

U.S. 1

Multimodal Mobility and Safety Assessment Background Analysis Report

October 2019

Multimodal Mobility and Safety Assessment Background Analysis Report

U.S. 1

From **U.S. 92** to **S.R. 430**

Section Number: 79030000

Mile Post: 0.000 – 1.196

City of Daytona Beach, FL

Prepared for:



Florida Department of Transportation – District Five
719 S Woodland Blvd
DeLand, FL 32720

Prepared by:

Kittelson & Associates, Inc.
225 East Robinson Street, Suite 355
Orlando, FL 32801

October 2019

The Florida Department of Transportation (FDOT) is investing in improving multimodal safety and access along its facilities. To this end, through an effort that developed a Multimodal Demand Score for each roadway, FDOT has identified corridors that have high existing multimodal demand and multimodal infrastructure gaps to begin to identify investments needed along these corridors. In addition to this effort, FDOT also identified the top multimodal corridors that serve high concentrations of transit-dependent populations (zero-car households) and/or households in poverty. The corridors which do not require a corridor planning study are being advanced to Multimodal Mobility and Safety Assessments (MMSA). U.S. 1 from U.S. 92 (International Speedway Boulevard) to State Road (S.R.) 430 (Mason Avenue), is one of the top multimodal corridors identified for an MMSA.

An MMSA is a streamlined approach to identifying investments that would enhance multimodal mobility and safety along a corridor. An MMSA is an efficient and effective way to identify corridor issues and a range of short-, mid-, and long-term improvements for the corridor that are supported by partner agencies.

CORRIDOR OVERVIEW

The study corridor, U.S. 1/S.R. 5/Ridgewood Avenue from U.S. 92 to S.R. 430, is roughly 1.2 miles long, as shown in **Figure 1**. The corridor is within the City of Daytona Beach limits in Volusia County. The study corridor is designated as an urban principal arterial with two lanes in each direction. U.S. 1 has raised median separation throughout the study area, with exclusive left turn lanes at major intersections.



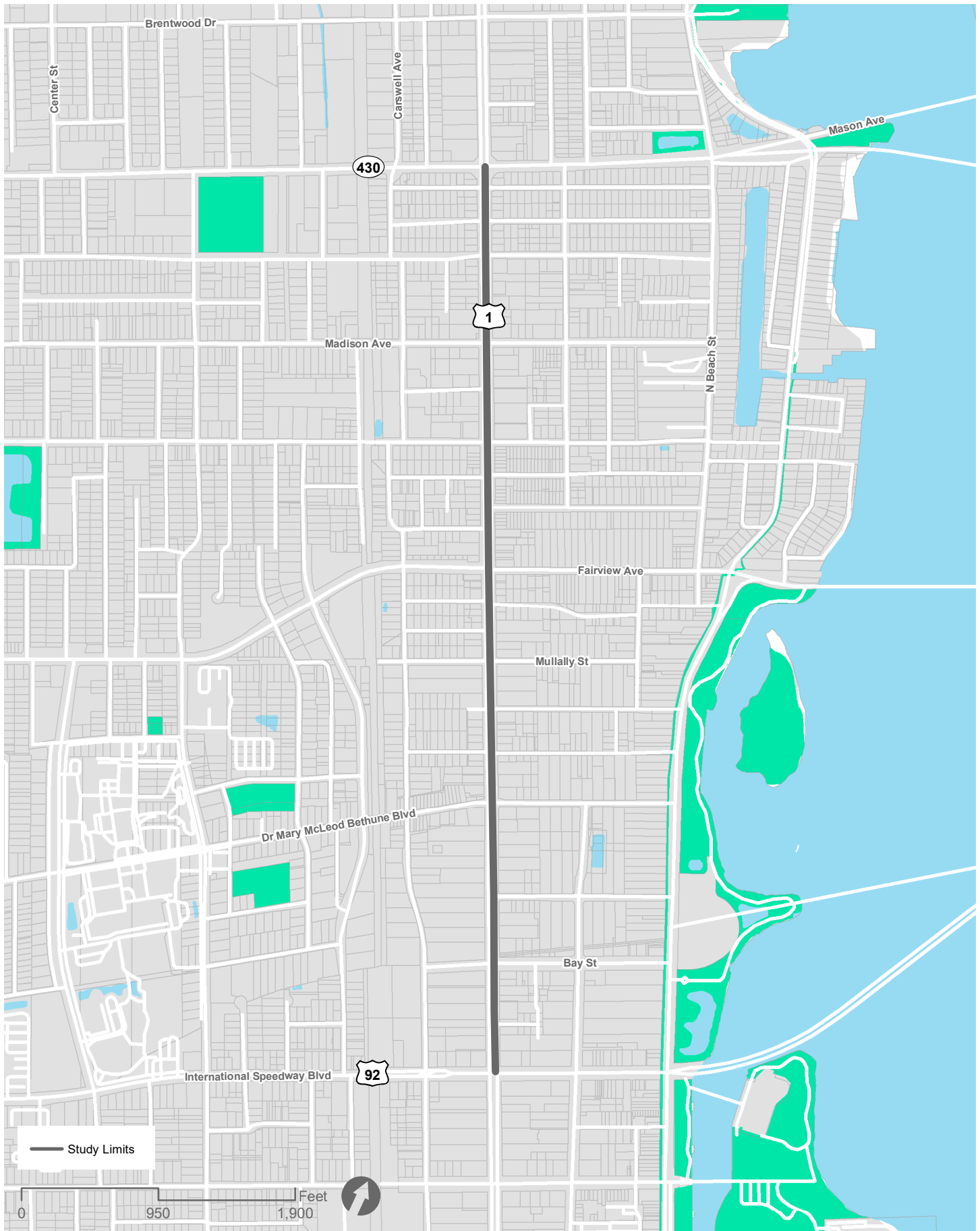


Figure 1: Corridor Map
MMSA for US 1, from US 92 to SR 430

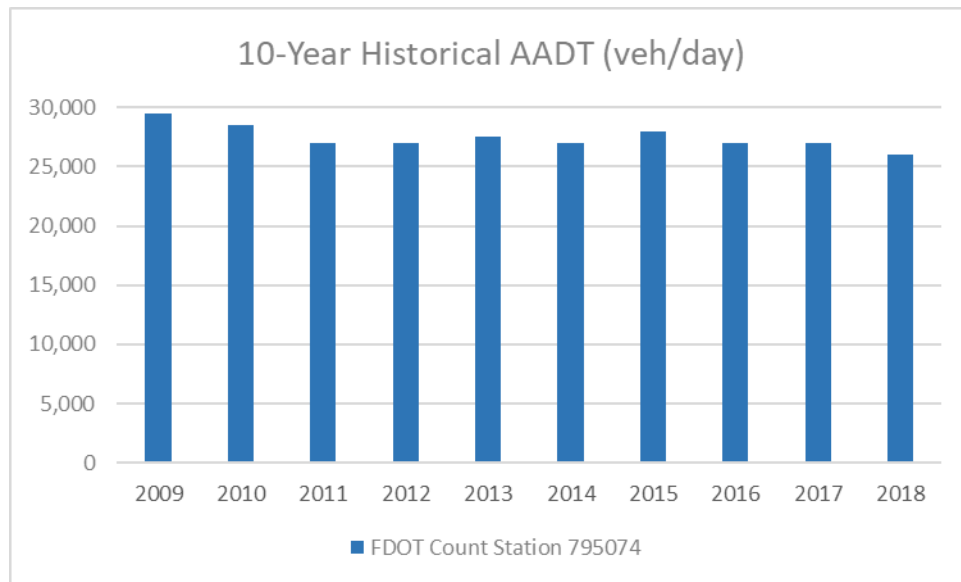
CONTEXT

Roadway Characteristics

- The study corridor is a four-lane divided roadway, with exclusive left-turn lanes at signalized intersections. There are also two southbound left-turn lanes at unsignalized intersections, but no other median openings.
- Signalized intersections in the study area include the following locations:
 - U.S. 1 (Ridgewood Avenue) & U.S. 92 (International Speedway Boulevard)
 - U.S. 1 (Ridgewood Avenue) & Bay Street
 - U.S. 1 (Ridgewood Avenue) & Dr. Mary McLeod Bethune Boulevard
 - U.S. 1 (Ridgewood Avenue) & Mullally Street
 - U.S. 1 (Ridgewood Avenue) & Fairview Avenue
 - U.S. 1 (Ridgewood Avenue) & Madison Avenue
 - U.S. 1 (Ridgewood Avenue) & S.R. 430 (Mason Avenue)
- Bike lanes are present on U.S. 1 north of Bay Street.
- The posted speed of study corridor is 35 mph as shown in **Figure 2**.
- Sidewalks are present on both sides of U.S. 1 throughout the study area.
- On-street parking is not present on the study corridor.
- Overhead street lighting is present throughout the study corridor.

Annual Average Daily Traffic

The historical AADTs of the corridor can be found in the table below.



