.3
Total Delay (hr)	67.2	67.4	65.4	66.8
Total Stops	4978	4992	4785	4919
Fuel Used (gal)	120.3	120.0	118.6	119.0

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.3	0.9
Denied Del/Veh (s)	1.0	0.0	1.5	1.4	0.9
Total Delay (hr)	9.5	6.0	7.5	10.4	33.4
Total Del/Veh (s)	55.3	22.1	32.3	42.7	36.3
Stop Delay (hr)	8.5	4.9	6.0	8.9	28.2
Stop Del/Veh (s)	49.5	18.0	25.9	36.3	30.7
Total Stops	525	494	419	653	2091
Stop/Veh	0.85	0.50	0.50	0.74	0.63
Travel Dist (mi)	162.5	45.8	222.5	238.4	669.1
Travel Time (hr)	14.5	7.4	13.2	16.5	51.7
Avg Speed (mph)	11	6	17	15	13
Fuel Used (gal)	6.7	2.3	7.6	8.5	25.1
Fuel Eff. (mpg)	24.3	19.6	29.2	28.1	26.6
HC Emissions (g)	85	17	105	106	312
CO Emissions (g)	2143	453	4020	3831	10447
NOx Emissions (g)	241	43	341	346	970
Vehicles Entered	594	971	821	871	3257
Vehicles Exited	599	978	824	849	3250
Hourly Exit Rate	599	978	824	849	3250
Input Volume	602	958	828	866	3254
% of Volume	100	102	100	98	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	300	187	450	446	368
Occupancy (veh)	14	7	13	16	51

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.0
Total Delay (hr)	0.2	1.5	0.1	0.2	1.9
Total Del/Veh (s)	0.6	5.5	3.5	5.6	3.3
Stop Delay (hr)	0.0	0.4	0.1	0.1	0.6
Stop Del/Veh (s)	0.0	1.5	2.8	5.0	1.1
Total Stops	1	81	113	99	294
Stop/Veh	0.00	0.08	0.99	1.00	0.14
Travel Dist (mi)	36.4	118.1	5.2	4.1	163.9
Travel Time (hr)	1.0	4.5	0.4	0.4	6.3
Avg Speed (mph)	37	26	14	11	26
Fuel Used (gal)	1.6	6.8	0.1	0.1	8.6
Fuel Eff. (mpg)	22.6	17.4	36.9	33.7	19.0
HC Emissions (g)	41	146	1	1	189
CO Emissions (g)	1671	5795	39	23	7527
NOx Emissions (g)	121	467	4	2	594
Vehicles Entered	880	978	113	99	2070
Vehicles Exited	881	986	113	99	2079
Hourly Exit Rate	881	986	113	99	2079
Input Volume	892	976	116	97	2081
% of Volume	99	101	97	102	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	676	565			589
Occupancy (veh)	1	5	0	0	6

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	1.3	1.3	0.3
Total Delay (hr)	3.9	8.2	2.6	3.0	17.8
Total Del/Veh (s)	14.2	31.0	43.8	40.5	26.3
Stop Delay (hr)	2.9	6.6	2.3	2.7	14.5
Stop Del/Veh (s)	10.6	24.7	39.0	35.8	21.4
Total Stops	308	574	179	228	1289
Stop/Veh	0.31	0.60	0.85	0.84	0.53
Travel Dist (mi)	116.9	116.3	29.9	43.5	306.7
Travel Time (hr)	6.9	11.2	3.6	4.6	26.2
Avg Speed (mph)	17	10	8	10	12
Fuel Used (gal)	4.7	4.8	1.6	2.0	13.2
Fuel Eff. (mpg)	24.8	24.1	19.0	21.3	23.3
HC Emissions (g)	81	78	19	15	194
CO Emissions (g)	2887	2146	693	702	6428
NOx Emissions (g)	250	216	54	48	568
Vehicles Entered	984	949	210	267	2410
Vehicles Exited	984	938	210	269	2401
Hourly Exit Rate	984	938	210	269	2401
Input Volume	998	943	206	263	2410
% of Volume	99	99	102	102	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	366	229	426	385	319
Occupancy (veh)	7	11	4	4	26

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	0.7	0.6	0.0	0.1	1.5
Total Del/Veh (s)	2.9	2.5	5.9	3.5	2.8
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.3
Stop Del/Veh (s)	0.7	0.1	6.2	2.8	0.6
Total Stops	57	3	4	103	167
Stop/Veh	0.06	0.00	1.00	1.00	0.09
Travel Dist (mi)	117.9	108.1	0.1	5.8	231.9
Travel Time (hr)	3.7	3.2	0.0	0.4	7.3
Avg Speed (mph)	32	33	8	15	32
Fuel Used (gal)	5.5	5.1	0.0	0.2	10.8
Fuel Eff. (mpg)	21.3	21.1	30.2	37.0	21.4
HC Emissions (g)	138	136	0	1	274
CO Emissions (g)	4872	4804	0	37	9713
NOx Emissions (g)	434	417	0	3	854
Vehicles Entered	932	869	4	103	1908
Vehicles Exited	934	874	4	103	1915
Hourly Exit Rate	934	874	4	103	1915
Input Volume	938	864	4	103	1909
% of Volume	100	101	100	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	703	775			756
Occupancy (veh)	4	3	0	0	7

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.8	0.2	1.9	0.5
Total Delay (hr)	1.1	2.1	1.2	1.2	5.6
Total Del/Veh (s)	4.8	8.2	33.2	28.1	9.7
Stop Delay (hr)	0.6	1.2	1.1	1.1	3.9
Stop Del/Veh (s)	2.5	4.5	30.4	26.4	6.8
Total Stops	156	290	104	125	675
Stop/Veh	0.18	0.31	0.83	0.82	0.33
Travel Dist (mi)	105.5	257.7	23.7	24.1	411.0
Travel Time (hr)	3.6	8.3	2.0	2.3	16.2
Avg Speed (mph)	29	32	12	11	26
Fuel Used (gal)	2.9	7.4	1.0	1.0	12.3
Fuel Eff. (mpg)	36.0	34.8	24.7	24.2	33.4
HC Emissions (g)	73	180	4	18	275
CO Emissions (g)	1833	4968	174	349	7324
NOx Emissions (g)	234	588	14	45	881
Vehicles Entered	861	926	125	151	2063
Vehicles Exited	860	927	122	149	2058
Hourly Exit Rate	860	927	122	149	2058
Input Volume	859	926	117	148	2050
% of Volume	100	100	104	101	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	683	724	497	759	691
Occupancy (veh)	4	8	2	2	16

Total Network Performance

Denied Delay (hr)	1.3
Denied Del/Veh (s)	1.1
Total Delay (hr)	65.4
Total Del/Veh (s)	51.8
Stop Delay (hr)	48.4
Stop Del/Veh (s)	38.3
Total Stops	4919
Stop/Veh	1.08
Travel Dist (mi)	3020.1
Travel Time (hr)	152.3
Avg Speed (mph)	20
Fuel Used (gal)	119.0
Fuel Eff. (mpg)	25.4
HC Emissions (g)	2133
CO Emissions (g)	67623
NOx Emissions (g)	6696
Vehicles Entered	4406
Vehicles Exited	4398
Hourly Exit Rate	4398
Input Volume	19576
% of Volume	22
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	330
Occupancy (veh)	151

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:20	4:20	4:20	4:20	4:20	4:20	4:20
End Time	5:30	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5227	5351	5251	5137	5274	5158	5250
Vehs Exited	5258	5319	5293	5159	5279	5182	5290
Starting Vehs	217	228	252	211	227	239	240
Ending Vehs	186	260	210	189	222	215	200
Denied Entry Before	1	1	1	0	3	1	2
Denied Entry After	1	2	3	4	1	1	0
Travel Distance (mi)	3854	3923	3847	3719	3850	3764	3874
Travel Time (hr)	217.3	226.2	221.1	210.3	219.5	214.1	221.3
Total Delay (hr)	109.9	117.0	113.7	106.2	112.0	108.6	113.2
Total Stops	7143	7376	7222	6955	7318	7024	7314
Fuel Used (gal)	157.1	160.3	157.0	151.5	157.4	153.4	158.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:20	4:20	4:20	4:20
End Time	5:30	5:30	5:30	5:30
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5458	5196	5297	5262
Vehs Exited	5421	5242	5305	5275
Starting Vehs	205	220	230	228
Ending Vehs	242	174	222	213
Denied Entry Before	1	2	0	0
Denied Entry After	3	4	0	0
Travel Distance (mi)	3994	3838	3892	3855
Travel Time (hr)	233.1	222.6	221.7	220.7
Total Delay (hr)	121.8	115.6	113.4	113.1
Total Stops	7761	7431	7420	7294
Fuel Used (gal)	164.5	157.8	159.1	157.7

Interval #0 Information Seeding

Start Time	4:20
End Time	4:30
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5227	5351	5251	5137	5274	5158	5250
Vehs Exited	5258	5319	5293	5159	5279	5182	5290
Starting Vehs	217	228	252	211	227	239	240
Ending Vehs	186	260	210	189	222	215	200
Denied Entry Before	1	1	1	0	3	1	2
Denied Entry After	1	2	3	4	1	1	0
Travel Distance (mi)	3854	3923	3847	3719	3850	3764	3874
Travel Time (hr)	217.3	226.2	221.1	210.3	219.5	214.1	221.3
Total Delay (hr)	109.9	117.0	113.7	106.2	112.0	108.6	113.2
Total Stops	7143	7376	7222	6955	7318	7024	7314
Fuel Used (gal)	157.1	160.3	157.0	151.5	157.4	153.4	158.6

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5458	5196	5297	5262
Vehs Exited	5421	5242	5305	5275
Starting Vehs	205	220	230	228
Ending Vehs	242	174	222	213
Denied Entry Before	1	2	0	0
Denied Entry After	3	4	0	0
Travel Distance (mi)	3994	3838	3892	3855
Travel Time (hr)	233.1	222.6	221.7	220.7
Total Delay (hr)	121.8	115.6	113.4	113.1
Total Stops	7761	7431	7420	7294
Fuel Used (gal)	164.5	157.8	159.1	157.7

