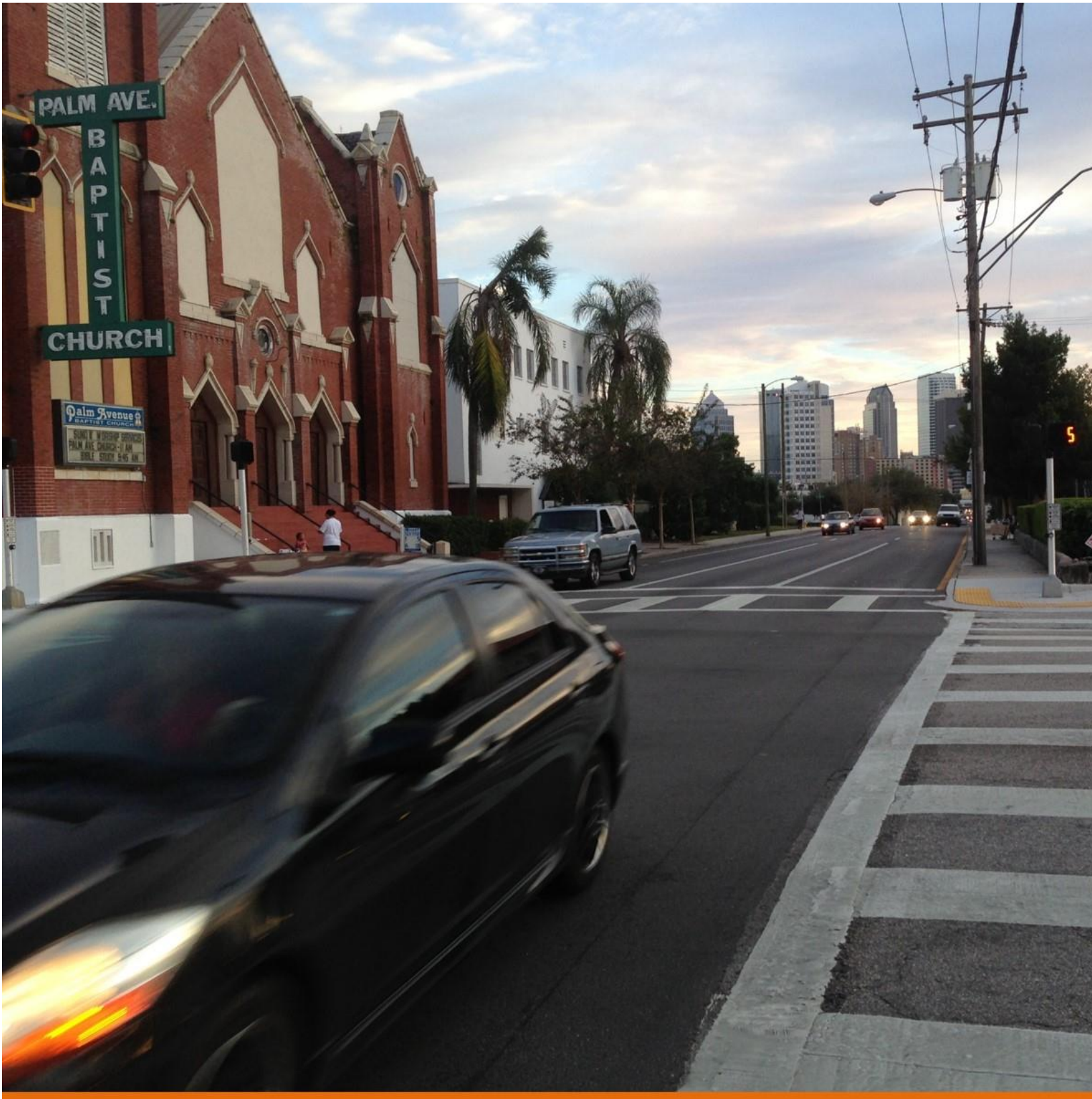

Florida Avenue and Tampa Street/Highland Avenue Corridor Study

Summary Report

Approved – August 2016

Hillsborough MPO
Metropolitan Planning for Transportation

Florida Avenue and Tampa Street/Highland Avenue Corridor Study

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Acknowledgements

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Introduction

Through the recent InVision Tampa planning effort, the community developed a future vision of the Center City as a place with strong and livable neighborhoods connected with neighborhood-focused, livable streets to create the environment for new business, residential investment, and safe pedestrian and bicycle access around town. In light of this community vision, the Hillsborough Metropolitan Planning Organization (MPO), in cooperation with the City of Tampa and the Florida Department of Transportation (FDOT), initiated the Florida Avenue and Tampa Street/Highland Avenue Corridor Study to identify and evaluate alternative configurations of the corridor.

The purpose of the Florida Avenue and Tampa Street/Highland Avenue Corridor Study is to identify and evaluate potential alternative configurations of the Florida Avenue and Tampa Street/Highland Avenue corridor at a planning level to determine how to best meet the current and future needs of the wide range of users within the corridor. The study is not designed to provide a definitive alternative recommendation for the corridor, but is intended to define criteria/performance measures for the corridor and provide an initial assessment of the extent to which each identified alternative meets the study's objectives of:

- Providing drivers, transit users, pedestrians, and bicyclists safe access to and between downtown Tampa and the neighborhoods and destinations north of downtown;
- Providing access to adjacent commercial property and neighborhood streets;