Count station on U.S. 1, 0.343 miles south of S.R. 430



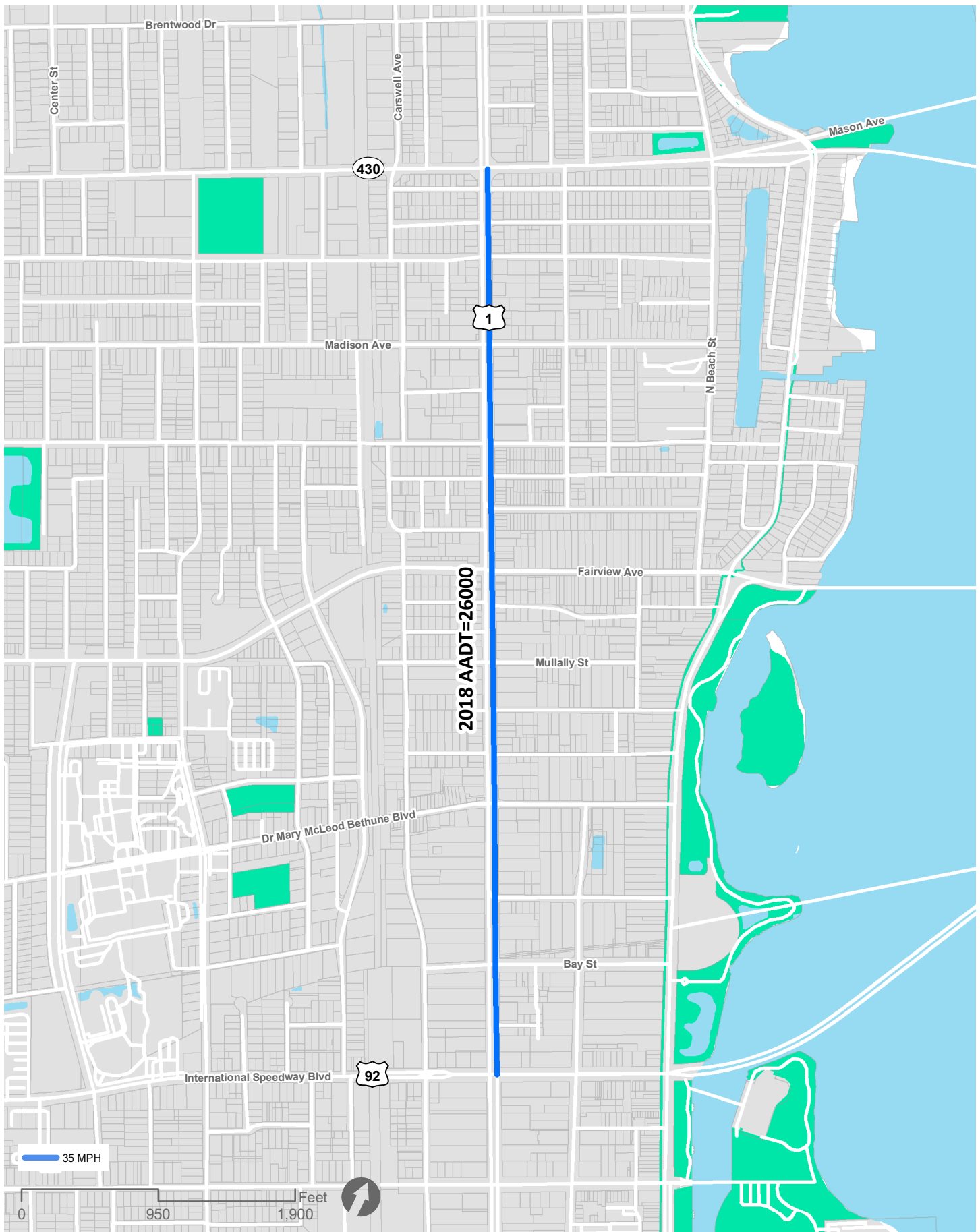


Figure 2: Posted Speed and AADT

MMSA for US 1, from US 92 to SR 430

Access Management Classification

This study corridor is classified as Access Class Five, resulting in the FDOT access management standards identified in the following table.

Table 201.3.2 Rule 14-97 - Arterial Access Classifications & Standards

Access Class	Median Type	Connection Spacing (feet)		Median Opening Spacing (feet)		Signal Spacing (feet)
		>45 mph	≤45 mph	Directional	Full	
2	Restrictive with Service Roads	1320	660	1320	2640	2640
3	Restrictive	660	440	1320	2640	2640
4	Non-Restrictive	660	440			2640
5	Restrictive	440	245	660	2640 >45 mph 1320 ≤ 45 mph	
6	Non-Restrictive	440	245			1320
7	Both Median Types	125		330	660	1320

Notes:

- "Restrictive" physically prevent vehicle crossing.
- "Non-Restrictive" allow turns across at any point.
- Speeds shown in this table are posted speeds.

Connection Spacing Near Interchange Ramps:

Connections and median openings located within 1,320 feet of interchange ramps require the following spacing (measured from the ramp furthest from the interchange):

- 440 feet ≤ 45 mph
- 660 feet > 45 mph
- 1,320 feet on Access Class 2 Facilities > 45 mph



Transit

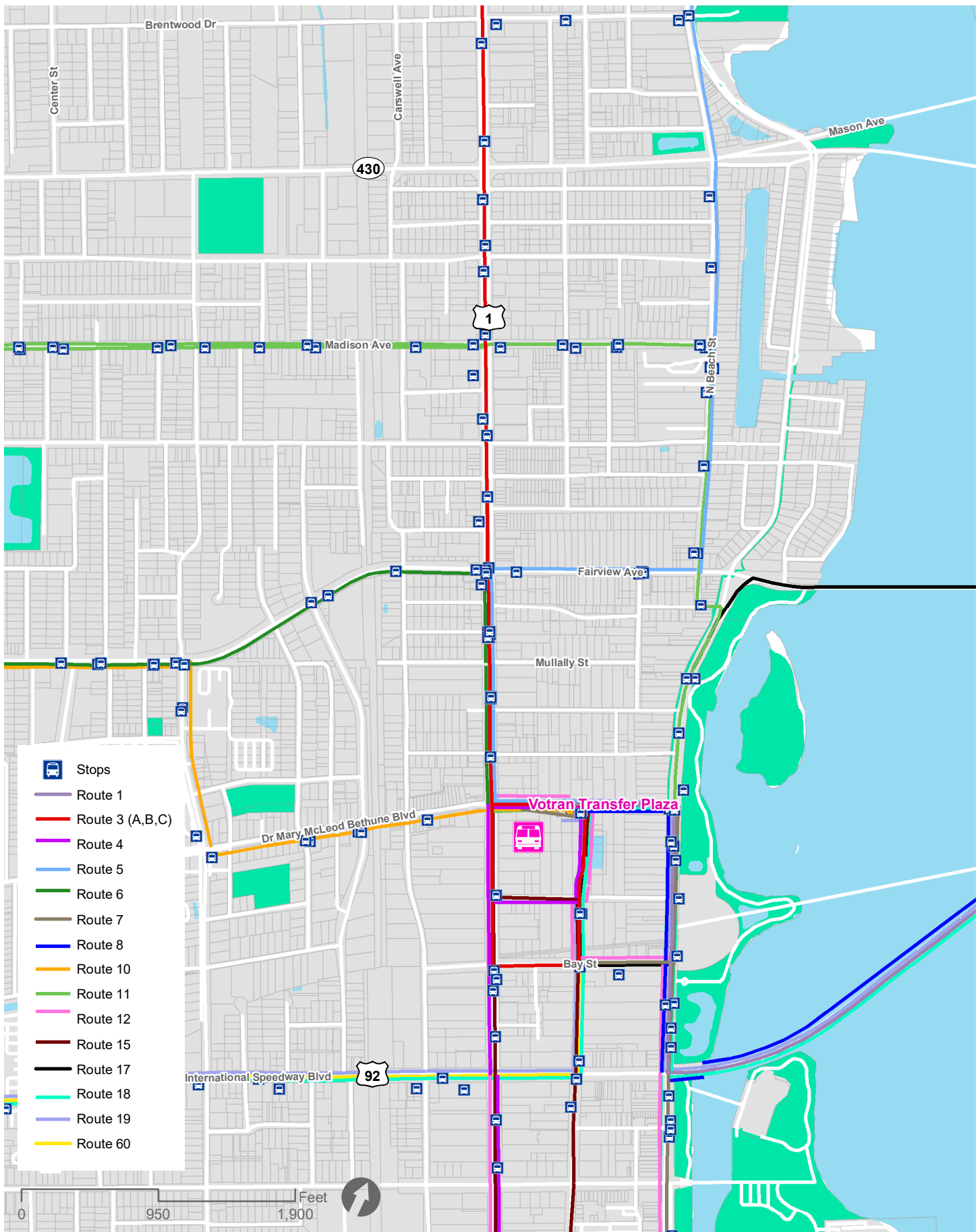
The study corridor's public transportation system is operated by Votran. Six routes serve this corridor and the intersection of Dr. Mary McLeod Bethune Boulevard houses a Votran Transfer Plaza. The transit routes are shown in **Figure 3**.

- Route 15-dark purple runs along northbound U.S. 1 from U.S. 92 to Dr. Mary McLeod Bethune Boulevard. This route serves the area between Orange Avenue and the Votran Transfer Plaza.
 - Service is provided on weekdays from 5:37 a.m. to 6:45 p.m. with headway of 30 minutes on weekdays during the day.
 - There are two northbound stops:
 - Dowling Court Stop 831
 - Bay Street Stop 859
 - Saturday daytime service begins at 6:07 a.m. and ends at 6:45 p.m. with 30 minutes headways.
 - Evening service for this route begins at 7 p.m. and runs until 12:03 a.m. Headways are one hour.
 - There are no stops along the study corridor during the evening hours.
 - Sunday service begins at 7 a.m. and ends at 6 p.m. Headways are one hour, and there are no service hours after 7 p.m.
 - There are no stops along the study corridor on Sundays
- Route 12-Pink runs along northbound U.S. 1 from U.S. 92 to the Votran Transfer Plaza. This route serves the area between the Votran Transfer Plaza and the Pavilion at Port Orange mall.
 - Service is provided on weekdays from 6:30 a.m. to 7:21 p.m. with headways of 60 minutes.
 - There are three northbound stops:
 - Dowling Court Stop 831
 - Bay Street Stop 859
 - 3rd Avenue Stop 3036
- Route 4-Purple serves the area between the Votran Transfer Plaza and Spruce Creek High School. This route runs along the study corridor (both northbound southbound) between U.S. 92 and Dr. Mary McLeod Bethune Blvd.
 - Headways for this route are 30 minutes in both directions starting at 6:32 a.m. to 6:58 p.m. during its daytime service. There are three daytime stops:
 - Dowling Court Stop 831 (northbound)
 - Bay Street Stop 857 (southbound)
 - Bay Street Stop 2956 (northbound)
 - Nighttime service begins at 7 p.m. to 12:10 a.m. with hour long headways. There are seven evening stops:
 - Dowling Court Stop 831 (northbound)
 - Bay Street Stop 857 (southbound)
 - Bay Street Stop 859 (northbound)
 - San Juan Avenue Stop 3023 (northbound)
 - 1st Avenue Stop 907 (northbound)
 - Hobart Avenue Stop 927 (southbound)
 - Hobart Avenue Stop 920 (northbound)
 - Sunday service begins at 7 a.m. and ends at 7 p.m. with hour long headways. Stops mirror Route 4's nighttime service (above).
- Route 5-Light blue runs both northbound and southbound between Dr. Mary McLeod Bethune Boulevard to Fairview Avenue along the study corridor. The service area of this route is between the Votran Transfer Plaza and Flomich Street. There are four stops along this route:
 - San Juan Avenue Stop 3023 (northbound)
 - 1st Street Stop 909 (northbound)
 - Hobart Avenue Stop 927 (southbound)



- Hobart Avenue Stop 929 (northbound)
 - Service begins 6:37 a.m. and ends at 6 p.m. on weekdays with one-hour headways during the day. There are no evening or weekend services.
- Route 6-Green runs in both directions along the study corridor between Dr. Mary McLeod Bethune Boulevard to Fairview Avenue
 - Headways for this route are one hour in both directions starting at 6:05 a.m. to 7:33 p.m. during its daytime service. There are no evening or weekend services.
 - There are five stops:
 - San Juan Avenue Stop 3023 (northbound)
 - 1st Street Stop 909 (northbound)
 - Hobart Avenue Stop 927 (southbound)
 - Hobart Avenue Stop 929 (northbound)
 - Fairview Avenue Stop 2356 (southbound)
- Route 3 (a,b,c)-Red is the primary route for this corridor running in both directions with multiple stops along the corridor depending on the line (a, b, or c). Each line has one-hour headways that alternate every thirty minutes. This route serves the area between the Votran Transfer Plaza and Airport Road.
 - Route 3a service begins at 7 a.m. and ends at 7 p.m. There are no stops for this line along the corridor. There are 14 total stops.
 - Route 3b begins at 6:30 a.m. and ends at 7:00 p.m. There are 13 total stops.
 - Route 3c begins at 6:02 a.m. and ends at 3:45 p.m. There are 14 total stops.
 - Evening service begins at 7 p.m. and ends at 12 a.m. Monday through Friday. There are nine stops.
 - Sunday service begins at 7 a.m. and ends at 6:25 p.m. There are nine stops.