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.5	1.0
Denied Del/Veh (s)	1.0	0.1	1.1	1.6	0.9
Total Delay (hr)	8.0	13.5	10.8	13.5	45.7
Total Del/Veh (s)	43.0	34.7	41.3	47.2	40.8
Stop Delay (hr)	7.0	11.7	8.6	11.5	38.7
Stop Del/Veh (s)	37.5	30.0	32.8	40.4	34.6
Total Stops	496	1003	596	806	2901
Stop/Veh	0.74	0.72	0.63	0.79	0.72
Travel Dist (mi)	177.0	63.5	253.7	278.2	772.4
Travel Time (hr)	13.4	15.4	17.1	20.8	66.8
Avg Speed (mph)	13	4	15	14	12
Fuel Used (gal)	6.7	4.5	9.0	10.3	30.4
Fuel Eff. (mpg)	26.5	14.1	28.3	27.1	25.4
HC Emissions (g)	54	16	84	86	241
CO Emissions (g)	1652	528	3832	3876	9887
NOx Emissions (g)	173	48	295	317	832
Vehicles Entered	646	1379	934	1017	3976
Vehicles Exited	653	1396	921	998	3968
Hourly Exit Rate	653	1396	921	998	3968
Input Volume	653	1395	937	1012	3997
% of Volume	100	100	98	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	325	90	344	355	284
Occupancy (veh)	13	15	17	20	66

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	2.6	0.1	0.1	3.1
Total Del/Veh (s)	0.8	6.7	3.3	9.5	4.3
Stop Delay (hr)	0.0	0.2	0.1	0.1	0.4
Stop Del/Veh (s)	0.0	0.5	2.8	9.2	0.6
Total Stops	0	61	99	48	208
Stop/Veh	0.00	0.04	1.00	0.98	0.08
Travel Dist (mi)	42.3	174.6	4.5	2.0	223.4
Travel Time (hr)	1.2	7.0	0.3	0.2	8.7
Avg Speed (mph)	36	25	14	9	26
Fuel Used (gal)	1.4	10.3	0.1	0.1	11.9
Fuel Eff. (mpg)	31.1	16.9	37.8	29.8	18.8
HC Emissions (g)	25	141	1	0	167
CO Emissions (g)	1107	6687	32	10	7835
NOx Emissions (g)	77	528	3	1	609
Vehicles Entered	997	1404	99	48	2548
Vehicles Exited	997	1412	99	49	2557
Hourly Exit Rate	997	1412	99	49	2557
Input Volume	994	1436	93	48	2571
% of Volume	100	98	106	102	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	562	365			421
Occupancy (veh)	1	7	0	0	9

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.3
Denied Del/Veh (s)	0.0	0.0	1.4	1.4	0.3
Total Delay (hr)	11.2	15.9	3.2	4.4	34.7
Total Del/Veh (s)	36.8	40.3	41.4	41.2	39.3
Stop Delay (hr)	8.4	11.3	2.8	3.8	26.3
Stop Del/Veh (s)	27.7	28.8	36.1	35.4	29.9
Total Stops	717	1079	227	317	2340
Stop/Veh	0.65	0.76	0.82	0.83	0.74
Travel Dist (mi)	131.5	172.9	39.1	61.2	404.7
Travel Time (hr)	14.4	20.2	4.5	6.5	45.7
Avg Speed (mph)	9	9	9	10	9
Fuel Used (gal)	5.8	7.8	2.0	2.8	18.4
Fuel Eff. (mpg)	22.6	22.2	19.5	21.7	22.0
HC Emissions (g)	44	50	13	22	130
CO Emissions (g)	1535	1781	704	935	4955
NOx Emissions (g)	144	160	44	67	416
Vehicles Entered	1081	1406	273	376	3136
Vehicles Exited	1081	1387	274	379	3121
Hourly Exit Rate	1081	1387	274	379	3121
Input Volume	1074	1429	273	379	3155
% of Volume	101	97	100	100	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	174	127	339	269	183
Occupancy (veh)	14	20	4	6	45

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	1.9	1.6	0.0	0.1	3.6
Total Del/Veh (s)	6.1	4.2	13.4	4.3	5.1
Stop Delay (hr)	0.4	0.0	0.0	0.1	0.5
Stop Del/Veh (s)	1.1	0.1	13.7	3.7	0.7
Total Stops	44	6	5	99	154
Stop/Veh	0.04	0.00	1.00	0.99	0.06
Travel Dist (mi)	141.7	167.4	0.1	5.6	314.9
Travel Time (hr)	5.4	5.5	0.0	0.4	11.4
Avg Speed (mph)	26	30	5	15	28
Fuel Used (gal)	8.2	6.9	0.0	0.2	15.3
Fuel Eff. (mpg)	17.2	24.1	19.6	35.6	20.5
HC Emissions (g)	113	89	0	1	202
CO Emissions (g)	5786	4360	0	33	10180
NOx Emissions (g)	414	326	0	3	743
Vehicles Entered	1116	1352	5	100	2573
Vehicles Exited	1124	1349	5	99	2577
Hourly Exit Rate	1124	1349	5	99	2577
Input Volume	1116	1371	6	100	2593
% of Volume	101	98	83	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	480	453			487
Occupancy (veh)	5	6	0	0	11

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.3	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.7	0.2	2.2	0.5
Total Delay (hr)	4.7	4.9	1.6	3.0	14.2
Total Del/Veh (s)	15.6	12.5	45.0	48.6	18.0
Stop Delay (hr)	2.6	2.6	1.5	2.9	9.5
Stop Del/Veh (s)	8.5	6.6	41.7	46.2	12.0
Total Stops	433	453	107	195	1188
Stop/Veh	0.40	0.32	0.84	0.87	0.42
Travel Dist (mi)	132.8	387.9	23.7	35.5	580.0
Travel Time (hr)	7.8	14.0	2.5	4.7	28.9
Avg Speed (mph)	17	28	10	8	20
Fuel Used (gal)	4.3	11.3	1.1	1.8	18.4
Fuel Eff. (mpg)	31.2	34.4	22.0	19.7	31.5
HC Emissions (g)	39	101	6	15	161
CO Emissions (g)	1270	4560	220	378	6427
NOx Emissions (g)	146	440	19	43	647
Vehicles Entered	1073	1394	125	222	2814
Vehicles Exited	1083	1397	124	217	2821
Hourly Exit Rate	1083	1397	124	217	2821
Input Volume	1065	1407	127	223	2822
% of Volume	102	99	98	97	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	318	427	408	371	387
Occupancy (veh)	8	14	2	5	29

Total Network Performance

Denied Delay (hr)	1.6
Denied Del/Veh (s)	1.1
Total Delay (hr)	111.5
Total Del/Veh (s)	73.1
Stop Delay (hr)	78.7
Stop Del/Veh (s)	51.6
Total Stops	7294
Stop/Veh	1.33
Travel Dist (mi)	3855.4
Travel Time (hr)	220.7
Avg Speed (mph)	18
Fuel Used (gal)	157.7
Fuel Eff. (mpg)	24.5
HC Emissions (g)	1585
CO Emissions (g)	65523
NOx Emissions (g)	5771
Vehicles Entered	5262
Vehicles Exited	5275
Hourly Exit Rate	5275
Input Volume	25152
% of Volume	21
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	227
Occupancy (veh)	219

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3796	3758	3698	3714	3696	3662	3710
Vehs Exited	3788	3729	3713	3731	3712	3652	3718
Starting Vehs	126	112	132	138	130	112	115
Ending Vehs	134	141	117	121	114	122	107
Denied Entry Before	1	2	2	0	0	2	0
Denied Entry After	1	2	2	3	2	1	2
Travel Distance (mi)	2862	2863	2843	2862	2815	2824	2831
Travel Time (hr)	128.2	127.7	127.9	127.3	125.2	124.4	127.1
Total Delay (hr)	50.3	50.1	50.9	49.9	48.9	48.5	50.3
Total Stops	3917	3853	3908	3880	3777	3726	3834
Fuel Used (gal)	108.4	107.6	107.3	107.8	105.5	106.3	106.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:57	6:57	6:57	6:57
End Time	8:07	8:07	8:07	8:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3748	3738	3753	3724
Vehs Exited	3737	3757	3743	3727
Starting Vehs	118	143	114	121
Ending Vehs	129	124	124	118
Denied Entry Before	1	0	2	0
Denied Entry After	2	0	2	0
Travel Distance (mi)	2842	2893	2880	2852
Travel Time (hr)	125.9	129.8	127.3	127.1
Total Delay (hr)	49.0	51.6	49.3	49.9
Total Stops	3845	3968	3827	3851
Fuel Used (gal)	107.1	108.9	107.6	107.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3796	3758	3698	3714	3696	3662	3710
Vehs Exited	3788	3729	3713	3731	3712	3652	3718
Starting Vehs	126	112	132	138	130	112	115
Ending Vehs	134	141	117	121	114	122	107
Denied Entry Before	1	2	2	0	0	2	0
Denied Entry After	1	2	2	3	2	1	2
Travel Distance (mi)	2862	2863	2843	2862	2815	2824	2831
Travel Time (hr)	128.2	127.7	127.9	127.3	125.2	124.4	127.1
Total Delay (hr)	50.3	50.1	50.9	49.9	48.9	48.5	50.3
Total Stops	3917	3853	3908	3880	3777	3726	3834
Fuel Used (gal)	108.4	107.6	107.3	107.8	105.5	106.3	106.8

Interval #1 Information Recording

Start Time	7:07
End Time	8:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3748	3738	3753	3724
Vehs Exited	3737	3757	3743	3727
Starting Vehs	118	143	114	121
Ending Vehs	129	124	124	118
Denied Entry Before	1	0	2	0
Denied Entry After	2	0	2	0
Travel Distance (mi)	2842	2893	2880	2852
Travel Time (hr)	125.9	129.8	127.3	127.1
Total Delay (hr)	49.0	51.6	49.3	49.9
Total Stops	3845	3968	3827	3851
Fuel Used (gal)	107.1	108.9	107.6	107.3

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.0	0.2	0.3	0.6
Denied Del/Veh (s)	0.5	0.0	1.5	1.4	0.8
Total Delay (hr)	8.7	3.8	3.6	9.1	25.2
Total Del/Veh (s)	41.7	18.2	26.5	37.4	31.6
Stop Delay (hr)	7.3	3.2	2.9	7.6	21.0
Stop Del/Veh (s)	35.1	15.1	21.2	31.3	26.3
Total Stops	585	315	223	630	1753
Stop/Veh	0.78	0.42	0.46	0.72	0.61
Travel Dist (mi)	199.5	35.5	130.8	236.5	602.3
Travel Time (hr)	14.6	4.9	7.0	15.2	41.7
Avg Speed (mph)	14	7	19	16	15
Fuel Used (gal)	7.3	1.5	4.5	8.1	21.4
Fuel Eff. (mpg)	27.5	23.3	29.2	29.2	28.2
HC Emissions (g)	98	10	71	102	280
CO Emissions (g)	2353	293	2651	3605	8902
NOx Emissions (g)	278	29	228	338	873
Vehicles Entered	730	751	483	863	2827
Vehicles Exited	728	753	484	865	2830
Hourly Exit Rate	728	753	484	865	2830
Input Volume	724	759	478	874	2835
% of Volume	101	99	101	99	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	296	281	856	487	455
Occupancy (veh)	15	5	7	15	41