- Serving as neighborhood main streets and commercial districts;
- Serving as major thoroughfares;
- Contributing to the public realm of the City and surrounding neighborhoods; and
- Serving a regional role in the larger transportation network (e.g., evacuation route, incident management, north-south alternative to I-275).

The Florida Avenue and Tampa Street/Highland Avenue Corridor Study was completed through a process that established the criteria and measures for the evaluation of alternatives, assessed and developed baseline conditions within the corridor, identified potential corridor alternatives, and evaluated those alternatives based on the established measures. Throughout the study process members of the study's project advisory group (PAG), which consisted of technical staff personnel from the MPO, City of Tampa, and FDOT, were provided with study updates opportunities to provide comments and input, and were involved in the identification of the corridor alternatives that were evaluated.

This summary report provides an overview of the Florida Avenue and Tampa Street/Highland Avenue Corridor Study, ore detail on the study can be found within the study's corresponding technical memorandums and technical appendices. This summary report has been organized into the following sections:

- Evaluation Criteria
- Existing Conditions
- Development of Alternatives
- Evaluation of Alternatives

The study limits for the corridor study include the portions of Florida Avenue and Tampa Street/Highland Avenue from just south of Scott Street (I-275) to just north of Hillsborough Avenue. While the primary focus of the study is on Florida Avenue and Tampa Street/Highland Avenue, the study will also consider the areas east of the corridor to about Nebraska Avenue and west to about North Boulevard in the evaluation process. Figure 1 illustrates the general corridor study area.