Land Use and Zoning

U.S. 1 functions mostly as a commercial corridor with some single-family residential and industrial sections. The existing land use map for the study corridor can be found in **Figure 4**. Commercial designations extend from the corridor in each direction for several blocks, especially near major intersections. Future land use and the zoning code for the corridor, listed in **tables below**, suggest that this pattern of commercial and residential development will change to mixed-use.

U.S. 1 Segment		Future Land Use		Zoning District	
From	To	On the East	On the West	On the East	On the West
U.S. 92	Bay Street	Commercial Mixed-Use		PD-RD RDD3	
Bay Street	Dr. Mary McLeod Bethune Boulevard			RDD3	
Dr. Mary McLeod Bethune Blvd	San Juan Avenue	Commercial Mixed-Use	Commercial Mixed-Use; Office	PD-RD RDD3	
San Juan Avenue	Fairview Avenue	Office		PD-RD	
Fairview Avenue	North Street	Level Two Residential			
North Street	Mason Avenue	Retail	Local Service Industry	BR 1 BA	

Future Land Use	Density/Intensity	Notes
Commercial Mixed-Use	Floor Area Ratio not to exceed 3 Maximum of 40 dwelling units per acre	<ul style="list-style-type: none"> Mixed use development is encouraged based on the availability of a density bonus Determined to have area served by transit service Also emphasized in the Downtown/Balough Road Development Plan
Level Two Residential	Densities not to exceed 8 dwelling units per acre	<ul style="list-style-type: none"> The Future Land Use element of the City's comprehensive plan utilized this designation to regulate adjacent developments within specific neighborhoods (G, H, I, J, L, M, N) along the corridor¹:

¹ City of Daytona Beach Comprehensive Plan: <http://www.codb.us/DocumentCenter/View/12302/Comp-Plan-thru-Ord-18-380?bidId=>



Zoning District	Designation		
	Description	Front Setbacks	Maximum Height
PD-RD	Planned Development- Redevelopment	Determined in PD Plan/Agreement ²	Determined in PD Plan/Agreement
RDD-3	Redevelopment Downtown - Commercial	N/A	N/A
BR-1	Business Retail	25 feet	N/A
BA	Business Automotive	25 feet	N/A

² Section 4.8.B.1 PD Plan of Land Development Code



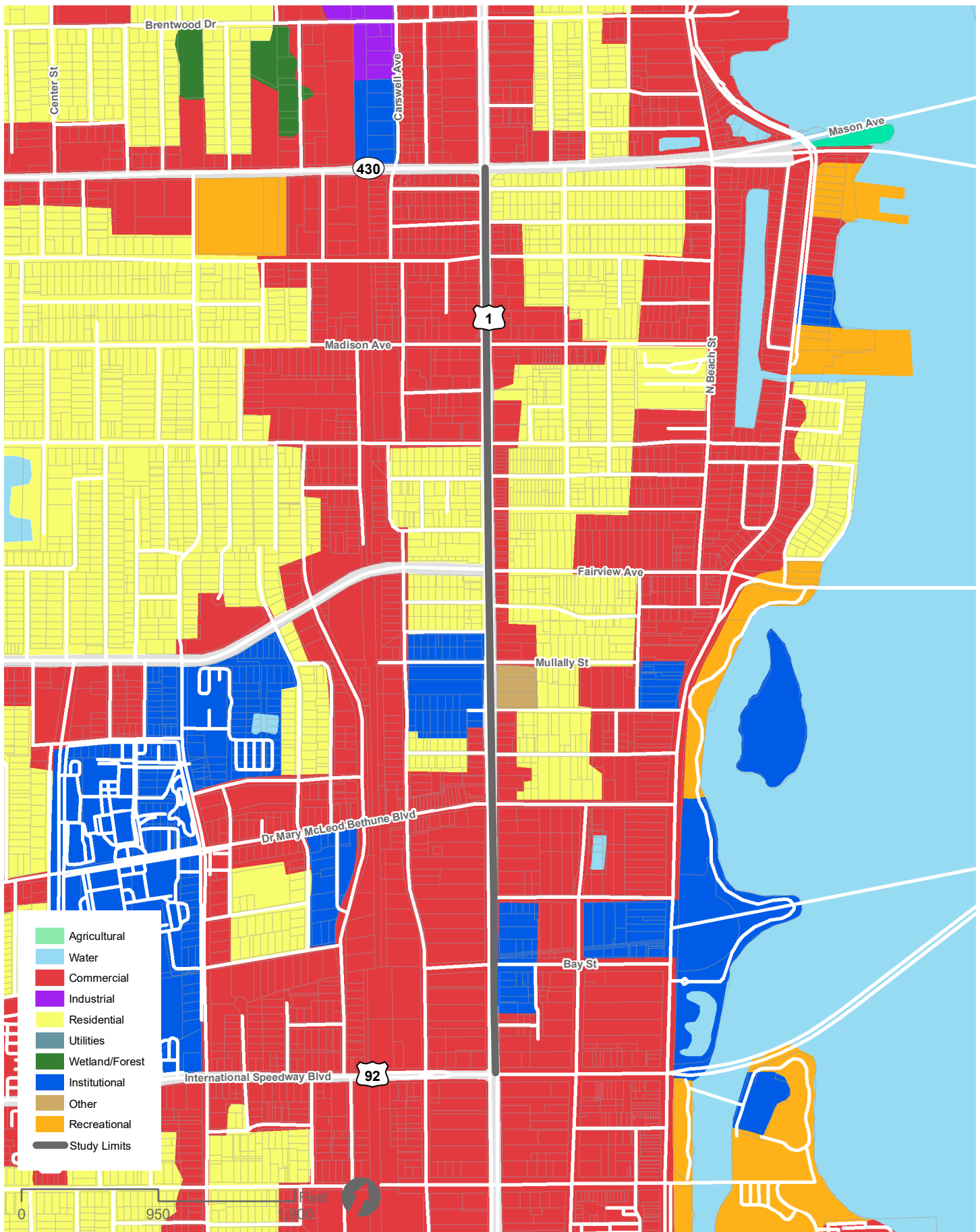


Figure 4: Existing Land Use

MMSA for US 1, from US 92 to SR 430



Context Classification

The Context Classification system broadly identifies the various built environments existing in Florida, as illustrated in the figure below. Detailed information could be found in FDOT's Context Classification Handbook³.



The context classification for the study corridor is provided in **Figure 5**. The study corridor has the context classification of C4-Urban General, which is used to define a corridor of mixed uses with small blocks and a developed roadway network. This network usually connects local neighborhoods immediately along the corridor. The context classification of C4-Urban General will result in specific design control provided in the Florida Design Manual for this corridor, as listed in the table below.

FDM - Design Control	C4-Urban General
Allowable Design Speed Range (mph)	30-45
Minimum Travel & Auxiliary Lane Width	25-35 mph: 10 ft 40-45 mph: 11 ft ≥ 50 mph: 12 ft
Two-Way Left Turn Lane	25-35 mph: 11 ft 40 mph: 12 ft
On-Street Parking	On-street parking is permitted based on Context Classification and posted speed of 35 MPH
Median Width	25-35 mph: 15.5 ft 40-45 mph: 22 ft
Sidewalk Width	6 ft

A detailed review was conducted by FDOT D5, and the forms are included in the Appendix.

³ https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/completestreets/files/fdot-context-classification.pdf?sfvrsn=12be90da_2



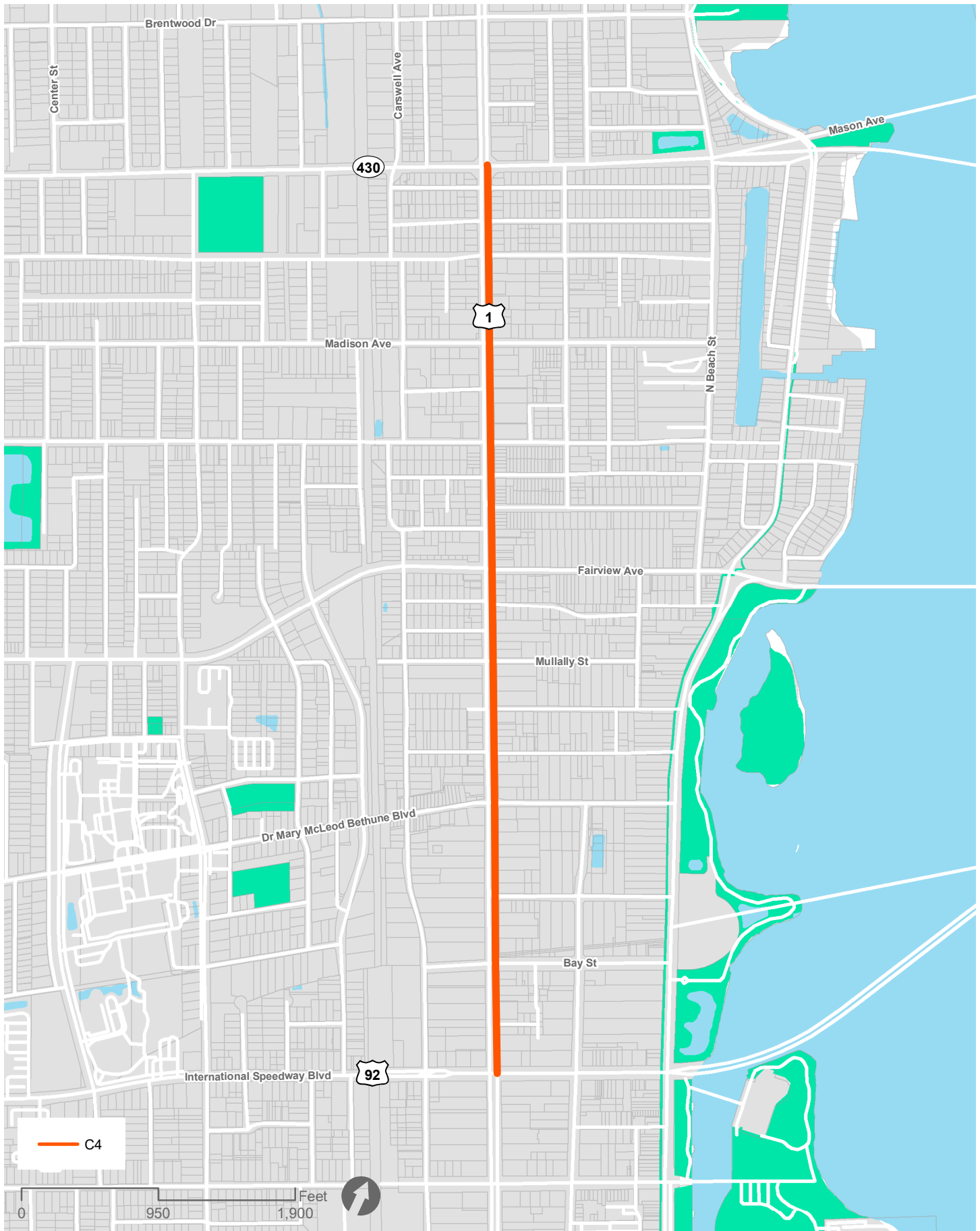


Figure 5: Context Classification

MMSA for US 1, from US 92 to SR 430



Bicycle and Pedestrian Generators/Attractors

The bicycle and pedestrian generators and attractors are shown in **Figure 6**. The density along the corridor will naturally drive pedestrian and bicycling activity in the area. The Votran Transfer Plaza is a major attractor of those who will likely be walking or bicycling to their respective destinations. **Figure 6** denotes these locations, many of which being religious institutions, schools, civic institutions, and the natural water features near the area. One major attractor is the nearby Bethune Cookman University (BCU) main campus. This area will attract students and the general traveling public. The northern portion of the corridor will continue to attract bicycle and pedestrian users due to its residential areas and surrounding commercial developments.