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	0.6	0.1	0.0	0.9
Total Del/Veh (s)	0.6	2.7	3.2	3.9	1.6
Stop Delay (hr)	0.0	0.1	0.1	0.0	0.2
Stop Del/Veh (s)	0.0	0.6	2.7	3.7	0.4
Total Stops	0	24	91	10	125
Stop/Veh	0.00	0.03	1.00	1.00	0.06
Travel Dist (mi)	47.3	96.6	4.2	0.4	148.5
Travel Time (hr)	1.3	2.9	0.3	0.0	4.6
Avg Speed (mph)	37	33	14	13	33
Fuel Used (gal)	2.0	4.6	0.1	0.0	6.7
Fuel Eff. (mpg)	23.9	21.0	38.7	47.0	22.2
HC Emissions (g)	46	93	1	0	140
CO Emissions (g)	1884	3769	28	1	5681
NOx Emissions (g)	142	309	2	0	453
Vehicles Entered	1136	790	91	10	2027
Vehicles Exited	1136	789	91	10	2026
Hourly Exit Rate	1136	789	91	10	2026
Input Volume	1134	795	89	11	2029
% of Volume	100	99	102	91	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	523	849			797
Occupancy (veh)	1	3	0	0	5

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.2	0.0	0.2
Denied Del/Veh (s)	0.0	0.0	3.0	1.1	0.3
Total Delay (hr)	4.2	3.9	1.3	1.0	10.5
Total Del/Veh (s)	12.5	17.1	26.3	35.7	16.2
Stop Delay (hr)	2.7	3.2	1.2	0.9	7.9
Stop Del/Veh (s)	7.9	13.6	22.8	33.0	12.2
Total Stops	391	318	156	91	956
Stop/Veh	0.32	0.38	0.85	0.88	0.41
Travel Dist (mi)	145.4	100.1	26.1	16.8	288.4
Travel Time (hr)	7.7	6.4	2.3	1.6	18.0
Avg Speed (mph)	19	16	12	11	16
Fuel Used (gal)	5.3	3.3	1.1	0.7	10.4
Fuel Eff. (mpg)	27.6	30.5	23.1	22.9	27.7
HC Emissions (g)	72	50	11	8	142
CO Emissions (g)	2646	1420	467	288	4821
NOx Emissions (g)	247	162	34	25	468
Vehicles Entered	1209	827	183	102	2321
Vehicles Exited	1206	824	183	102	2315
Hourly Exit Rate	1206	824	183	102	2315
Input Volume	1205	830	184	101	2320
% of Volume	100	99	99	101	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	326	394	1045	1091	505
Occupancy (veh)	8	6	2	2	18

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	1.1	0.4	0.0	0.0	1.5
Total Del/Veh (s)	3.1	1.8	11.4	2.6	2.6
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	0.3	0.2	11.7	2.4	0.3
Total Stops	28	4	2	27	61
Stop/Veh	0.02	0.00	1.00	1.00	0.03
Travel Dist (mi)	154.0	100.9	0.1	1.5	256.5
Travel Time (hr)	4.7	2.8	0.0	0.1	7.6
Avg Speed (mph)	33	36	6	17	34
Fuel Used (gal)	7.5	4.2	0.0	0.0	11.7
Fuel Eff. (mpg)	20.6	23.9	24.2	46.4	21.9
HC Emissions (g)	131	82	0	0	213
CO Emissions (g)	5571	3224	0	8	8803
NOx Emissions (g)	462	281	0	1	744
Vehicles Entered	1223	820	2	27	2072
Vehicles Exited	1225	821	2	27	2075
Hourly Exit Rate	1225	821	2	27	2075
Input Volume	1225	824	2	28	2079
% of Volume	100	100	100	96	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	550	909			731
Occupancy (veh)	5	3	0	0	8

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.1	0.1	0.3
Denied Del/Veh (s)	0.0	0.7	2.0	2.7	0.5
Total Delay (hr)	2.2	1.6	1.5	0.9	6.1
Total Del/Veh (s)	6.6	6.3	33.5	45.6	9.4
Stop Delay (hr)	1.2	0.9	1.3	0.8	4.3
Stop Del/Veh (s)	3.7	3.5	30.5	44.1	6.6
Total Stops	249	228	136	60	673
Stop/Veh	0.21	0.25	0.86	0.88	0.29
Travel Dist (mi)	146.7	254.7	30.1	10.7	442.2
Travel Time (hr)	5.6	7.7	2.6	1.4	17.3
Avg Speed (mph)	26	34	12	8	26
Fuel Used (gal)	4.2	7.4	1.2	0.5	13.3
Fuel Eff. (mpg)	34.7	34.6	24.2	21.0	33.1
HC Emissions (g)	63	137	8	10	218
CO Emissions (g)	1828	4190	285	178	6482
NOx Emissions (g)	235	492	26	23	776
Vehicles Entered	1188	916	158	67	2329
Vehicles Exited	1190	916	158	67	2331
Hourly Exit Rate	1190	916	158	67	2331
Input Volume	1186	932	157	68	2343
% of Volume	100	98	101	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	443	777	788	1275	707
Occupancy (veh)	6	8	3	1	17

Total Network Performance

Denied Delay (hr)	1.2
Denied Del/Veh (s)	1.1
Total Delay (hr)	48.7
Total Del/Veh (s)	45.6
Stop Delay (hr)	34.1
Stop Del/Veh (s)	31.9
Total Stops	3851
Stop/Veh	1.00
Travel Dist (mi)	2851.5
Travel Time (hr)	127.1
Avg Speed (mph)	23
Fuel Used (gal)	107.3
Fuel Eff. (mpg)	26.6
HC Emissions (g)	1709
CO Emissions (g)	57975
NOx Emissions (g)	5701
Vehicles Entered	3724
Vehicles Exited	3727
Hourly Exit Rate	3727
Input Volume	18968
% of Volume	20
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	409
Occupancy (veh)	126

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	11:57	11:57	11:57	11:57	11:57	11:57	11:57
End Time	1:07	1:07	1:07	1:07	1:07	1:07	1:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4254	4410	4486	4409	4334	4376	4491
Vehs Exited	4312	4425	4487	4441	4341	4380	4468
Starting Vehs	174	151	140	163	163	152	142
Ending Vehs	116	136	139	131	156	148	165
Denied Entry Before	0	1	2	2	0	2	1
Denied Entry After	1	3	0	2	3	0	2
Travel Distance (mi)	2895	3023	3073	3039	2997	2977	3058
Travel Time (hr)	145.9	154.9	155.8	152.8	150.0	150.6	154.3
Total Delay (hr)	63.8	69.1	69.0	66.9	65.4	66.3	67.9
Total Stops	4743	5017	5032	4928	4936	4812	5013
Fuel Used (gal)	114.6	120.2	121.9	120.2	117.5	117.0	120.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	11:57	11:57	11:57	11:57
End Time	1:07	1:07	1:07	1:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4393	4444	4454	4405
Vehs Exited	4420	4466	4479	4423
Starting Vehs	168	168	168	159
Ending Vehs	141	146	143	139
Denied Entry Before	0	3	1	0
Denied Entry After	3	2	1	1
Travel Distance (mi)	3012	3044	3084	3020
Travel Time (hr)	153.2	154.2	154.8	152.7
Total Delay (hr)	67.5	68.0	67.7	67.2
Total Stops	4986	5004	4948	4942
Fuel Used (gal)	120.2	119.9	120.9	119.3

Interval #0 Information Seeding

Start Time	11:57
End Time	12:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	12:07
End Time	1:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4254	4410	4486	4409	4334	4376	4491
Vehs Exited	4312	4425	4487	4441	4341	4380	4468
Starting Vehs	174	151	140	163	163	152	142
Ending Vehs	116	136	139	131	156	148	165
Denied Entry Before	0	1	2	2	0	2	1
Denied Entry After	1	3	0	2	3	0	2
Travel Distance (mi)	2895	3023	3073	3039	2997	2977	3058
Travel Time (hr)	145.9	154.9	155.8	152.8	150.0	150.6	154.3
Total Delay (hr)	63.8	69.1	69.0	66.9	65.4	66.3	67.9
Total Stops	4743	5017	5032	4928	4936	4812	5013
Fuel Used (gal)	114.6	120.2	121.9	120.2	117.5	117.0	120.3

Interval #1 Information Recording

Start Time	12:07
End Time	1:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4393	4444	4454	4405
Vehs Exited	4420	4466	4479	4423
Starting Vehs	168	168	168	159
Ending Vehs	141	146	143	139
Denied Entry Before	0	3	1	0
Denied Entry After	3	2	1	1
Travel Distance (mi)	3012	3044	3084	3020
Travel Time (hr)	153.2	154.2	154.8	152.7
Total Delay (hr)	67.5	68.0	67.7	67.2
Total Stops	4986	5004	4948	4942
Fuel Used (gal)	120.2	119.9	120.9	119.3

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.3	0.8
Denied Del/Veh (s)	1.0	0.0	1.4	1.4	0.9
Total Delay (hr)	8.7	5.9	7.7	10.1	32.4
Total Del/Veh (s)	51.3	22.2	32.4	41.9	35.5
Stop Delay (hr)	7.8	4.8	6.1	8.7	27.3
Stop Del/Veh (s)	45.8	18.2	25.8	35.8	30.0
Total Stops	507	484	432	626	2049
Stop/Veh	0.83	0.51	0.51	0.72	0.62
Travel Dist (mi)	165.0	44.3	226.5	233.8	669.6
Travel Time (hr)	13.8	7.2	13.4	16.2	50.7
Avg Speed (mph)	12	6	17	15	13
Fuel Used (gal)	6.5	2.2	7.7	8.4	24.8
Fuel Eff. (mpg)	25.3	19.7	29.3	28.0	27.0
HC Emissions (g)	89	15	97	103	304
CO Emissions (g)	2167	427	3874	3775	10244
NOx Emissions (g)	249	42	324	337	953
Vehicles Entered	604	942	833	853	3232
Vehicles Exited	592	936	842	862	3232
Hourly Exit Rate	592	936	842	862	3232
Input Volume	602	958	828	866	3254
% of Volume	98	98	102	100	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	1	0	1
Density (ft/veh)	315	192	441	456	375
Occupancy (veh)	14	7	13	16	50