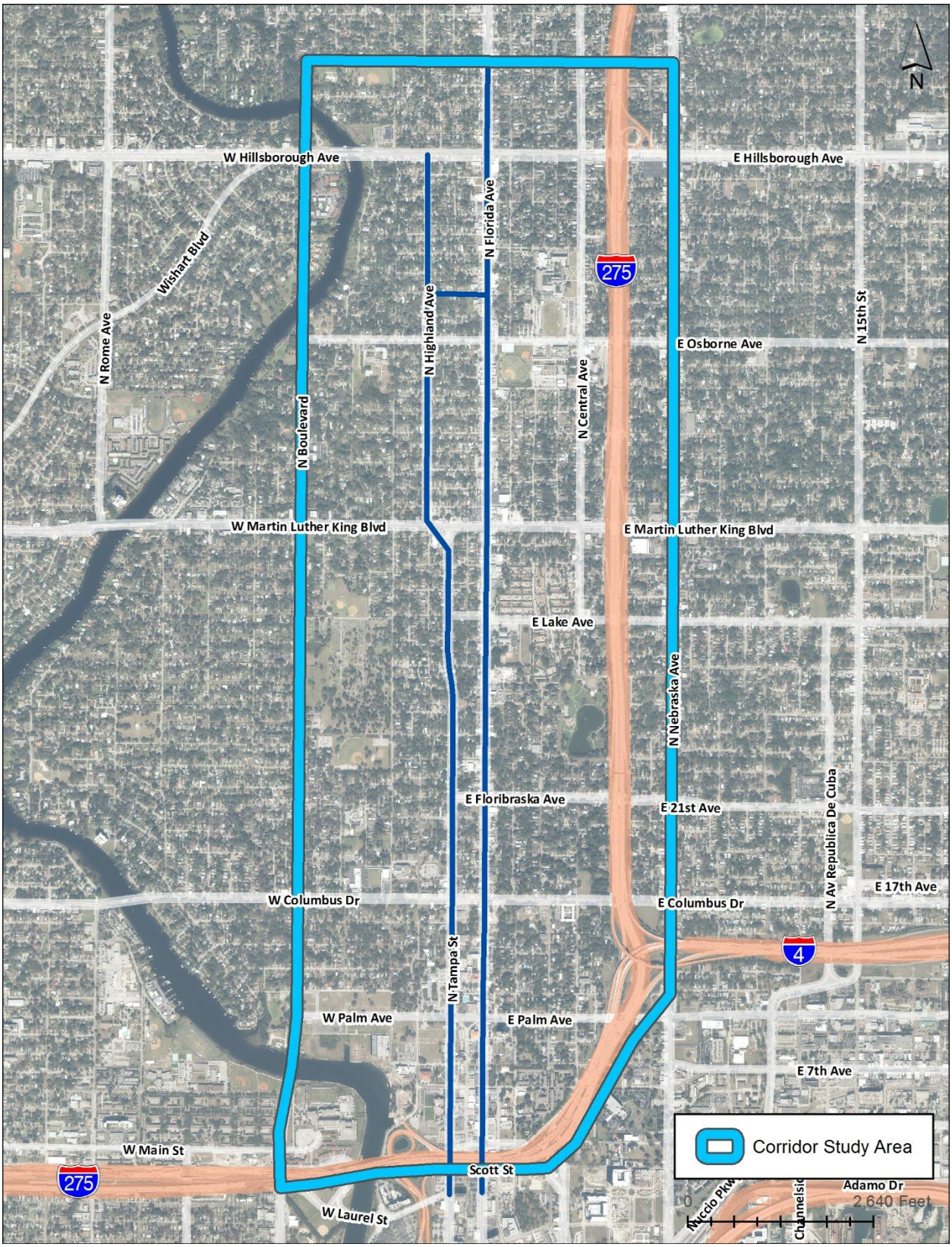


Figure 1: Study Area

Evaluation Criteria

An established set of quantitative and qualitative criteria and measures were established to guide the evaluation of the potential alternatives for the corridor. While the study was not designed to provide definitive alternative recommendations for the corridor, it did look at how the alternatives would affect the performance of the criteria/measures and also provided an initial evaluation on how well each alternative met the study's objectives. The evaluation process for the corridor study was accomplished through three phases:

1. A fatal flaws evaluation was conducted to ensure that only viable alternatives are considered for further analysis.
2. An initial screening consisting of quantitative and qualitative measures was conducted to evaluate each of the identified alternatives on how well they relate to the objectives of the study.
3. After the initial screening process a final screening process was conducted to incorporate any adjustments to the evaluation criteria and/or weighting criteria, as deemed appropriate by the project's advisory group.

The quantitative and qualitative criteria and measures that were developed to assess the existing corridor conditions as well as the potential conditions based on the identified alternative configurations

The following is an overview of the criteria and measures that were developed as a means of assess the existing corridor conditions as well as the potential conditions based on the identified alternative corridor configurations. Employing this set of criteria and measures allowed the study to objectively evaluate each of the alternatives.