Planned or Proposed Investments

The planned projects by FDOT or local agencies along the corridor are shown in **Figure 7**.

- **Volusia County Pedestrian Lighting Bundle D (FPID: 439881-4)** is going to be conducted on 22 intersections on U.S. 1 in Volusia County, from Bay Street to the north. All proposed new fixtures at each intersection shall be LED and all existing fixtures at each intersection shall be converted to LED. The main goal is to improve pedestrian safety at specific signalized intersections by installing streetlighting that offer better visibility. No other intersection improvements are expected.
- Votran's Transit Development Plan (FY 2017 – 2026) recommended **enhancements to Route 3A**, the primary transit route serving the corridor, suggesting that its frequency be at 20-minute headways Monday through Saturday⁴. It was also recommended that Routes 4 and 12 establish 30-minute headways, and that Route 6 add 60-minute headways on Saturday. These suggestions were part of the Transportation Development Plan that is updated every ten years as a means of complying with state law. These recommendations are meant to be activated at the discretion of transit and local officials should the specific areas be reviewed in the future.
- R2CTPO created a list within its Bicycle and Pedestrian Master Plan which identified locations of community concern. Those that are within the study corridor limits are:
 - U.S. 1 and Mason Avenue
 - U.S. 1 and Dr. Mary McLeod Bethune Boulevard

If your office has completed, or is in the process of completing, additional studies/projects within the corridor, contact Paul Schoelzel with FDOT D5 Modal Development – Paul.Schoelzel@dot.state.fl.us (386) 943-5246.

⁴ <http://www.votran.org/core/fileparse.php/6120/urlt/Final-Votran-Transit-Development-Plan-FDOT-Submittal-by11-1-16.pdf>