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Delay (hr)	0.1	1.3	0.1	0.1	1.7
Total Del/Veh (s)	0.6	5.0	3.5	5.3	3.0
Stop Delay (hr)	0.0	0.4	0.1	0.1	0.6
Stop Del/Veh (s)	0.0	1.4	2.8	4.8	1.0
Total Stops	1	63	116	96	276
Stop/Veh	0.00	0.06	1.00	1.00	0.13
Travel Dist (mi)	36.7	117.0	5.3	4.0	163.0
Travel Time (hr)	1.0	4.3	0.4	0.4	6.1
Avg Speed (mph)	37	27	14	11	27
Fuel Used (gal)	1.7	6.7	0.1	0.1	8.6
Fuel Eff. (mpg)	22.0	17.5	37.4	34.5	18.9
HC Emissions (g)	40	144	1	1	186
CO Emissions (g)	1699	5706	35	26	7466
NOx Emissions (g)	121	465	3	3	592
Vehicles Entered	887	971	116	96	2070
Vehicles Exited	886	966	116	96	2064
Hourly Exit Rate	886	966	116	96	2064
Input Volume	892	976	116	97	2081
% of Volume	99	99	100	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	675	576			598
Occupancy (veh)	1	4	0	0	6

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	2.6	1.3	0.4
Total Delay (hr)	6.0	8.1	2.0	3.4	19.4
Total Del/Veh (s)	21.5	30.5	34.6	44.6	28.7
Stop Delay (hr)	4.8	6.4	1.7	3.1	16.0
Stop Del/Veh (s)	17.4	24.1	30.5	39.9	23.7
Total Stops	427	553	171	235	1386
Stop/Veh	0.43	0.58	0.84	0.85	0.57
Travel Dist (mi)	117.5	114.9	28.7	44.3	305.4
Travel Time (hr)	9.0	11.0	3.0	5.0	27.9
Avg Speed (mph)	13	10	10	9	11
Fuel Used (gal)	5.0	4.8	1.4	2.2	13.4
Fuel Eff. (mpg)	23.4	23.8	20.5	20.5	22.8
HC Emissions (g)	80	80	17	16	192
CO Emissions (g)	2721	2224	627	725	6298
NOx Emissions (g)	241	216	48	49	555
Vehicles Entered	994	943	201	270	2408
Vehicles Exited	995	943	202	273	2413
Hourly Exit Rate	995	943	202	273	2413
Input Volume	998	943	206	263	2410
% of Volume	100	100	98	104	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	280	229	789	352	325
Occupancy (veh)	9	11	3	5	28

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	0.9	0.6	0.0	0.1	1.6
Total Del/Veh (s)	3.5	2.4	4.7	3.5	3.0
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.3
Stop Del/Veh (s)	0.8	0.1	4.9	2.8	0.6
Total Stops	61	2	3	104	170
Stop/Veh	0.07	0.00	1.00	1.00	0.09
Travel Dist (mi)	117.8	107.2	0.1	5.9	230.9
Travel Time (hr)	3.8	3.2	0.0	0.4	7.4
Avg Speed (mph)	31	34	9	16	31
Fuel Used (gal)	5.9	4.9	0.0	0.2	11.0
Fuel Eff. (mpg)	19.8	21.7	34.8	36.6	20.9
HC Emissions (g)	140	131	0	1	273
CO Emissions (g)	5183	4611	0	40	9835
NOx Emissions (g)	448	404	0	4	856
Vehicles Entered	935	862	3	104	1904
Vehicles Exited	936	861	3	104	1904
Hourly Exit Rate	936	861	3	104	1904
Input Volume	938	864	4	103	1909
% of Volume	100	100	75	101	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	675	796			749
Occupancy (veh)	4	3	0	0	7

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.0	0.1	0.3
Denied Del/Veh (s)	0.0	0.8	1.4	1.9	0.6
Total Delay (hr)	1.1	2.0	0.9	1.2	5.3
Total Del/Veh (s)	4.7	7.6	27.5	28.9	9.1
Stop Delay (hr)	0.6	1.1	0.8	1.1	3.6
Stop Del/Veh (s)	2.3	4.2	24.8	27.2	6.3
Total Stops	153	279	99	126	657
Stop/Veh	0.18	0.30	0.80	0.83	0.32
Travel Dist (mi)	105.6	259.4	22.8	23.9	411.7
Travel Time (hr)	3.6	8.2	1.8	2.3	16.0
Avg Speed (mph)	29	32	13	11	26
Fuel Used (gal)	2.9	7.5	0.9	1.0	12.3
Fuel Eff. (mpg)	36.0	34.5	25.6	24.1	33.4
HC Emissions (g)	76	181	4	14	275
CO Emissions (g)	1888	5050	171	287	7397
NOx Emissions (g)	242	598	14	37	890
Vehicles Entered	863	934	121	149	2067
Vehicles Exited	861	932	122	151	2066
Hourly Exit Rate	861	932	122	151	2066
Input Volume	859	926	117	148	2050
% of Volume	100	101	104	102	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	684	728	1143	751	768
Occupancy (veh)	4	8	2	2	16

Total Network Performance

Denied Delay (hr)	1.5
Denied Del/Veh (s)	1.2
Total Delay (hr)	65.7
Total Del/Veh (s)	51.9
Stop Delay (hr)	48.7
Stop Del/Veh (s)	38.5
Total Stops	4942
Stop/Veh	1.08
Travel Dist (mi)	3020.3
Travel Time (hr)	152.7
Avg Speed (mph)	20
Fuel Used (gal)	119.3
Fuel Eff. (mpg)	25.3
HC Emissions (g)	2103
CO Emissions (g)	67138
NOx Emissions (g)	6637
Vehicles Entered	4405
Vehicles Exited	4423
Hourly Exit Rate	4423
Input Volume	19576
% of Volume	23
Denied Entry Before	0
Denied Entry After	1
Density (ft/veh)	340
Occupancy (veh)	151

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:57	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:07	6:07	6:07	6:07	6:07	6:07	6:07
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5238	5341	5210	5062	5341	5312	5377
Vehs Exited	5263	5371	5234	5107	5363	5330	5375
Starting Vehs	214	252	220	211	221	196	216
Ending Vehs	189	222	196	166	199	178	218
Denied Entry Before	2	0	0	2	2	1	3
Denied Entry After	2	1	2	0	1	2	1
Travel Distance (mi)	3821	3908	3797	3741	3888	3863	3904
Travel Time (hr)	202.2	210.9	203.2	191.5	207.3	208.7	209.2
Total Delay (hr)	95.3	101.6	96.8	87.3	98.6	100.3	99.8
Total Stops	6413	6588	6458	5972	6568	6542	6598
Fuel Used (gal)	151.5	155.5	150.8	146.9	153.8	153.3	155.1

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:57	4:57	4:57	4:57
End Time	6:07	6:07	6:07	6:07
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5309	5297	5321	5277
Vehs Exited	5336	5327	5305	5301
Starting Vehs	237	225	192	215
Ending Vehs	210	195	208	195
Denied Entry Before	1	2	0	0
Denied Entry After	1	3	2	0
Travel Distance (mi)	3888	3884	3891	3859
Travel Time (hr)	207.7	206.5	207.8	205.5
Total Delay (hr)	98.8	98.0	99.1	97.6
Total Stops	6612	6495	6556	6482
Fuel Used (gal)	154.8	154.2	155.0	153.1

Interval #0 Information Seeding

Start Time	4:57
End Time	5:07
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	5:07
End Time	6:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	5238	5341	5210	5062	5341	5312	5377
Vehs Exited	5263	5371	5234	5107	5363	5330	5375
Starting Vehs	214	252	220	211	221	196	216
Ending Vehs	189	222	196	166	199	178	218
Denied Entry Before	2	0	0	2	2	1	3
Denied Entry After	2	1	2	0	1	2	1
Travel Distance (mi)	3821	3908	3797	3741	3888	3863	3904
Travel Time (hr)	202.2	210.9	203.2	191.5	207.3	208.7	209.2
Total Delay (hr)	95.3	101.6	96.8	87.3	98.6	100.3	99.8
Total Stops	6413	6588	6458	5972	6568	6542	6598
Fuel Used (gal)	151.5	155.5	150.8	146.9	153.8	153.3	155.1

Interval #1 Information Recording

Start Time	5:07
End Time	6:07
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	5309	5297	5321	5277
Vehs Exited	5336	5327	5305	5301
Starting Vehs	237	225	192	215
Ending Vehs	210	195	208	195
Denied Entry Before	1	2	0	0
Denied Entry After	1	3	2	0
Travel Distance (mi)	3888	3884	3891	3859
Travel Time (hr)	207.7	206.5	207.8	205.5
Total Delay (hr)	98.8	98.0	99.1	97.6
Total Stops	6612	6495	6556	6482
Fuel Used (gal)	154.8	154.2	155.0	153.1

1: US 17/Woodland Bv & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.3	0.4	0.9
Denied Del/Veh (s)	1.0	0.0	1.1	1.6	0.9
Total Delay (hr)	8.3	7.4	11.2	13.0	39.9
Total Del/Veh (s)	44.8	19.4	41.6	45.7	35.6
Stop Delay (hr)	7.2	5.8	8.9	11.1	33.0
Stop Del/Veh (s)	39.2	15.1	33.0	39.0	29.4
Total Stops	517	611	610	780	2518
Stop/Veh	0.78	0.44	0.63	0.76	0.62
Travel Dist (mi)	178.8	62.9	258.7	273.9	774.3
Travel Time (hr)	13.8	9.4	17.6	20.2	61.0
Avg Speed (mph)	13	7	15	14	13
Fuel Used (gal)	6.8	3.0	9.2	10.0	28.9
Fuel Eff. (mpg)	26.4	21.1	28.3	27.3	26.8
HC Emissions (g)	57	15	91	86	249
CO Emissions (g)	1715	476	3955	3798	9944
NOx Emissions (g)	181	47	312	313	853
Vehicles Entered	653	1369	950	998	3970
Vehicles Exited	643	1375	959	1012	3989
Hourly Exit Rate	643	1375	959	1012	3989
Input Volume	653	1395	937	1012	3997
% of Volume	98	99	102	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	316	148	334	365	311
Occupancy (veh)	14	9	17	20	60