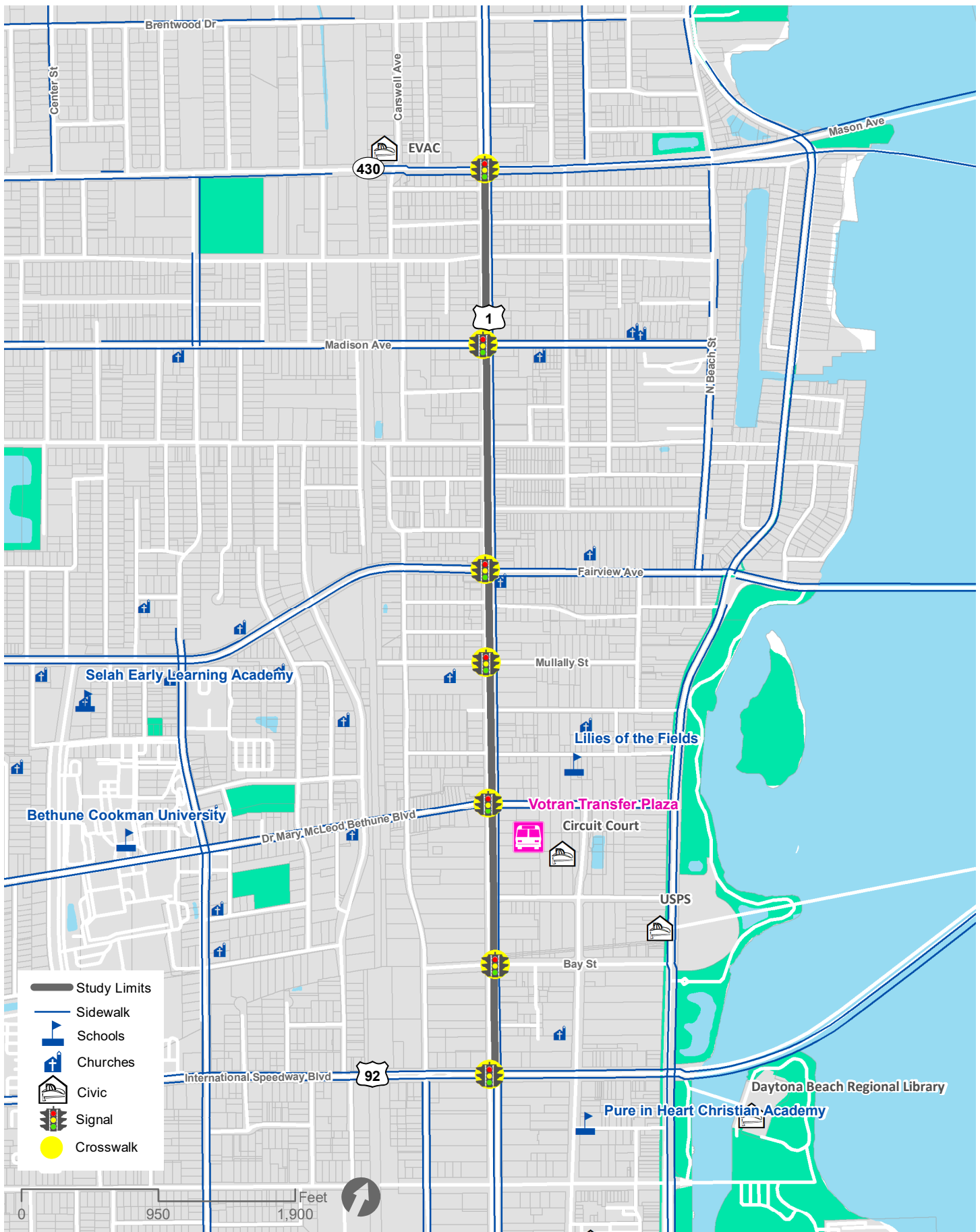


Figure 6: Bike/Ped Generators and Attractors

MMSA for US 1, from US 92 to SR 430

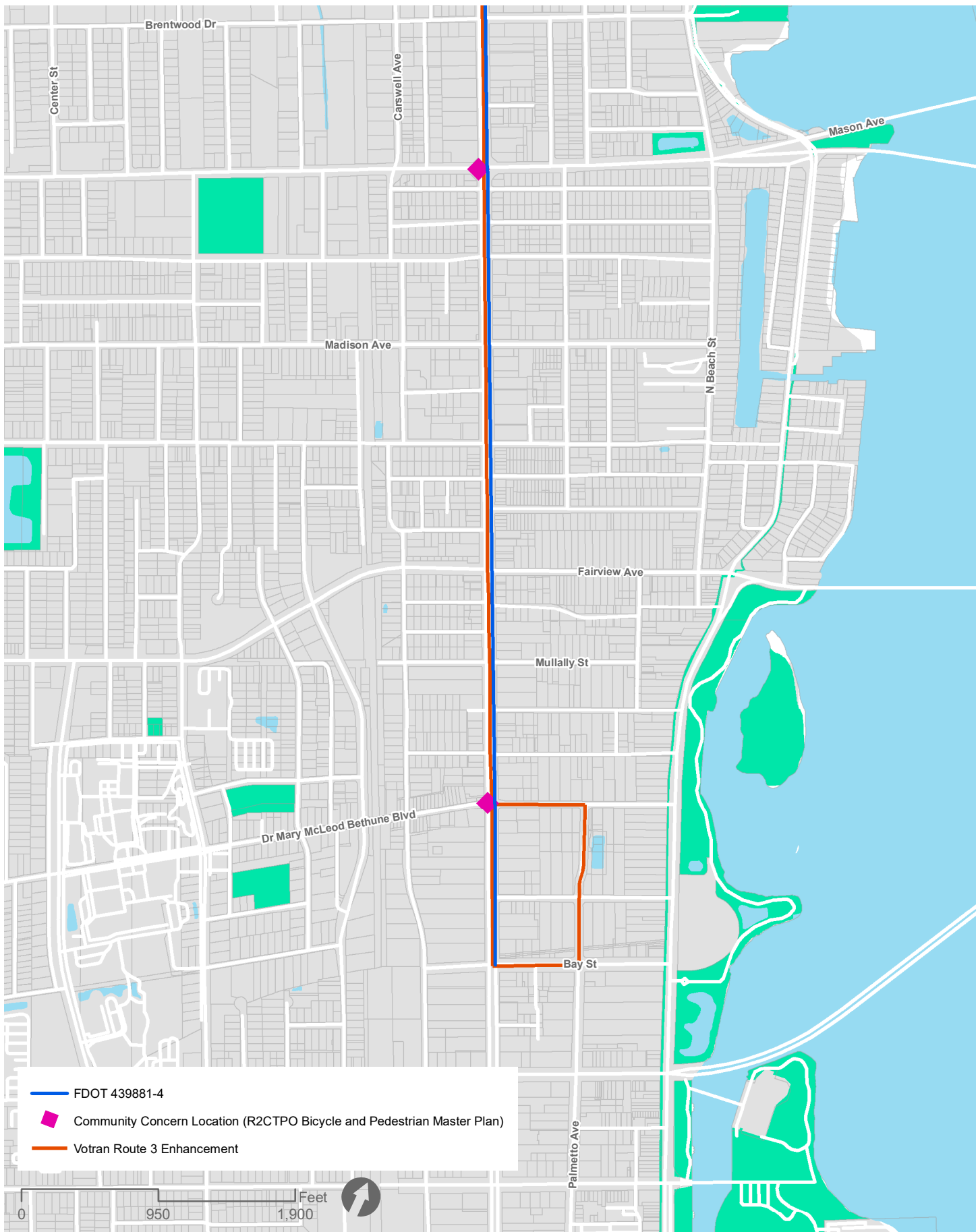


Figure 7: Planned Projects

MMSA for US 1, from US 92 to SR 430



HISTORIC CRASH ANALYSIS

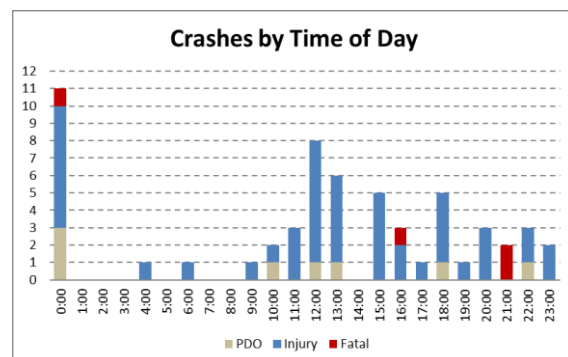
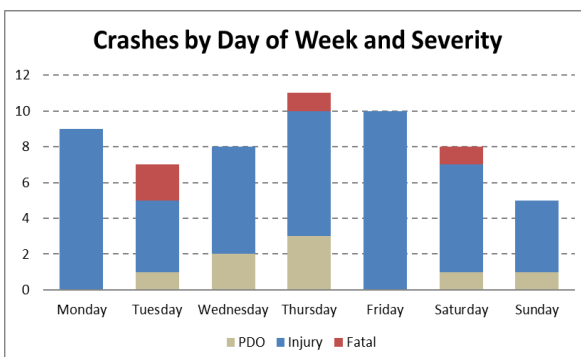
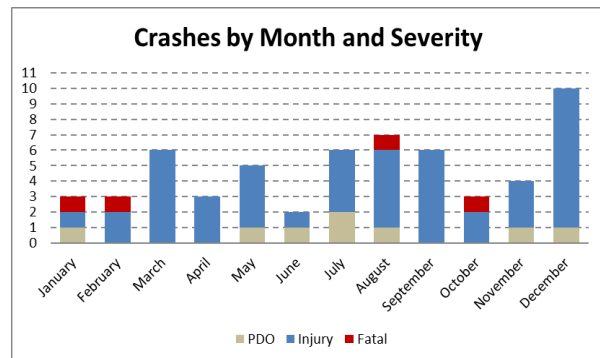
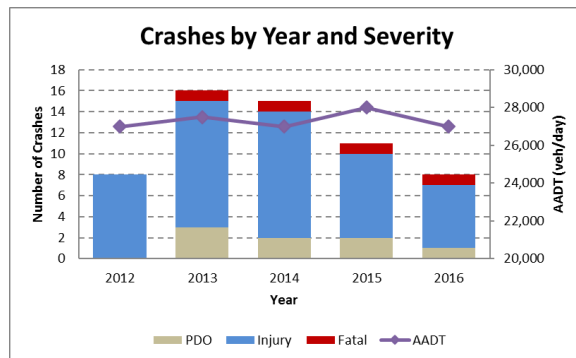
Five (5) years of available pedestrian and bicyclist crash data, 2012 to 2016, were utilized for the U.S. 1 crash analysis. Crash data was obtained from two sources: 1) The FDOT Crash Analysis Reporting (CAR) database from 2012 to 2016 and 2) The Signal Four Analytics database, maintained by the University of Florida from 2012 to 2016. Those crashes are mapped in **Figure 8**.

Severity

A total of 58 pedestrian or bicyclist involved vehicular crashes were reported over the five-year study period. There were four fatal crashes. Eight crashes were a Property Damage Only (PDO) crash and 46 of the crashes were injury crashes, with six reporting an incapacitating injury, 17 reporting non-incapacitating injuries, and 23 reporting possible injuries. Twenty-four of the crashes were pedestrian crashes and 34 of the crashes were bicyclist crashes.

Time

The reported crashes are displayed by different measures of time (year, month, day, and hour) as follows. Overall, the number of crashes has fluctuated from eight to 16 crashes in a given year. Over the same five-year time period, the Average Annual Daily Traffic (AADT) has remained relatively constant. The highest volumes in the period were observed in 2015, with an AADT of 28,000 vehicles per day on the study corridor. The month of December had the highest reported crashes, ten crashes. Thursday (11 crashes) was the highest crash day of the week, and weekday crashes (45 crashes) were more prevalent than weekend crashes (13 crashes). Seventeen crashes occurred during the mid-day peak hours (11 a.m. to 2 p.m.)



Environmental Factors

Twenty-one crashes (36 percent) were reported in non-daylight conditions and seven crashes occurred during wet roadway conditions (12 percent). Five of the crashes were reported to have involved suspected alcohol or drug use.

Demographics

Nine of the crashes were a hit-and-run crash, with no further information available about the driver. Ten of the crashes involved drivers over the age of 65, and six of the crashes involved drivers between the ages of 54 and 65. Thirty-nine out of the 47 known involved drivers had addresses listed within the areas surrounding the project site.

Four of the non-motorist users involved in the crashes were under the age of 18 and three were over the age of 65. Seven non-motorist users had a listed address outside of the vicinity of the project site.

Location and Direction

Several intersections had multiple crashes reported during the study period. The intersection of U.S. 1 & S.R. 430 had 15 crashes, the intersection of U.S. 1 & U.S. 92 had 10 crashes, including one fatality, and the intersection of U.S. 1 and Fairview Ave had seven crashes. Forty-six of the crashes (79 percent) occurred at or within the influence area of a signalized intersection, including three out of the four fatalities.

Twenty of the crashes occurred within a marked crosswalk, of these crashes, 12 occurred with the non-motorist user crossing against the indications of the pedestrian signal. Twelve of the crashes occurred with the non-motorist user making a mid-block crossing (or crossing U.S. 1 at an uncontrolled location). Six of the crashes involved vehicles attempting to make a right-on-red movement and five of the crashes involved vehicles making a left-turn at a signalized intersection (two permitted, three protected).

Among the bicyclist crashes, 17 occurred with the bicyclist on a sidewalk or crosswalk and 13 occurred with the bicyclist in the bike lane or on the road. Ten crashes involved the bicyclist riding against the flow of traffic on the sidewalk, four crashes involved the bicyclist riding against the flow of traffic in a bike lane, and three crashes involved a bicyclist running a red light.



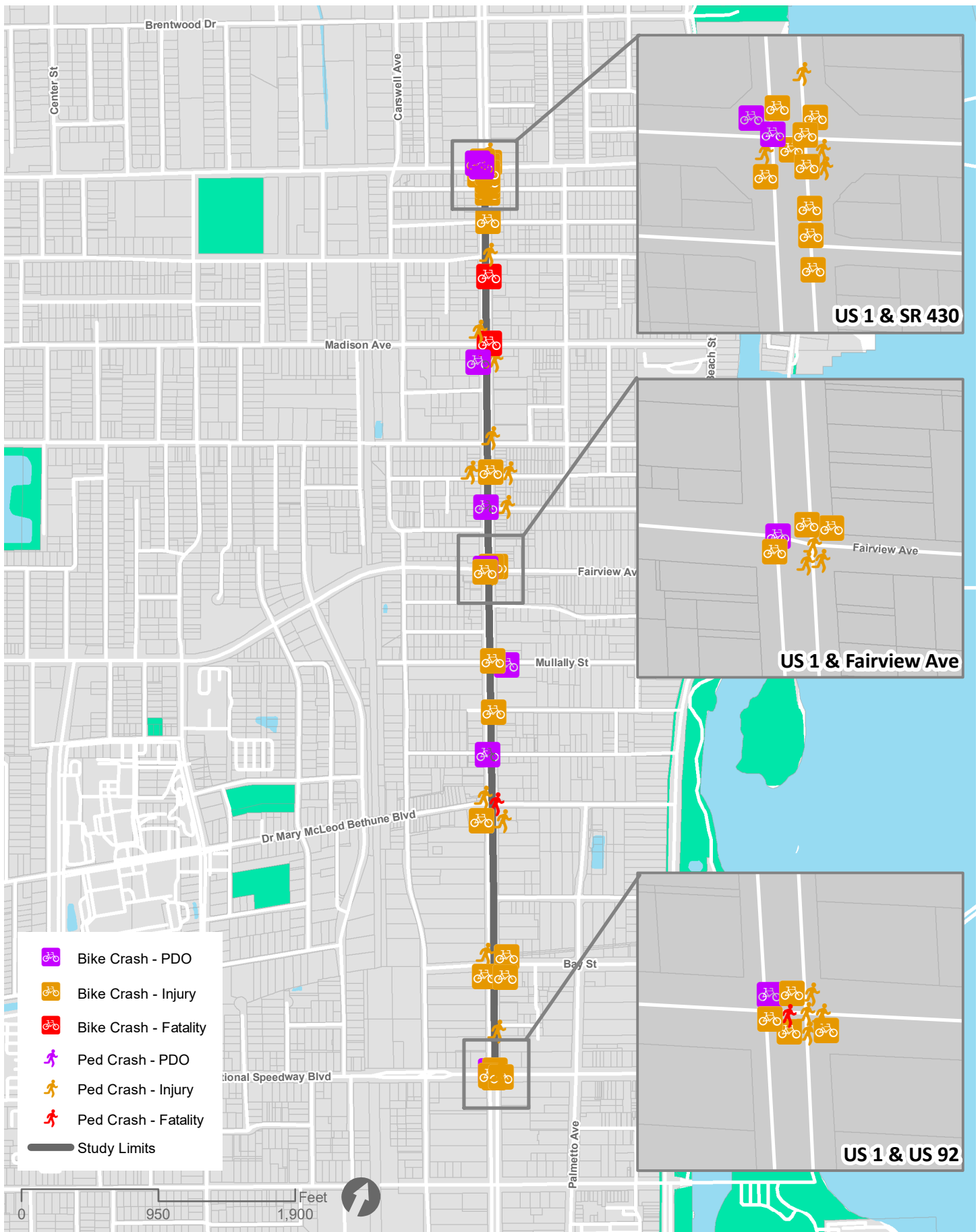


Figure 8: Ped & Bike Crashes

MMSA for US 1, from US 92 to SR 430

APPENDIX

- Context Classification
- Signal Phasing and Timing



CONTEXT CLASSIFICATION REQUEST FORM

To: Jean Parlow, Context Classification Manager
Planning and Environmental Management Office
719 S. Woodland Blvd, DeLand, FL 32720
386-943-5470 / jean.parlow@dot.state.fl.us

From: Sigal Carmenate, Transportation Analyst
Kittelson & Associates, Inc.
225 East Robinson Street, Suite 355 Orlando, FL 32801
407-373-1154 / scarmenate@kittelson.com

RE: MMSA Context Classification Request

Required:

City/Town: Daytona Beach County: Volusia
Road Name: US 1 State Road Number: 5
Section Number: 79030000
Begin Mile Point: 0 End Mile Point: 1.196
FM Number: Pending
Date Sent: 4/26/19 Date Needed: 5/27/19

LOCATION MAP MUST BE INCLUDED WITH REQUEST

Optional:

Suggested Classification of Applicant: C4

List necessary description, comments, and concerns:

FDOT Use Only

Provisional Context Class Determination: C4 Begin Mile Point: 0.000 End Mile Point: 1.196

Summary of Provisional Determination:

Ridgewood Avenue/SR 5 is C4 Urban General because of it's location adjacent to the City of Daytona's economic and civic center. It's a dense urban environment constrained by water on the eastern portion and made up of mostly commercial and multifamily land uses. Medium building setbacks, fronting uses, parking to the side and rear of buildings indicate an urbanized area. Allowable residential and office/retail densities are high and secondary measures align with Urban General characteristics. The future land use indicates a greater mix of land uses and the zoning supports redevelopment for land uses with high densities.



Jean Parlow
Context Classification Manager

09/09/19
Date

Please allow 10 working days to process a standard review request.
In the case of multiple roadway segments, please submit a separate form for each roadway.

CONTEXT CLASSIFICATION MATRIX

Table 1 Context Classification Matrix presents a framework to determine the context classifications along state roadways. This Context Classification Matrix outlines (1) distinguishing characteristics, (2) primary measures, and (3) secondary measures.

The distinguishing characteristics give a broad description of the land use types and street patterns found within each context classification. The primary and secondary measures provide more detailed assessments of the existing or future conditions along the roadway. These measures can be evaluated through a combination of a field visit, internet-based

aerial and street view imagery, map analysis, and review of existing or future land use or existing zoning information. The Context Classification Matrix presents the primary and secondary measures thresholds for the eight context classifications.

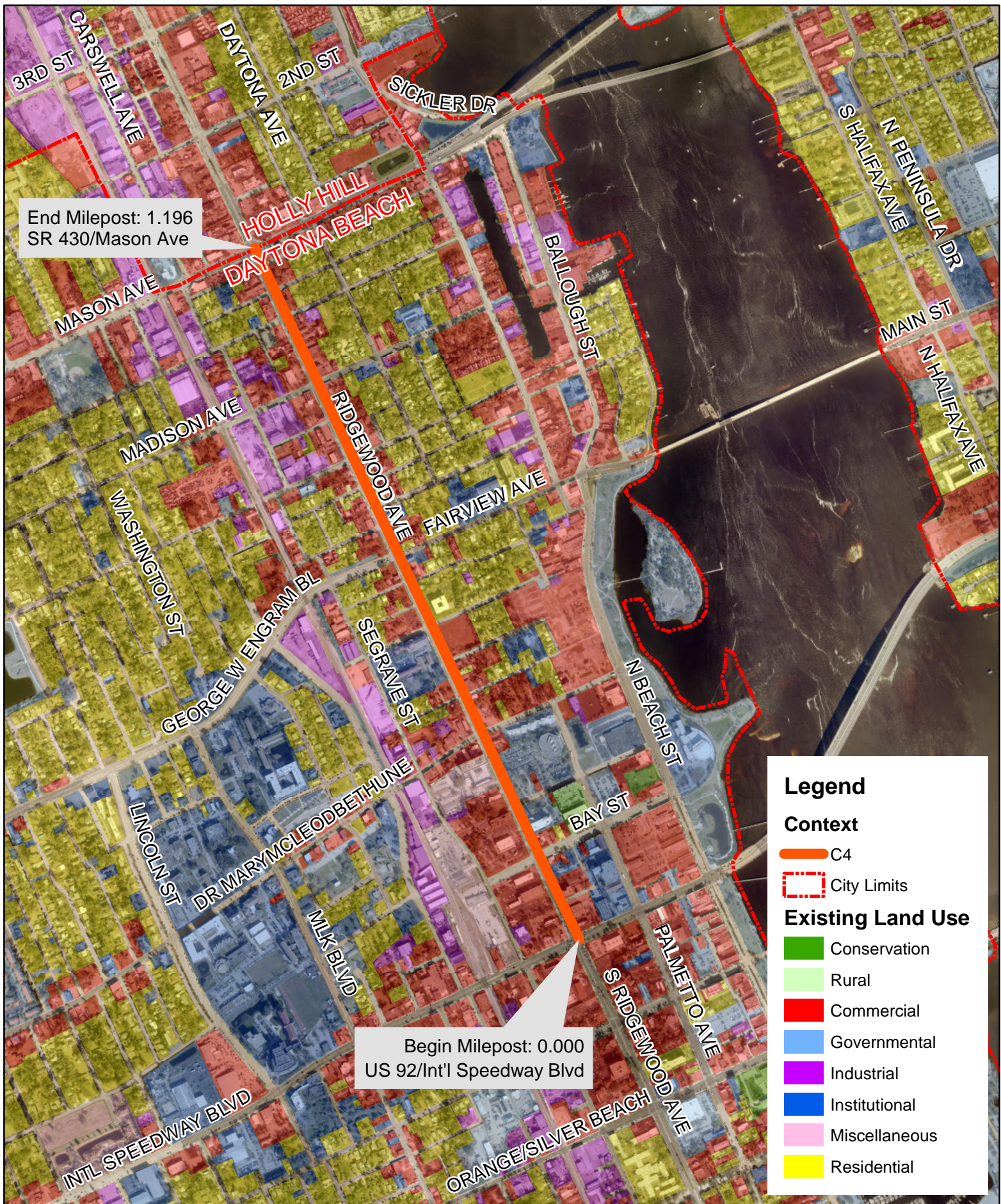
Appendix A illustrates the eight FDOT context classifications through case studies. These case studies present examples of real-world values for the primary and secondary measures that determine a roadway's context classification.

TABLE 1 CONTEXT CLASSIFICATION MATRIX

		(2) Primary Measures								(3) Secondary Measures			
Context Classification	(1) Distinguishing Characteristics	Land Use	Building Height	Building Placement	Fronting Uses	Location of Off-street Parking	Roadway Connectivity			Allowed Residential Density	Allowed Office/ Retail Density	Population Density	Employment Density
		Description	Floor Levels	Description	Yes/No	Description	Intersection Density	Block Perimeters	Block Length	Dwelling Units/ Acre	Floor-Area Ratio (FAR)	Persons/Acre	Jobs/Acre
C1-Natural	Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.	Conservation Land, Open Space, or Park	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C2-Rural	Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.	Agricultural or Single-Family Residential	1 to 2	Detached buildings with no consistent pattern of setbacks	No	N/A	<20	N/A	N/A	<1	N/A	<2	N/A
C2T-Rural Town	Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.	Retail, Office, Single-Family or Multi-Family Residential, Institutional, or Industrial	1 to 2	Both detached and attached buildings with no or shallow (<20') front setbacks	Yes	Mostly on side or rear; occasionally in front	>100	<3,000	<500	>4	>0.25	N/A	>2
C3R-Suburban Residential	Mostly residential uses within large blocks and a disconnected or sparse roadway network.	Single-Family or Multi-Family Residential	1 to 2, with some 3	Detached buildings with medium (20' to 75') front setbacks	No	Mostly in front; occasionally in rear or side	<100	N/A	N/A	1 to 8	N/A	N/A	N/A
C3C-Suburban Commercial	Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.	Retail, Office, Multi-Family Residential, Institutional, or Industrial	1 (retail uses) and 1 to 4 (office uses)	Detached buildings with large (>75') setbacks on all sides	No	Mostly in front; occasionally in rear or side	<100	>3,000	>660	N/A	<0.75	N/A	N/A
C4-Urban General	Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.	Single-Family or Multi-Family Residential, Institutional, Neighborhood Scale Retail, or Office	1 to 3, with some taller buildings	Both detached and attached buildings with no setbacks or up to medium (<75') front setbacks	Yes	Mostly on side or rear; occasionally in front	>100	<3,000	<500	>4	N/A	>5	>5
C5-Urban Center	Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of a civic or economic center of a community, town, or city.	Retail, Office, Single-Family or Multi-Family Residential, Institutional, or Light Industrial	1 to 5, with some taller buildings	Both detached and attached buildings with no or shallow (<20') front setbacks	Yes	Mostly on side or rear; occasionally in front, or in shared off-site parking facilities	>100	<2,500	<500	>8	>0.75	>10	>20
C6-Urban Core	Areas with the highest densities and building heights, and within FDOT classified Large Urbanized Areas (population >1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network.	Retail, Office, Institutional, or Multi-Family Residential	>4, with some shorter buildings	Mostly attached buildings with no or minimal (<10') front setbacks	Yes	Side or rear; often in shared off-site garage parking	>100	<2,500	<660	>16	>2	>20	>45

More information on measures with undefined thresholds (N/As) are included in Appendix B. The thresholds presented in Table 1 are based on the following sources, with modifications made based on Florida case studies:
1) *2008 Smart Transportation Guidebook: Planning and Designing Highways and Streets that Support Sustainable and Livable Communities*, New Jersey Department of Transportation and Pennsylvania Department of Transportation;

2) *2012 Florida TOD Guidebook*, Florida Department of Transportation;
3) *2009 SmartCode Version 9.2*, Duany, Andres, Sandy Sorlien, and William Wright; and
4) *2010 Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, Institute of Transportation Engineers and Congress for the New Urbanism.



US 1/SR 5 (Volusia County)

Current Context Classification

Date: 9/4/2019

0 0.25 0.5 Miles



City of Daytona Beach

Timing Sheet

10/9/2019 11:20:44 AM

Station : 1292 - US 1 & US 92 ETHERNET (Standard File)

Phase [1.1.1]

	1 (NL)	2 (ST)	3 (EL)	4 (WT)	5 (SL)	6 (NT)	7 (WL)	8 (ET)	9	10	11	12	13	14	15	16
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Ped Clearance	0	28	0	28	0	28	0	28	0	0	0	0	0	0	0	0
Min Green	7	10	7	10	7	10	7	10	5	5	5	5	5	5	5	5
Gap Ext	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1
Max1	20	60	20	45	20	60	40	45	25	25	25	25	25	25	25	25
Max2	20	60	20	45	20	60	20	45	50	50	50	50	50	50	50	50
Yellow Clr	4.1	4.1	4	4	4.1	4.1	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2.5	2.4	2.6	2.8	2.4	2.4	2.5	2.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Rest In Walk		ON				ON										

Phase Option [1.1.2]

	1 (NL)	2 (ST)	3 (EL)	4 (WT)	5 (SL)	6 (NT)	7 (WL)	8 (ET)	9	10	11	12	13	14	15	16
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Lock Call		ON		ON		ON		ON	ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON		ON		ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable		ON				ON			ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Cond Service																
Add Init Calc																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

Entry	Call Phases	From	To	From	To	From	To	From	To	Assigned Ph
1	0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

Entry	Call Phases	From	To	From	To	From	To	From	To	Assigned Ph
1	0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

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Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Red Revert	Local Flash Start	Allow < 3 sec Yel	Allow Skip Yel	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Startup Calls	Diamond Mode	Stop Time Over Preempt	Free Ring Sequence	Clearance Decide	Min Ped Clear Time	Ring Algo

	OFF	3	OFF	OFF	OFF		ON		STD8	OFF	4PH	OFF		1	OFF	OFF		
--	-----	---	-----	-----	-----	--	----	--	------	-----	-----	-----	--	---	-----	-----	--	--

Comm, General Comm Parameters [6.1]

Station ID	Master Station ID	Fallback time	Allow Pencil	Port	System-Up	Sys-Down	PC/Print	Aux 232
1292								

Port Parameters [6.2]

Comm	Mode	Baud	MsgTime	Duplex	Enable	DialTime	Modem	ModemTime	Tel#1	Tel#2
System Up(P-A)										
System Down(P-B)										
PC/Print(P-2)										

Overlap General Parameters [1.5.1]

Conflict Lock	Lock Inhibit	Program Card	Use Parent	Canadian Fast Flash
OFF	OFF	OFF	ALWAYS	

Overlap Program Parameters [1.5.2.1]

Overlap	Included Phases								Modifier Phases								Type	Green	Yellow	Red
Overlap 1																	NORMAL		3.5	1.5
Overlap 2																	NORMAL		3.5	1.5
Overlap 3																	NORMAL		3.5	1.5
Overlap 4																	NORMAL		3.5	1.5
Overlap 5																	NORMAL		3.5	1.5
Overlap 6																	NORMAL		3.5	1.5
Overlap 7																	NORMAL		3.5	1.5
Overlap 8																	NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

Overlap	Conflicting Phases								Conflicting Overlaps								Conflicting Peds							
Overlap 1																								
Overlap 2																								
Overlap 3																								
Overlap 4																								
Overlap 5																								
Overlap 6																								
Overlap 7																								
Overlap 8																								