2: Alabama Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.2	2.1	0.1	0.2	2.5
Total Del/Veh (s)	0.6	5.2	3.3	11.4	3.5
Stop Delay (hr)	0.0	0.2	0.1	0.2	0.4
Stop Del/Veh (s)	0.0	0.5	2.7	11.1	0.6
Total Stops	0	50	91	50	191
Stop/Veh	0.00	0.04	1.00	1.00	0.08
Travel Dist (mi)	41.6	175.4	4.2	2.1	223.2
Travel Time (hr)	1.1	6.5	0.3	0.3	8.2
Avg Speed (mph)	37	27	14	8	27
Fuel Used (gal)	1.6	9.6	0.1	0.1	11.3
Fuel Eff. (mpg)	26.7	18.4	38.7	27.0	19.8
HC Emissions (g)	29	132	1	0	162
CO Emissions (g)	1370	6274	26	13	7683
NOx Emissions (g)	92	492	2	1	588
Vehicles Entered	978	1413	91	50	2532
Vehicles Exited	979	1409	91	50	2529
Hourly Exit Rate	979	1409	91	50	2529
Input Volume	994	1436	93	48	2571
% of Volume	98	98	98	104	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	593	386			444
Occupancy (veh)	1	6	0	0	8

3: Amelia Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.2	0.2	0.3
Denied Del/Veh (s)	0.0	0.0	2.5	1.4	0.4
Total Delay (hr)	7.6	12.7	2.4	4.9	27.6
Total Del/Veh (s)	25.7	32.1	31.4	44.0	31.4
Stop Delay (hr)	5.7	9.3	2.1	4.2	21.3
Stop Del/Veh (s)	19.1	23.6	27.1	38.2	24.2
Total Stops	594	785	220	331	1930
Stop/Veh	0.56	0.55	0.79	0.83	0.61
Travel Dist (mi)	128.4	173.4	39.0	64.2	405.0
Travel Time (hr)	10.8	17.0	3.8	7.1	38.7
Avg Speed (mph)	12	10	11	9	11
Fuel Used (gal)	5.1	7.2	1.8	3.0	17.1
Fuel Eff. (mpg)	25.4	24.0	21.3	21.3	23.6
HC Emissions (g)	53	55	14	23	145
CO Emissions (g)	1893	2051	688	1008	5640
NOx Emissions (g)	170	183	46	72	471
Vehicles Entered	1057	1410	273	390	3130
Vehicles Exited	1052	1408	276	393	3129
Hourly Exit Rate	1052	1408	276	393	3129
Input Volume	1074	1429	273	379	3155
% of Volume	98	99	101	104	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	234	148	619	246	235
Occupancy (veh)	11	17	4	7	38

4: Intnl Spdway Bv/US 92 & Lowe's Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	1.4	1.5	0.0	0.1	3.1
Total Del/Veh (s)	4.7	3.9	10.6	4.5	4.3
Stop Delay (hr)	0.3	0.0	0.0	0.1	0.4
Stop Del/Veh (s)	0.8	0.1	10.8	3.9	0.6
Total Stops	45	3	7	94	149
Stop/Veh	0.04	0.00	1.00	1.00	0.06
Travel Dist (mi)	138.3	169.2	0.2	5.3	313.0
Travel Time (hr)	4.8	5.5	0.0	0.4	10.7
Avg Speed (mph)	29	31	6	14	29
Fuel Used (gal)	7.8	7.3	0.0	0.1	15.3
Fuel Eff. (mpg)	17.7	23.3	22.0	35.9	20.5
HC Emissions (g)	119	96	0	1	217
CO Emissions (g)	5944	4548	1	32	10525
NOx Emissions (g)	424	359	0	3	785
Vehicles Entered	1095	1359	7	93	2554
Vehicles Exited	1099	1358	7	94	2558
Hourly Exit Rate	1099	1358	7	94	2558
Input Volume	1116	1371	6	100	2593
% of Volume	98	99	117	94	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	533	459			515
Occupancy (veh)	5	5	0	0	11

5: Garfield Ave & Intnl Spdway Bv/US 92 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.3	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.7	1.4	2.2	0.6
Total Delay (hr)	4.3	4.9	1.5	3.1	13.7
Total Del/Veh (s)	14.6	12.5	41.4	48.3	17.5
Stop Delay (hr)	2.7	2.6	1.4	2.9	9.6
Stop Del/Veh (s)	9.3	6.6	38.3	46.0	12.3
Total Stops	433	458	105	199	1195
Stop/Veh	0.41	0.32	0.82	0.87	0.42
Travel Dist (mi)	130.0	389.7	23.9	35.6	579.1
Travel Time (hr)	7.3	14.1	2.4	4.7	28.5
Avg Speed (mph)	18	28	10	8	21
Fuel Used (gal)	4.1	11.3	1.1	1.8	18.2
Fuel Eff. (mpg)	32.1	34.5	22.4	19.5	31.8
HC Emissions (g)	43	100	6	17	166
CO Emissions (g)	1308	4522	232	400	6462
NOx Emissions (g)	163	437	20	46	666
Vehicles Entered	1052	1403	124	222	2801
Vehicles Exited	1056	1399	126	224	2805
Hourly Exit Rate	1056	1399	126	224	2805
Input Volume	1065	1407	127	223	2822
% of Volume	99	99	99	100	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0
Density (ft/veh)	338	422	864	367	428
Occupancy (veh)	7	14	2	5	28

Total Network Performance

Denied Delay (hr)	1.7
Denied Del/Veh (s)	1.2
Total Delay (hr)	95.8
Total Del/Veh (s)	62.8
Stop Delay (hr)	67.3
Stop Del/Veh (s)	44.1
Total Stops	6482
Stop/Veh	1.18
Travel Dist (mi)	3858.6
Travel Time (hr)	205.5
Avg Speed (mph)	19
Fuel Used (gal)	153.1
Fuel Eff. (mpg)	25.2
HC Emissions (g)	1639
CO Emissions (g)	66489
NOx Emissions (g)	5892
Vehicles Entered	5277
Vehicles Exited	5301
Hourly Exit Rate	5301
Input Volume	25152
% of Volume	21
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	252
Occupancy (veh)	204

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: US 17 & US 92 (ISB)
DeLand

ISOLATED:

DATE: 11/30/2015

SIGNAL #: 216

CO-ORD: X

Design By: M. Tobin

System #: 10

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8
DIRECTION	EBL	WB	SBL	NB	WBL	EB	NBL	SB
TURN TYPE	PROT	-	PROT	-	PROT	-	PROT	-
MIN GREEN	7	16	7	17	7	16	7	17
EXTENSION	3	4	3	3	3	4	3	3
CLEARANCE	4.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0
ALL RED	3.0	2.0	3.5	2.0	3.0	2.0	2.5	2.0
WALK	-	9	-	11	-	9	-	11
FDW	-	28	-	32	-	28	-	32
MAX 1	25	30	25	30	25	30	25	30
MAX 2	37	40	29	40	29	45	24	45
MAX 3	-	-	-	-	-	-	-	-
ADJUST	-	-	-	-	-	-	-	-
RECALL	-	-	-	MIN	-	-	-	MIN
DETECTOR	NON-LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK
FLASH	RED	YELLOW	RED	RED	RED	YELLOW	RED	RED
SET	-	-	-	-	-	-	-	-
CLEAR	-	-	-	-	-	-	-	-

BASE DAY		1	2	3	4	5	6	7
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free			
	TIME	08:00-18:00	18:00-00:00					
SAT #2	PLAN	C2O1S1	Free					
	TIME	09:30-17:00	17:00-00:00					
SUN #3	PLAN	C1O1S1	Free					

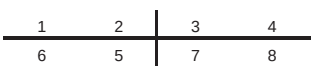
Crosswalk Length
P2
97 Feet
P4
87 Feet
P6
84 Feet
P8
110 Feet
SIGNAL OWNER
FDOT

CONTROLLER TYPE		CONDITION OF OVERHEAD	Good	PROM NUMBER	
Econolite ASC/3		OVERHEAD STREET NAMES	NO		
PHASES:	8Φ	ILLUMINATED STREET NAMES	YES		
CABINET TYPE	V	PRE-EMPTION	NO	IP ADDRESS	LED YES
CABINET DATE	08/2007	PRE-EMPTION TYPE	N/A	10.77.4.59	

REMARKS:

Phase 1 Leads and Phase 5 Lags during Coordination Only

Max 2 used during Coordination Only



VOLUSIA COUNTY TRAFFIC ENGINEERING
SYSTEM INVENTORY

Switch IP.# 10.77.4.27
Controller IP.# 10.77.4.59
Camera IP # -
Radio IP # 10.77.4.105

DATE: 5/16/2016 DESIGNED BY: M. Tobin

LOCATION: US 17 & US 92 (ISB)
CITY: DeLand SIGNAL ID NO: 216 SYSTEM ID: 10

CONTROLLER TIME CHART TP# 1

MVMNT		MIN	EXT	CLR	A.R.	WALK	FDW	MAX1	MAX2	MAX3	ADJST	REC	DET	FL	SET	CLR
EBL	1	7	3	4	3	-	-	25	37	-	-	-	NL	R	-	-
WB	2	16	4	5	2	9	28	30	46	-	-	-	NL	Y	-	-
SBL	3	7	3	5	3.5	-	-	25	29	-	-	-	NL	R	-	-
NB	4	17	3	5	2	11	32	30	52	-	-	MIN	L	R	-	-
WBL	5	7	3	5	3	-	-	25	29	-	-	-	NL	R	-	-
EB	6	16	4	4	2	9	28	30	46	-	-	-	NL	Y	-	-
NBL	7	7	3	5	2.5	-	-	25	24	-	-	-	NL	R	-	-
SB	8	17	3	5	2	11	32	30	52	-	-	MIN	L	R	-	-

CO-ORDINATION

PLAN	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
CYCLE	120	135	135					
OFF 1	67	5	6					
OFF 2								
OFF 3								
OFF 4								
OFF 5								
PERM	10%	10%	10%	10%	10%	10%	10%	10%

PHASE SPLITS (seconds)

CY/SP	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
PH 1	22	26	35	-	-	-		
PH 2	38	43	35	-	-	-		
PH 3	27	25	27	-	-	-		
PH 4	33	41	38	-	-	-		
PH 5	22	26	27	-	-	-		
PH 6	38	43	43	-	-	-		
PH 7	20	21	22	-	-	-		
PH 8	40	45	43	-	-	-		

1	2	3	4
5	6	7	8

BASE DAY		1	2	3	4	5	6	7	8	9	10	11	
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	08:00-18:00	18:00-00:00										
SAT #2	PLAN	C2O1S1	Free										
	TIME	09:30-17:00	17:00-00:00										
SUN #3	PLAN	C1O1S1	Free										

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: US 92 & Amelia Avenue
DeLand

ISOLATED: [ ]

DATE: 5/16/2016

SIGNAL #: 315

CO-ORD: [X]

Design By: M Tobin

System #: 10

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	EBL	WB	SBL	NB	WBL	EB	NBL	SB	
TURN TYPE	PROT	-	PERM/PROT	-	PROT	-	PERM/PROT	-	
MIN GREEN	7	16	7	7	7	16	7	7	
EXTENSION	3	4	3	3	3	4	3	3	
CLEARANCE	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	
ALL RED	2.5	2.0	2.5	2.5	3.0	2.0	3.0	3.0	
WALK	-	7	-	-	-	7	-	10	
FDW	-	16	-	-	-	16	-	32	
MAX 1	20	40	20	35	20	40	20	35	
MAX 2	29	55	25	37	27	55	25	37	
D MAX 3	-	60	-	-	-	60	-	-	
D ADJUST	-	5	-	-	-	5	-	-	
RECALL	-	MIN	-	-	-	MIN	-	-	
DETECTOR	LOCK	LOCK	NON-LOCK	NON-LOCK	LOCK	LOCK	NON-LOCK	NON-LOCK	
FLASH	RED	YELLOW	-	RED	RED	YELLOW	-	RED	
SET	-		-	-	-		-	-	
CLEAR	-		-	-	-		-	-	

BASE DAY		1	2	3	4	5	6	7
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	FREE			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE			
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00			
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE			
	TIME	08:00-18:00	18:00-00:00	18:00-00:00				
SAT #2	PLAN	C2O1S1	FREE	FREE				
	TIME	09:30-17:00	17:00-00:00	17:00-00:00				
SUN #3	PLAN	C1O1S1	FREE	FREE				

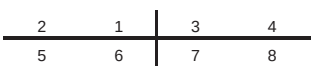
Crosswalk Length
P2
55 Feet
P4
-
P6
51 Feet
P8
111 Feet
SIGNAL OWNER
FDOT
LED -

CONTROLLER TYPE		CONDITION OF OVERHEAD	Good	PROM NUMBER	
Econolite ASC/3		OVERHEAD STREET NAMES	NO		
PHASES:	8Φ	ILLUMINATED STREET NAMES	YES		
CABINET TYPE	V	PRE-EMPTION	NO	IP ADDRESS	
CABINET DATE	03/2009	PRE-EMPTION TYPE	N/A	10.86.30.118	

REMARKS:

Phase 5 Leads and Phase 1 Lags during Coordiantion Only

Max 2 used during Coordination Only



VOLUSIA COUNTY TRAFFIC ENGINEERING
SYSTEM INVENTORY

Switch IP.# 10.77.4.29
Controller IP.# 10.77.4.61
Camera IP # -

DATE: 5/16/2016 DESIGNED BY: M Tobin

LOCATION: US 92 & Amelia Avenue
CITY: DeLand SIGNAL ID NO: 315 SYSTEM ID: 10

CONTROLLER TIME CHART TP# 1

MVMNT	MIN	EXT	CLR	A.R.	WALK	FDW	MAX1	MAX2	MAX3	ADJST	REC	DET	FL	SET	CLR
1	7	3	5	2.5	-	-	20	29	-	-	-	L	R	-	-
2	16	4	5	2	7	16	40	55	60	5	MIN	L	Y	-	-
3	7	3	4	2.5	-	-	20	25	-	-	-	NL	-	-	-
4	7	3	4	2.5	-	-	35	37	-	-	-	NL	R	-	-
5	7	3	5	3	-	-	20	27	-	-	-	L	R	-	-
6	16	4	5	2	7	16	40	55	60	5	MIN	L	Y	-	-
7	7	3	4	3	-	-	20	25	-	-	-	NL	-	-	-
8	7	3	4	3	10	32	35	37	-	-	-	NL	R	-	-

CO-ORDINATION

PLAN	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
CYCLE	120	135	135					
OFF 1	71	10	13					
OFF 2								
OFF 3								
OFF 4								
OFF 5								
PERM	10%	10%	10%	10%	10%	10%	10%	10%

PHASE SPLITS (seconds)

CY/SP	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
PH 1	21	27	25	-	-	-		
PH 2	48	46	53	-	-	-		
PH 3	23	20	22	-	-	-		
PH 4	28	32	35	-	-	-		
PH 5	25	23	25	-	-	-		
PH 6	44	50	53	-	-	-		
PH 7	23	20	22	-	-	-		
PH 8	28	32	35	-	-	-		

2	1	3	4
5	6	7	8

BASE DAY		1	2	3	4	5	6	7	8	9	10	11	
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	FREE								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	FREE								
	TIME	08:00-18:00	18:00-00:00	18:00-00:00									
SAT #2	PLAN	C2O1S1	FREE	FREE									
	TIME	09:30-17:00	17:00-00:00	17:00-00:00									
SUN #3	PLAN	C1O1S1	FREE	FREE									

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: US 92 & Garfield Avenue
DeLand

ISOLATED:

DATE: 11/30/2015

SIGNAL #: 395

CO-ORD: X

Design By: M Tobin

System #: 4

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	EBL	WB	-	NB	WBL	EB	-	SB	
TURN TYPE	PERM/PROT	-	-	-	PERM/PROT	-	-	-	
MIN GREEN	7	17		7	7	17		7	
EXTENSION	3	3		3	3	3		3	
CLEARANCE	5	5		4	5	5		4	
ALL RED	2.5	2		2.5	3	2		3.5	
WALK	-	7		-	-	-		7	
FDW	-	22		-	-	-		38	
MAX 1	25	50		25	25	50		25	
MAX 2	27	75		39	27	75		39	
MAX 3	-	-		-	-	-		-	
ADJUST	-	-		-	-	-		-	
RECALL	-	MIN		-	-	MIN		-	
DETECTOR	NON-LOCK	LOCK		NON-LOCK	NON-LOCK	LOCK		NON-LOCK	
FLASH									
SET	-	-		-	-	-		-	
CLEAR	-	-		-	-	-		-	

BASE DAY		1	2	3	4	5	6	7	Crosswalk Length
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P2
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free				75 Feet
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P4
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				-
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00				
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free				P6
	TIME	08:00-18:00	18:00-00:00						
SAT #2	PLAN	C2O1S1	Free						-
	TIME	09:30-17:00	17:00-00:00						
SUN #3	PLAN	C1O1S1	Free						P8

CONTROLLER TYPE		CONDITION OF OVERHEAD	Fair	PROM NUMBER	
Econolite ASC/3		OVERHEAD STREET NAMES	NO		130 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES	YES		SIGNAL OWNER
CABINET TYPE	V	PRE-EMPTION	YES	IP ADDRESS	FDOT
CABINET DATE	03/2005	PRE-EMPTION TYPE	INFRARED	10.77.4.62	LED YES

REMARKS:

Max 2 for Coordination
Opticom not in Use

1	2	4
5	6	8

VOLUSIA COUNTY TRAFFIC ENGINEERING
SYSTEM INVENTORY

Switch IP.# 10.77.4.30
Controller IP.# 10.77.4.62
Camera IP # -

DATE: 5/16/2016 DESIGNED BY: M Tobin

LOCATION: US 92 & Garfield Avenue
CITY: DeLand SIGNAL ID NO: 395 SYSTEM ID: 4

CONTROLLER TIME CHART TP# 1

MVMNT	MIN	EXT	CLR	A.R.	WALK	FDW	MAX1	MAX2	MAX3	ADJST	REC	DET	FL	SET	CLR
1	7	3	5	2.5	-	-	25	27	-	-	-	NL	-	-	-
2	17	3	5	2	7	22	50	75	-	-	MIN	L	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7	3	4	2.5	-	-	25	39	-	-	-	NL	-	-	-
5	7	3	5	3	-	-	25	27	-	-	-	NL	-	-	-
6	17	3	5	2	-	-	50	75	-	-	MIN	L	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	7	3	4	3.5	7	38	25	39	-	-	-	NL	-	-	-

CO-ORDINATION

PLAN	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
CYCLE	120	135	135					
OFF 1	26	123	4					
OFF 2								
OFF 3								
OFF 4								
OFF 5								
PERM	10%	10%	10%	10%	10%	10%	10%	10%

PHASE SPLITS (seconds)

CY/SP	C1/S1	C2/S1	C3/S1	C4/S1	C5/S1	C6/S1		
PH 1	20	20	25	-	-	-		
PH 2	65	70	73	-	-	-		
PH 3	-	-	-	-	-	-		
PH 4	35	35	37	-	-	-		
PH 5	20	20	25	-	-	-		
PH 6	65	70	73	-	-	-		
PH 7	-	-	-	-	-	-		
PH 8	35	35	37	-	-	-		

1	2	4
5	6	8

BASE DAY		1	2	3	4	5	6	7	8	9	10	11	
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
MON #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
TUES#1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
WED #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
THU #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	05:30-10:00	10:00-14:30	14:30-19:00	19:00-00:00								
FRI #1	PLAN	C1O1S1	C2O1S1	C301S1	Free								
	TIME	08:00-18:00	18:00-00:00										
SAT #2	PLAN	C2O1S1	Free										
	TIME	09:30-17:00	17:00-00:00										
SUN #3	PLAN	C1O1S1	Free										