Detector, Vehicle Parameters 1-16 [5.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Call Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Detector, Vehicle Parameters 17-32 [5.1]

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Detector Alternate Program 1, Vehicle Parameters [5.5.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Call Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Channels/SDLC, Assign to Phases [1.3.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PH/OLP #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8	1	3	5	7				
Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	PED	PED	PED	PED	VEH	VEH	VEH	VEH
Flash	RED	YEL	RED	RED	RED	YEL	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								
Dimming Green																								
Dimming Yellow																								
Dimming Red																								
Dimming Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Channel/SDLC, Parameters [1.3.3]

TOD Dim Enable	Extra Maps Enable	D Connector Enable	Single BIU Map	IO Mode	Preempt or Ext Output
OFF	DEFAULT				

Channel/SDLC, MMU Map [1.3.5]

MMU-to-Controller Channel Map

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Channel/SDLC, Permissive [1.3.4]

Channel	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1		1									1	1			
2		1		1							1	1			
3	1								1	1					
4	1		1						1	1					
5				1											
6		1		1											
7			1												
8	1		1												
9															
10															
11															
12															
13			1												
14	1														
15															

Channel/SDLC, Permissive [1.3.7]

SDLC Device	Term/Fac								Detector								MMU Diag	
BIU#	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
Dev Present	ON	ON							ON								ON	
Peer to Peer																		

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

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Alarms, Enable Events [1.6.1]

Event#	Event Enable
1	ON
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON
9	
10	
11	ON
12	ON
13	ON
14	ON
15	ON
16	ON
17	ON
18	ON
19	ON
20	ON
21	
22	ON
23	ON
24	ON
25	ON
26	ON
27	
28	
29	ON
30	ON
31	ON
32	
33	
34	
35	
36	
37	ON
38	ON
39	
40	
41	
42	
43	
44	
45	
46	
47	ON
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	ON
60	
61	
62	
63	
64	

Alarms, Enable Alarms [1.6.4]

Alarm#	Alarm Enable
1	ON
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON
9	
10	
11	ON
12	ON
13	ON
14	ON
15	ON
16	ON
17	ON
18	ON
19	ON
20	ON
21	
22	ON
23	ON
24	ON
25	ON
26	ON
27	
28	ON
29	ON
30	ON
31	ON
32	
33	
34	
35	ON
36	ON
37	ON
38	ON
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	ON
60	
61	
62	
63	
64	

Preemption Times[3.1]/Phases[3.2]/Options[3.3]

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash	ON	ON	ON	ON	ON	ON
Override Higher Preempt	ON	ON	ON	ON	ON	ON
Flash in Dwell	ON	ON	ON	ON	ON	ON
Link to Preempt						
Delay						
Min Duration						
Min Green						
Min Walk						
Ped Clear						
Track Green						
Min Dwell						
Max Presence						
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1						
Exit 2						
Exit 3						
Exit 4						

Alarms, Parameters [1.4.1]

Auto Flash Parameter

Yellow	Red	Mode	Source
35	15		

Alarms, Parameters [1.6.7]

Preempt Event Enabled	Pattern Event Enabled
ON	OFF

Alarms, Phases/Overlaps [1.4.2]

Auto Flash	1	2	3	4	5	6	7	8	9	10	11	12
Phases												
Overlaps												

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Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable	ON	ON	ON	ON	ON	ON
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt						
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell						
Pattern						
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1						
Track Over 2						
Track Over 3						
Track Over 4						
Track Over 5						
Track Over 6						
Track Over 7						
Track Over 8						
Track Over 9						
Track Over 10						
Track Over 11						
Track Over 12						
DwellCyc Over 1						
DwellCyc Over 2						
DwellCyc Over 3						
DwellCyc Over 4						
DwellCyc Over 5						
DwellCyc Over 6						
DwellCyc Over 7						
DwellCyc Over 8						
DwellCyc Over 9						
DwellCyc Over 10						
DwellCyc Over 11						
DwellCyc Over 12						
Ped Clear						
Yellow						
Red						
Return Max						

Coordination, Modes,+ [2.1]

Modes

Operational	Correct	Maximum	Force-Off
	SHRT/LNG	MAX INH	FIXED

Modes+

Mode	Leave Before	Leave After	Recycle	Stop In Walk	External	Auto Reset	Latch Sec Foff	Coord Easy Float	Yield Value	Coord NTCIP Yield Sign	Closed Loop Active
RESERVED	TIMED	TIMED	NO RECYCLE	ON	OFF	ON	OFF	OFF	0	+	OFF

Coordination, Pattern 1-16 [2.1]

Pattern	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cycle Time	120	140	120	140	180		160	180		180	180	180	180	180	180	180
Offset Time		97	13	103	102			102		102						
Split Number	1	2	3	5	11		7	11		11	12	10	27	11	27	26
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Offset	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn

Coordination, Pattern 17-32 [2.1]

Pattern	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Cycle Time	180	180	200	200	200	200	200	200	200	200	200	200	200	200		
Offset Time				71	61	61										
Split Number	26	26	29	29	14	13	30	28	29	29	29	30	14	29		
Seq Number	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Offset	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn	endgrn

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Coordination, Splits [2.7.1]

Split Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	22	42	20	36	22	42	20	36								
Mode	MAX	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	25	56	17	42	17	64	17	42								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	17	48	16	39	15	50	15	40								
Mode	NON	MXP	MAX	MAX	NON	MXP	MAX	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	58	17	41	19	63	18	40								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	20	49	16	55	20	49	16	55								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	32	58	22	48	32	58	22	48								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	32	48	25	55	32	48	25	55								
Mode	NON	MXP	NON	NON	NON	MXP	NON	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	63	25	48	24	63	25	48								
Mode	NON	MXP	NON	MAX	NON	MXP	NON	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	20	60	15	27	16	64	17	25								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	36	54	36	54	36	54	36	54								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	22	51	22	85	22	51	22	85								
Mode	NON	MXP	NON	MAX	NON	MXP	NON	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	22	102	22	34	22	102	22	34								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

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Split Table 13	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	25	92	24	59	25	92	24	59								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 14	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	26	48	26	100	26	48	26	100								
Mode	NON	NON	NON	MAX	NON	MXP	NON	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	16	36	18	130	16	36	18	130								
Mode	NON	MXP	NON	NON	NON	NON	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	17	62	17	104	17	62	17	104								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	17	32	17	134	17	32	17	134								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	16	44	25	95	16	44	25	95								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	36	54	36	54	36	54	36	54								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	28	114	28	30	28	114	28	30								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 21	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	36	24	156	24	36	24	156								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	36	24	156	24	36	24	156								
Mode	NON	MXP	NON	MXP	NON	MXP	NON	MXP	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 23	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	19	31	19	171	19	31	19	171								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	19	31	19	171	19	31	19	171								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 25	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Split Table 26	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	22	102	22	34	22	102	22	34								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 27	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	34	58	30	58	34	58	30	58								
Mode	NON	MXP	NON	MAX	NON	MXP	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	25	58	25	92	25	58	25	92								
Mode	NON	MXP	NON	MAX	NON	MXP	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	25	50	25	100	25	50	25	100								
Mode	NON	MXP	NON	MAX	NON	MXP	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	26	66	18	90	26	66	18	90								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	42	24	150	24	42	24	150								
Mode	NON	MXP	NON	NON	NON	MXP	NON	MAX	OMT	OMT	OMT	OMT	OMT	OMT	OMT	OMT
Coord Phase		ON														

Split Table 32	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	24	92	24	100	24	92	24	100								
Mode	NON	MXP	NON	NON	NON	MXP	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Station : 1292 - US 1 & US 92 ETHERNET (Standard File)

TB Coor, Advanced Scheduler [4.3]

[illegible]

TB Coor, Day Plan [4.4]

[illegible][illegible][illegible][illegible][illegible][illegible]

City of Daytona Beach

Timing Sheet

10/9/2019 11:20:44 AM

Station : 1292 - US 1 & US 92 ETHERNET (Standard File)

Day Plan Table 7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

City of Daytona Beach

Timing Sheet

10/9/2019 11:20:44 AM

Station : 1292 - US 1 & US 92 ETHERNET (Standard File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
9	9				0	0						
10	10				0	0						
11	11				0	0						
12	12				0	0						
13	13				0	0						
14	14				0	0						
15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
20	20				0	0						
21	21				0	0						
22	22				0	0						
23	23				0	0						
24	24				0	0						
25	25				0	0						
26	26				0	0						
27	27				0	0						
28	28				0	0						
29	29				0	0						
30	30				0	0						
31	31				0	0						
32	32				0	0						
33	33				0	0						
34	34				0	0						
35	35				0	0						
36	36				0	0						
37	37				0	0						
38	38				0	0						
39	39				0	0						
40	40				0	0						
41	41				0	0						
42	42				0	0						
43	23				0	0						
44	44				0	0						
45	45				0	0						
46	46				0	0						
47	47				0	0						
48	48				0	0						
49	49				0	0						
50	50				0	0						
51	51				0	0						
52	52				0	0						
53	53				0	0						
54	54				0	0						
55	55				0	0						
56	56				0	0						
57	57				0	0						
58	58				0	0						
59	59				0	0						
60	60				0	0						
61	61				0	0						
62	62				0	0						
63	63				0	0						
64	64				0	0						
99	99				0	0						
100	254				0	0						

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
City of Daytona Beach
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	0.144	Node	3
Sig ID	1293	Controller	Naztec 900 ATC	System ID	
Maj. Street	US 1	Orientation	N-S	SOP	
Min. Street	Bay Street	Orientation	E-W		

Data Input													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		EB/WB	SBL	NB							
Speed Limit (mph)	35	35		25	35	35							
Vehicle Traversed Width	84	95		109	102	84							
Approach Grades	-0.6%	0.0%		0.3%	0.0%	-0.6%							
Ped-X (curb to curb)		72		81		69							
Crossing Time		21		24		20							
Ped-X (button to curb)		11		10		20							
Ped-X (button to far curb)		83		91		89							
Crossing Time (to far curb)		28		31		30							
Controller Timings (seconds)													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		EB/WB	SBL	NB							
Turn Type	Prot/Perm				Prot/Perm								
Min Green	7	10		7	7	10							
Ext	3.0	3.0		3.0	3.0	3.0							
Yellow Change Interval	4.1	4.1		3.4	4.0	4.1							
Red Clearance Interval	2.0	2.0		2.6	2.4	2.0							
Max I	20	60		30	20	60							
Max II	20	60		30	20	60							
Walk		7		7		7							
Flashing Don't Walk		21		24		20							
Min Splits	14.0	35.0		37.0	14.0	34.0							
Detector Memory													
Det. Cross Switch.	ON				ON								
Recall		Min				Min							
CNA													
Coord Phase		YES											
Coordination Timings (seconds)													
Plan	Pattern	C-O-S	Splits								Cycle Length	Offset	Seq
AM	2		18	75	-	37	18	75	-	37	130	120	1
MIDDAY	3		18	65	-	37	18	65	-	37	120	2	1
PM	6		18	95	-	37	18	95	-	37	150	119	1