APPENDIX F: Cost Estimates

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

US 92 from US 17 to Garfield Ave. - Alternative 1

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.410	$ 10,324.67	$ 4,233.11
0120 1	REGULAR EXCAVATION	CY	546.000	$ 7.58	$ 4,138.68
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	1,637.000	$ 2.15	$ 3,519.55
0285709	OPTIONAL BASE,BASE GROUP 09	SY	1,261.000	$ 16.38	$ 20,655.18
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	68.000	$ 95.94	$ 6,523.92
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	68.000	$ 121.82	$ 8,283.76
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	1.000	$ 1,869.73	$ 1,869.73
0425 1910	INLETS, CLOSED FLUME	EA	2.000	$ 3,819.86	$ 7,639.72
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	1.000	$ 3,698.65	$ 3,698.65
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	15.000	$ 107.83	$ 1,617.45
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	390.000	$ 17.50	$ 6,825.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	16.700	$ 34.09	$ 569.30
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	22.800	$ 52.00	$ 1,185.60
0527 2	DETECTABLE WARNINGS	SF	30.000	$ 40.00	$ 1,200.00
0570 1 2	PERFORMANCE TURF, SOD	SY	103.000	$ 4.00	$ 412.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	520.000	$ 6.24	$ 3,244.80
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	165.000	$ 18.00	$ 2,970.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	3.000	$ 4,968.18	$ 14,904.54
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	5.000	$ 637.13	$ 3,185.65
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	2.000	$ 1,154.08	$ 2,308.16
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	2.000	$ 165.65	$ 331.30
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS	1.000	$ 648.24	$ 648.24
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	2.000	$ 1,086.35	$ 2,172.70
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS	1.000	$ 337.70	$ 337.70
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS	4.000	$ 686.28	$ 2,745.12
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	1.000	$ 781.92	$ 781.92
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	5.000	$ 300.00	$ 1,500.00
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA	1.000	$ 73.20	$ 73.20
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS	2.000	$ 306.40	$ 612.80
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	3.000	$ 161.58	$ 484.74
0700 2 50	MULTI- POST SIGN, RELOCATE	AS	1.000	$ 2,415.55	$ 2,415.55
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	49.000	$ 3.34	$ 163.66
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF	52.000	$ 2.90	$ 150.80
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	330.000	$ 4.50	$ 1,485.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	4.000	$ 225.00	$ 900.00
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	9.000	$ 70.00	$ 630.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.106	$ 1,444.48	$ 152.68
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.175	$ 3,909.24	$ 682.94
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.047	$ 5,095.44	$ 239.49
0711 17	THERMOPLASTIC, REMOVE	SF	190.000	$ 1.99	$ 378.10
				TOTAL OF IMPROVEMENTS:	**$ 117,262.98**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 5,863.15**
				MAINTENANCE OF TRAFFIC (5%):	**$ 5,863.15**
				CONTINGENCY (15%):	**$ 17,589.45**
US 17 Alternative 1			**COMPONENT TOTAL**		**$ 146,578.72**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

US 92 from US 17 to Garfield Ave. - Alternative 2

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.380	$ 10,324.67	$ 3,918.21
0120 1	REGULAR EXCAVATION	CY	588.889	$ 7.58	$ 4,463.78
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	1,924.000	$ 2.15	$ 4,136.60
0285709	OPTIONAL BASE,BASE GROUP 09	SY	1,609.889	$ 16.38	$ 26,369.97
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	86.500	$ 95.94	$ 8,298.81
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	86.500	$ 121.82	$ 10,537.43
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	2.000	$ 1,869.73	$ 3,739.46
0425 1910	INLETS, CLOSED FLUME	EA	2.000	$ 3,819.86	$ 7,639.72
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	2.000	$ 3,698.65	$ 7,397.30
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	30.000	$ 107.83	$ 3,234.90
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	860.000	$ 17.50	$ 15,050.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	146.700	$ 34.09	$ 5,001.00
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	19.800	$ 52.00	$ 1,029.60
0527 2	DETECTABLE WARNINGS	SF	30.000	$ 40.00	$ 1,200.00
0570 1 2	PERFORMANCE TURF, SOD	SY	144.555	$ 4.00	$ 578.22
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	570.000	$ 6.24	$ 3,556.80
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	240.000	$ 18.00	$ 4,320.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	3.000	$ 4,968.18	$ 14,904.54
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	6.000	$ 637.13	$ 3,822.78
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	2.000	$ 1,154.08	$ 2,308.16
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA	1.000	$ 588.18	$ 588.18
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1.000	$ 165.65	$ 165.65
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS	1.000	$ 648.24	$ 648.24
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	2.000	$ 1,086.35	$ 2,172.70
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS	4.000	$ 686.28	$ 2,745.12
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	4.000	$ 781.92	$ 3,127.68
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	5.000	$ 300.00	$ 1,500.00
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	3.000	$ 1,392.23	$ 4,176.69
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	3.000	$ 161.58	$ 484.74
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	43.000	$ 3.34	$ 143.62
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF	52.000	$ 2.90	$ 150.80
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	361.000	$ 4.50	$ 1,624.50
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	13.000	$ 70.00	$ 910.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.067	$ 1,444.48	$ 97.36
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.241	$ 3,909.24	$ 941.93
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.112	$ 5,095.44	$ 572.22
0711 17	THERMOPLASTIC, REMOVE	SF	180.000	$ 1.99	$ 358.20
				TOTAL OF IMPROVEMENTS:	**$ 151,914.91**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 7,595.75**
				MAINTENANCE OF TRAFFIC (5%):	**$ 7,595.75**
				CONTINGENCY (15%):	**$ 22,787.24**
US 17 Alternative 2			**COMPONENT TOTAL**		**$ 189,893.63**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

WB Left Turn at Garfield Avenue (L=200')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.070	$ 10,324.67	$ 722.73
0120 1	REGULAR EXCAVATION	CY	119.000	$ 7.58	$ 902.02
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	356.000	$ 2.15	$ 765.40
0285709	OPTIONAL BASE,BASE GROUP 09	SY	274.000	$ 16.38	$ 4,488.12
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	15.000	$ 95.94	$ 1,439.10
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	15.000	$ 121.82	$ 1,827.30
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY		$ 52.00	$ -
0527 2	DETECTABLE WARNINGS	SF		$ 40.00	$ -
0570 1 2	PERFORMANCE TURF, SOD	SY	23.000	$ 4.00	$ 92.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF		$ 6.24	$ -
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	6.000	$ 3.34	$ 20.04
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF	52.000	$ 2.90	$ 150.80
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF		$ 4.50	$ -
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	2.000	$ 70.00	$ 140.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.015	$ 1,444.48	$ 21.67
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.023	$ 3,909.24	$ 89.91
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.047	$ 5,095.44	$ 239.49
0711 17	THERMOPLASTIC, REMOVE	SF	100.000	$ 1.99	$ 199.00
				TOTAL OF IMPROVEMENTS:	**$ 11,097.57**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 554.88**
				MAINTENANCE OF TRAFFIC (5%):	**$ 554.88**
				CONTINGENCY (15%):	**$ 1,664.64**
WB LT @ Garfield				**COMPONENT TOTAL**	**$ 13,871.97**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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EB Right Turn at Garfield Avenue (L=250')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.110	$ 10,324.67	$ 1,135.71
0120 1	REGULAR EXCAVATION	CY	178.000	$ 7.58	$ 1,349.24
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	534.000	$ 2.15	$ 1,148.10
0285709	OPTIONAL BASE,BASE GROUP 09	SY	411.000	$ 16.38	$ 6,732.18
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	22.000	$ 95.94	$ 2,110.68
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	22.000	$ 121.82	$ 2,680.04
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	1.000	$ 1,869.73	$ 1,869.73
0425 1910	INLETS, CLOSED FLUME	EA	2.000	$ 3,819.86	$ 7,639.72
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	1.000	$ 3,698.65	$ 3,698.65
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	15.000	$ 107.83	$ 1,617.45
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	330.000	$ 17.50	$ 5,775.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	16.700	$ 34.09	$ 569.30
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	5.600	$ 52.00	$ 291.20
0527 2	DETECTABLE WARNINGS	SF	10.000	$ 40.00	$ 400.00
0570 1 2	PERFORMANCE TURF, SOD	SY	33.000	$ 4.00	$ 132.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	445.000	$ 6.24	$ 2,776.80
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	165.000	$ 18.00	$ 2,970.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	4.000	$ 637.13	$ 2,548.52
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	1.000	$ 1,154.08	$ 1,154.08
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1.000	$ 165.65	$ 165.65
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	1.000	$ 1,086.35	$ 1,086.35
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS	4.000	$ 686.28	$ 2,745.12
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	1.000	$ 781.92	$ 781.92
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	2.000	$ 300.00	$ 600.00
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	1.000	$ 161.58	$ 161.58
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	9.000	$ 3.34	$ 30.06
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	10.000	$ 4.50	$ 45.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	3.000	$ 70.00	$ 210.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.014	$ 1,444.48	$ 20.22
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.075	$ 3,909.24	$ 293.19
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF	45.000	$ 1.99	$ 89.55
				TOTAL OF IMPROVEMENTS:	**$ 57,795.23**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 2,889.76**
				MAINTENANCE OF TRAFFIC (5%):	**$ 2,889.76**
				CONTINGENCY (15%):	**$ 8,669.28**
EB RT @ Garfield			**COMPONENT TOTAL**		**$ 72,244.04**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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NB Right Turn at Garfield Avenue (L=250')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.110	$ 10,324.67	$ 1,135.71
0120 1	REGULAR EXCAVATION	CY	178.000	$ 7.58	$ 1,349.24
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	534.000	$ 2.15	$ 1,148.10
0285709	OPTIONAL BASE,BASE GROUP 09	SY	411.000	$ 16.38	$ 6,732.18
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	22.000	$ 95.94	$ 2,110.68
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	22.000	$ 121.82	$ 2,680.04
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	1.000	$ 1,869.73	$ 1,869.73
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA	1.000	$ 3,698.65	$ 3,698.65
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF	15.000	$ 107.83	$ 1,617.45
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	330.000	$ 17.50	$ 5,775.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	130.000	$ 34.09	$ 4,431.70
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	5.600	$ 52.00	$ 291.20
0527 2	DETECTABLE WARNINGS	SF	10.000	$ 40.00	$ 400.00
0570 1 2	PERFORMANCE TURF, SOD	SY	33.000	$ 4.00	$ 132.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	50.000	$ 6.24	$ 312.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF	75.000	$ 18.00	$ 1,350.00
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	1.000	$ 637.13	$ 637.13
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	2.000	$ 781.92	$ 1,563.84
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	1.000	$ 161.58	$ 161.58
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	9.000	$ 3.34	$ 30.06
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	21.000	$ 4.50	$ 94.50
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	3.000	$ 70.00	$ 210.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.011	$ 1,444.48	$ 15.89
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.071	$ 3,909.24	$ 277.56
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF	35.000	$ 1.99	$ 69.65
				TOTAL OF IMPROVEMENTS:	**$ 39,486.12**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 1,974.31**
				MAINTENANCE OF TRAFFIC (5%):	**$ 1,974.31**
				CONTINGENCY (15%):	**$ 5,922.92**
NB RT @ Garfield				**COMPONENT TOTAL**	**$ 49,357.65**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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Garfield Avenue Cost Estimate (Sidewalks & Crosswalks)