Notes

- 1) Offset referenced to end of first through movement 2 & 6
- 2) Program float force-offs
- 3.) Use Max Inhibit during coordination
- 4.) No Short phase for all patterns is Ø1

	All Patterns		
Ring-1	1	2	4
Ring-2	5	6	

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
City of Daytona Beach
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	0.356	Node	4
Sig ID	1294	Controller	Naztec 900 ATC	System ID	
Maj. Street	US 1	Orientation	N-S	SOP	7
Min. Street	MM Bethune Boulevard	Orientation	E-W		

Data Input													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		EB/WB	SBL	NB							
Speed Limit (mph)	35	35		30	35	35							
Vehicle Traversed Width	87	90		108	98	92							
Approach Grades	-0.2%	0.3%		-0.7%	0.3%	-0.2%							
Ped-X (curb to curb)		45		91		49							
Crossing Time		13		26		14							
Ped-X (button to curb)		16		18		18							
Ped-X (button to far curb)		61		109		67							
Crossing Time (to far curb)		21		37		23							
Controller Timings (seconds)													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		EB/WB	SBL	NB							
Turn Type	Prot/Perm				Prot/Perm								
Min Green	8	10		8	4	10							
Ext	3.0	3.0		3.0	3.0	3.0							
Yellow Change Interval	4.0	4.0		3.7	4.0	4.0							
Red Clearance Interval	2.0	2.0		2.0	2.3	2.0							
Max I	20	60		30	20	60							
Max II	20	60		30	20	60							
Walk		7		7		7							
Flashing Don't Walk		13		26		14							
Min Splits	14.0	26.0		39.0	11.0	27.0							
Detector Memory		ON				ON							
Det. Cross Switch.	ON				ON								
Recall		Min				Min							
CNA													
Coord Phase		YES											
Coordination Timings (seconds)													
Plan	Pattern	C-O-S	Splits								Cycle Length	Offset	Seq
AM	2		18	73	-	39	18	73	-	39	130	115	1
MIDDAY	3		18	63	-	39	18	63	-	39	120	13	1
PM	6		18	93	-	39	18	93	-	39	150	125	1

Notes

- 1) Offset referenced to end of first through movement 2 & 6
- 2) Program float force-offs
- 3.) Use Max Inhibit during coordination

	All Patterns		
Ring-1	1	2	4
Ring-2	5	6	

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
City of Daytona Beach
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	0.544	Node	5
Sig ID	1295	Controller	Naztec 900 ATC	System ID	
Maj. Street	US 1	Orientation	N-S	SOP	1
Min. Street	Mullally Street	Orientation	E-W		

Data Input													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction		NB/SB		EB/WB									
Speed Limit (mph)		35		30									
Vehicle Traversed Width		92		106									
Approach Grades		-0.6%		0.2%									
Ped-X (curb to curb)		42		84									
Crossing Time		14		28									
Ped-X (button to curb)		15		15									
Ped-X (button to far curb)		57		99									
Crossing Time (to far curb)		19		33									
Controller Timings (seconds)													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction		NB/SB		EB/WB									
Turn Type													
Min Green		10		10									
Ext		3.0		3.0									
Yellow Change Interval		4.1		3.7									
Red Clearance Interval		2.0		2.0									
Max I		30		15									
Max II		30		15									
Walk		7		7									
Flashing Don't Walk		14		28									
Min Splits		28.0		41.0									
Detector Memory		ON											
Det. Cross Switch.													
Recall		Min											
CNA													
Coord Phase		YES											
Coordination Timings (seconds)													
Plan	Pattern	C-O-S	Splits								Cycle Length	Offset	Seq
AM	2		-	89	-	41	-	89	-	41	130	127	1
MIDDAY	3		-	79	-	41	-	79	-	41	120	9	1
PM	6		-	126	-	24	-	126	-	24	150	143	1

Notes

- 1) Offset referenced to end of first through movement 2 & 6
- 2) Program float force-offs
- 3.) Use Max Inhibit during coordination

	All Patterns
Ring-1	2
Ring-2	4

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
City of Daytona Beach
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	0.664	Node	6
Sig ID	1296	Controller	Naztec 900 ATC	System ID	
Maj. Street	US 1	Orientation	N-S	SOP	7
Min. Street	Fairview Avenue	Orientation	E-W		

Data Input									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB		WB	SBL	NB		EB	
Speed Limit (mph)	35	35		30	35	35		35	
Vehicle Traversed Width	99	107		102	104	108		104	
Approach Grades	-0.4%	-0.3%		-2.1%	-0.3%	-0.4%		-0.1%	
Ped-X (curb to curb)		75		88		50		92	
Crossing Time		22		26		15		27	
Ped-X (button to curb)		10		9		10		10	
Ped-X (button to far curb)		85		97		60		102	
Crossing Time (to far curb)		29		33		20		34	

Controller Timings (seconds)									
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	NBL	SB		WB	SBL	NB		EB	
Turn Type	Prot/Perm				Prot/Perm				
Min Green	5	10		10	5	10		10	
Ext	3.0	3.0		3.0	3.0	3.0		3.0	
Yellow Change Interval	4.1	4.1		4.0	4.0	4.1		4.0	
Red Clearance Interval	2.3	2.0		2.0	2.4	2.0		2.0	
Max I	20	60		30	20	60		30	
Max II	20	60		50	20	60		30	
Walk		7		7		7		7	
Flashing Don't Walk		22		26		15		27	
Min Splits	12.0	36.0		39.0	12.0	29.0		40.0	
Detector Memory		ON				ON			
Det. Cross Switch.	ON				ON				
Recall		Min				Min			
CNA									
Coord Phase		YES							

Coordination Timings (seconds)													
Plan	Pattern	C-O-S	Splits								Cycle Length	Offset	Seq
AM	2		18	72	-	40	18	72	-	40	130	108	1
MIDDAY	3		18	77	-	25	18	77	-	25	120	70	1
PM	6		19	91	-	40	18	92	-	40	150	118	1

Notes

- 1) Offset referenced to end of first through movement 2 & 6
- 2) Program float force-offs
- 3.) Use Max Inhibit during coordination
- 4.) No Short phases for all patterns are Ø2 & Ø6

	All Patterns		
Ring-1	1	2	4
Ring-2	5	6	8

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
City of Daytona Beach
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	0.963	Node	7
Sig ID	1297	Controller	Naztec 900 ATC	System ID	
Maj. Street	US 1	Orientation	N-S	SOP	11
Min. Street	Madison Avenue	Orientation	E-W		

Data Input													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		WB		NB		EB					
Speed Limit (mph)	35	35		25		35		25					
Vehicle Traversed Width	100	103		108		106		109					
Approach Grades	0.0%	-0.5%		-3.6%		0.0%		-2.4%					
Ped-X (curb to curb)		47		92		45		92					
Crossing Time		14		27		13		27					
Ped-X (button to curb)		10		9		5		10					
Ped-X (button to far curb)		57		101		50		102					
Crossing Time (to far curb)		19		34		17		34					
Controller Timings (seconds)													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB		WB		NB		EB					
Turn Type	Prot/Perm												
Min Green	8	15		8		15		8					
Ext	3.0	3.0		3.0		3.0		3.0					
Yellow Change Interval	4.0	4.1		3.5		4.1		3.5					
Red Clearance Interval	2.3	2.0		2.6		2.0		2.6					
Max I	20	60		25		60		25					
Max II	20	60		25		60		25					
Walk		7		7		7		7					
Flashing Don't Walk		14		27		13		27					
Min Splits	15.0	28.0		41.0		27.0		41.0					
Detector Memory		ON				ON							
Det. Cross Switch.	ON												
Recall		Min				Min							
CNA													
Coord Phase		YES											
Coordination Timings (seconds)													
Plan	Pattem	C-O-S	Splits								Cycle Length	Offset	Seq
AM	2		18	71	-	41	-	89	-	41	130	61	1
MIDDAY	3		18	61	-	41	-	79	-	41	120	90	1
PM	6		18	91	-	41	-	109	-	41	150	53	1

Notes

- 1) Offset referenced to end of first through movement 2 & 6
- 2) Program float force-offs
- 3.) Use Max Inhibit during coordination
- 4.) No Short phases for pattern 2 are Ø2, Ø6 & Ø1. Pattern 3 is Ø2. Pattern 6 are Ø4, Ø8, & Ø1

	All Patterns		
Ring-1	1	2	4
Ring-2	6		8

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
US-1 TSMO Signal Retiming
Volusia County
FIN 440412-1-32-02

Designed By:	J.M.
Date:	6/4/2019
Checked By:	R.A.A.
Date:	6/4/2019

Section	79030000	Mile Post	1.196	Node	8
Sig ID	269	Controller	Econolite ASC/3-2100	System ID	13
Maj. Street	US 1	Orientation	N-S	SOP	10
Min. Street	Mason Avenue	Orientation	E-W		

Data Input													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB					
Speed Limit (mph)	35	35	35	35	35	35	35	35					
Vehicle Traversed Width	129	141	135	146	137	143	132	154					
Approach Grades	-0.9%	-0.7%	-1.3%	-1.5%	-0.7%	-0.9%	-1.5%	-1.3%					
Ped-X (curb to curb)		78		89		77		89					
Crossing Time		23		26		22		26					
Ped-X (button to curb)		17		15		15		12					
Ped-X (button to far curb)		95		104		92		101					
Crossing Time (to far curb)		32		35		31		34					
Controller Timings (seconds)													
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes				
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB					
Turn Type	Prot/Perm		Prot/Perm		Prot/Perm		Prot/Perm						
Min Green	5	12	5	7	5	12	5	7					
Ext	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0					
Yellow Change Interval	4.1	4.1	4.1	4.2	4.1	4.1	4.2	4.2					
Red Clearance Interval	3.1	2.2	3.3	2.4	3.3	2.2	3.2	2.4					
Max I	20	40	20	30	20	40	20	30					
Max II	23	48	25	42	24	48	25	43					
Walk		7		7		7		7					
Flashing Don't Walk		23		26		22		26					
Min Splits	13.0	37.0	13.0	40.0	13.0	36.0	13.0	40.0					
Detector Memory		ON				ON							
Det. Cross Switch.	ON		ON		ON		ON						
Recall		Min											
CNA													
Coord Phase		YES											
Coordination Timings (seconds)													
Plan	Pattern	C.O-S	Splits								Cycle Length	Offset	Seq
AM	1		18	47	21	44	23	42	25	40	130	37	1
MIDDAY	2		21	45	24	40	23	43	24	40	130	104	1
PM	3		22	59	22	47	27	54	28	41	150	32	1

Notes

- Offset referenced to end of first through movement 2 & 6
- Program float force-offs during coordination except Pattern 3 (Fixed)
- 7 seconds of leading pedestrian interval program for phases 2, 4, 6, & 8
- Use Max II during coordination
- Program additional Timing Plans as shown in table. Only Max II/III values vary.

All Patterns			
Ring-1	1	2	3
Ring-2	5	6	7

			Max II/III Timings							
Pattern	Timing Plan	Max	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
1	2	II	11	48	14	34	16	48	18	30
2	2	III	14	48	17	30	16	48	17	30