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC		$ 10,324.67	$ -
0120 1	REGULAR EXCAVATION	CY		$ 7.58	$ -
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY		$ 2.15	$ -
0285709	OPTIONAL BASE,BASE GROUP 09	SY		$ 16.38	$ -
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN		$ 95.94	$ -
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN		$ 121.82	$ -
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY		$ 52.00	$ -
0527 2	DETECTABLE WARNINGS	SF		$ 40.00	$ -
0570 1 2	PERFORMANCE TURF, SOD	SY		$ 4.00	$ -
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	50.000	$ 6.24	$ 312.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	1.000	$ 637.13	$ 637.13
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	1.000	$ 1,154.08	$ 1,154.08
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS	1.000	$ 648.24	$ 648.24
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS	1.000	$ 1,086.35	$ 1,086.35
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA	3.000	$ 300.00	$ 900.00
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA		$ 3.34	$ -
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	320.000	$ 4.50	$ 1,440.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA		$ 70.00	$ -
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM		$ 1,444.48	$ -
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM		$ 3,909.24	$ -
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF		$ 1.99	$ -
				TOTAL OF IMPROVEMENTS:	**$ 12,538.21**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 626.91**
				MAINTENANCE OF TRAFFIC (5%):	**$ 626.91**
				CONTINGENCY (15%):	**$ 1,880.73**
Garfield S_Walk & X_Walks			**COMPONENT TOTAL**		**$ 15,672.76**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

WB Right Turn at Alabama Avenue (L=420')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.230	$ 10,324.67	$ 2,374.67
0120 1	REGULAR EXCAVATION	CY	249.000	$ 7.58	$ 1,887.42
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	747.000	$ 2.15	$ 1,606.05
0285709	OPTIONAL BASE,BASE GROUP 09	SY	576.000	$ 16.38	$ 9,434.88
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	31.000	$ 95.94	$ 2,974.14
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	31.000	$ 121.82	$ 3,776.42
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	60.000	$ 17.50	$ 1,050.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	17.200	$ 52.00	$ 894.40
0527 2	DETECTABLE WARNINGS	SF	20.000	$ 40.00	$ 800.00
0570 1 2	PERFORMANCE TURF, SOD	SY	47.000	$ 4.00	$ 188.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	25.000	$ 6.24	$ 156.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1.000	$ 165.65	$ 165.65
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS	1.000	$ 337.70	$ 337.70
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA	1.000	$ 73.20	$ 73.20
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS	2.000	$ 306.40	$ 612.80
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	2.000	$ 161.58	$ 323.16
0700 2 50	MULTI- POST SIGN, RELOCATE	AS	1.000	$ 2,415.55	$ 2,415.55
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	34.000	$ 3.34	$ 113.56
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF		$ 4.50	$ -
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	4.000	$ 225.00	$ 900.00
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	4.000	$ 70.00	$ 280.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.077	$ 1,444.48	$ 110.79
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.077	$ 3,909.24	$ 299.84
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF	45.000	$ 1.99	$ 89.55
				TOTAL OF IMPROVEMENTS:	**$ 35,831.96**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 1,791.60**
				MAINTENANCE OF TRAFFIC (5%):	**$ 1,791.60**
				CONTINGENCY (15%):	**$ 5,374.79**
WB RT @ Alabama			**COMPONENT TOTAL**		**$ 44,789.96**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
PAGE NUMBER:	

EB Left Turn at Amelia Avenue (L=200')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.034	$ 10,324.67	$ 355.17
0120 1	REGULAR EXCAVATION	CY	2.778	$ 7.58	$ 21.05
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	166.667	$ 2.15	$ 358.33
0285709	OPTIONAL BASE,BASE GROUP 09	SY	180.556	$ 16.38	$ 2,957.50
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	9.167	$ 95.94	$ 879.45
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	9.167	$ 121.82	$ 1,116.68
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY		$ 52.00	$ -
0527 2	DETECTABLE WARNINGS	SF		$ 40.00	$ -
0570 1 2	PERFORMANCE TURF, SOD	SY	27.778	$ 4.00	$ 111.11
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF		$ 6.24	$ -
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	15.000	$ 3.34	$ 50.10
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF		$ 4.50	$ -
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	3.000	$ 70.00	$ 210.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.015	$ 1,444.48	$ 21.81
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.057	$ 3,909.24	$ 222.04
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM	0.065	$ 5,095.44	$ 332.73
0711 17	THERMOPLASTIC, REMOVE	SF		$ 1.99	$ -
				TOTAL OF IMPROVEMENTS:	**$ 6,635.99**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 331.80**
				MAINTENANCE OF TRAFFIC (5%):	**$ 331.80**
				CONTINGENCY (15%):	**$ 995.40**
EB LT @ Amelia				**COMPONENT TOTAL**	**$ 8,294.98**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
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NB Right Turn at Amelia Avenue (L=150')

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.055	$ 10,324.67	$ 568.89
0120 1	REGULAR EXCAVATION	CY	111.111	$ 7.58	$ 842.22
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY	333.333	$ 2.15	$ 716.67
0285709	OPTIONAL BASE,BASE GROUP 09	SY	333.333	$ 16.38	$ 5,459.99
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN	18.333	$ 95.94	$ 1,758.90
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN	18.333	$ 121.82	$ 2,233.36
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	200.000	$ 17.50	$ 3,500.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY		$ 34.09	$ -
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	8.600	$ 52.00	$ 447.20
0527 2	DETECTABLE WARNINGS	SF	10.000	$ 40.00	$ 400.00
0570 1 2	PERFORMANCE TURF, SOD	SY	27.778	$ 4.00	$ 111.11
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF	25.000	$ 6.24	$ 156.00
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI	1.000	$ 4,968.18	$ 4,968.18
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA	1.000	$ 588.18	$ 588.18
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS	1.000	$ 781.92	$ 781.92
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS	1.000	$ 1,392.23	$ 1,392.23
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS	1.000	$ 161.58	$ 161.58
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	4.000	$ 3.34	$ 13.36
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	10.000	$ 4.50	$ 45.00
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA	2.000	$ 70.00	$ 140.00
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM	0.012	$ 1,444.48	$ 17.77
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM	0.015	$ 3,909.24	$ 59.22
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF		$ 1.99	$ -
				TOTAL OF IMPROVEMENTS:	**$ 24,361.78**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 1,218.09**
				MAINTENANCE OF TRAFFIC (5%):	**$ 1,218.09**
				CONTINGENCY (15%):	**$ 3,654.27**
NB RT @ Amelia			**COMPONENT TOTAL**		**$ 30,452.23**

ENGINEER'S ESTIMATE

FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

FINANCIAL PROJECT ID:	
FILE VERSION:	
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Corridor Improvements - Sidewalk along South US 92 from Alabama Av. To Garfield Av.

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110 1 1	CLEARING & GRUBBING	AC	0.220	$ 10,324.67	$ 2,271.43
0120 1	REGULAR EXCAVATION	CY	179.000	$ 7.58	$ 1,356.82
0120 6	EMBANKMENT	CY		$ 13.41	$ -
0160 4	TYPE B STABILIZATION	SY		$ 2.15	$ -
0285709	OPTIONAL BASE,BASE GROUP 09	SY		$ 16.38	$ -
0334 1 53	SUPERPAVE ASPH CONC, TRAF C, PG76-22 (1", 110 lb/yd2)	TN		$ 95.94	$ -
0337 7 73	ASPH CONC FC,TRAF C,FC-9.5,PG 76-22, ARB (1", 110 lb/yd2))	TN		$ 121.82	$ -
0425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA		$ 1,869.73	$ -
0425 1910	INLETS, CLOSED FLUME	EA		$ 3,819.86	$ -
0430982138	MITERED END SECT, OPTIONAL RD, 36" CD	EA		$ 3,698.65	$ -
0430175136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	LF		$ 107.83	$ -
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF		$ 17.50	$ -
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	1,070.000	$ 34.09	$ 36,476.30
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	121.000	$ 52.00	$ 6,292.00
0527 2	DETECTABLE WARNINGS	SF	140.000	$ 40.00	$ 5,600.00
0570 1 2	PERFORMANCE TURF, SOD	SY	428.000	$ 4.00	$ 1,712.00
0630 2 11	CONDUIT, F& I, OPEN TRENCH	LF		$ 6.24	$ -
0630 2 12	CONDUIT, F& I, DIRECTIONAL BORE	LF		$ 18.00	$ -
0632 7 1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	PI		$ 4,968.18	$ -
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA		$ 637.13	$ -
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA		$ 1,154.08	$ -
0646 1 40	ALUMINUM SIGNALS POLE, RELOCATE	EA		$ 588.18	$ -
0646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA		$ 165.65	$ -
0650 1 14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	AS		$ 896.44	$ -
0653 1 11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	AS		$ 648.24	$ -
0653 1 12	PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	AS		$ 1,086.35	$ -
0653 1 40	PEDESTRIAN SIGNAL, RELOCATE	AS		$ 337.70	$ -
0660 2102	LOOP ASSEMBLY, F&I, TYPE B	AS		$ 686.28	$ -
0660 2106	LOOP ASSEMBLY, F&I, TYPE F	AS		$ 781.92	$ -
0665 1 11	PEDESTRIAN DETECTOR, F&I, STANDARD	EA		$ 300.00	$ -
0665 1 40	PEDESTRIAN DETECTOR, RELOCATE	EA		$ 73.20	$ -
0670 5400	TRAF CNTL ASSEM, MODIFY	AS		$ 1,392.23	$ -
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	AS		$ 306.40	$ -
0700 1 50	SINGLE POST SIGN, RELOCATE	AS		$ 161.58	$ -
0700 2 50	MULTI- POST SIGN, RELOCATE	AS		$ 2,415.55	$ -
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA		$ 3.34	$ -
0711 11123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF		$ 2.06	$ -
0711 11124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	LF		$ 2.90	$ -
0711 11125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF		$ 4.50	$ -
0711 11141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	GM		$ 1,791.54	$ -
0711 11160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA		$ 225.00	$ -
0711 11170	THERMOPLASTIC, STD, WHITE, ARROW	EA		$ 70.00	$ -
0711 16131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	GM		$ 1,444.48	$ -
0711 16101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	GM		$ 3,909.24	$ -
0711 16201	THERMOPLASTIC, STD-OTH,YELLOW, SOLID, 6"	GM		$ 5,095.44	$ -
0711 17	THERMOPLASTIC, REMOVE	SF		$ 1.99	$ -
				TOTAL OF IMPROVEMENTS:	**$ 53,708.55**
				DESIGN (0%):	
				MOBILIZATION (5%):	**$ 2,685.43**
				MAINTENANCE OF TRAFFIC (5%):	**$ 2,685.43**
				CONTINGENCY (15%):	**$ 8,056.28**
Corridor Improvements				**COMPONENT TOTAL**	**$ 67,135.68**