Traffic Conditions – An understanding of how traffic operates today and how it is projected to operate in the future is essential to understanding how alternative configurations might impact things like traffic volumes, congestion/delay, intersection operations, and corridor travel speed and travel time. Not only was it important to understand the traffic condition impacts on Florida Avenue and Tampa Street/Highland Avenue, but understanding how potential changes to these roadways might affect other roadways was also considered.

Safety/Crash Mitigation – A critical component of the corridor study is to identify alternatives that will provide all users (drivers, transit patrons, pedestrians, and bicyclists) with a safe and comfortable environment to travel within throughout the corridor. As a means of identifying the potential impacts on safety the alternatives evaluation will consider the expected reduction/increase in the number and severity of crashes.

Pedestrian and Bicycle Environment – In order to provide for the needs of all the users of the corridor it is imperative to consider not only the presence of facilities for non-motorized users, but also the quality, from the perspective of the user, of those facilities.

Transit – Beyond documenting existing transit service within the corridor – routes, routing, service span, frequency, stop-level ridership, etc., the study will evaluate the effect that the identified alternatives may or may not have on transit service within the corridor. Some of the factors that were considered included:

- Transit travel time or route performance
- Opportunities to provide enhanced transit

Community Impacts – Most of the criteria and measures focus on the transportation aspects of the corridor. However, since this study initiated as a result of a community based plan it was equally important to recognize the potential community impacts of the identified alternatives. These measures evaluated and considered the following:

- Parking opportunities
- Circulation, both vehicles and people
- Opportunities for enhanced environmental, greenscaping, or landscaping strategies
- Opportunities to support transit oriented development
- Opportunities to enhance the overall public realm

Other – In addition to the transportation and community based measures there were some measures that were evaluated that didn't necessarily fit into a specific category. These "other" measures included evaluating how well the alternative configurations supported the visions and goals of recent planning efforts in the corridor and a comparison of potential costs associated with implementing the alternatives.

Existing Conditions

An evaluation of the existing conditions within the Florida Avenue and Tampa Street/Highland Avenue corridor study area was conducted to better understand the multimodal infrastructure and operating conditions, as well as the land use and socioeconomic context within the corridor. Identifying and documenting these existing conditions establishes the framework for the evaluation of the alternative configurations. The elements of the existing conditions evaluation were grouped into the following five categories:

- Existing Roadway/Traffic Conditions
- Multimodal Network Inventory
- Transit Service Evaluation
- Crash Data Analysis
- Land Use/Socioeconomic Evaluation

Existing Roadway/Traffic Conditions

Roadway

Both Florida Avenue and Tampa Street/Highland Avenue are State maintain urban minor arterial roadways. Florida Avenue is a three-lane, one-way northbound roadway between downtown Tampa and Violet Street, and a four-lane, two-way roadway north of Violet Street. Tampa Street/Highland Avenue is a three-lane, one-way southbound roadway between downtown Tampa and Violet Street, and a two-way two lane divided roadway with a center two-way left-turn lane north of Violet Street. Figure 2 illustrates the existing intersection lane schematics along the corridor, along with the distance (in feet) between the intersections.

While the lane geometry along the corridor is fairly consistent, there is some variation in the existing typical cross-sections along Florida Avenue and Tampa Street/Highland Avenue. For the most part, the typical roadway surface width (curb-to-curb) of Florida Avenue ranges between 35 and 40 feet and Tampa Street/Highland Avenue ranges between 36 and 46 feet. Existing right-of-way widths (roadway surface width + sidewalks) along Florida Avenue are typically about 50 feet. Along Tampa Street/Highland Avenue, right-of-way widths typically range between 48 and 62 feet, although this varies some along the corridor. Figure 3 and Figure 4 illustrate a typical existing cross-sections along Florida Avenue and Tampa Street/Highland Avenue.

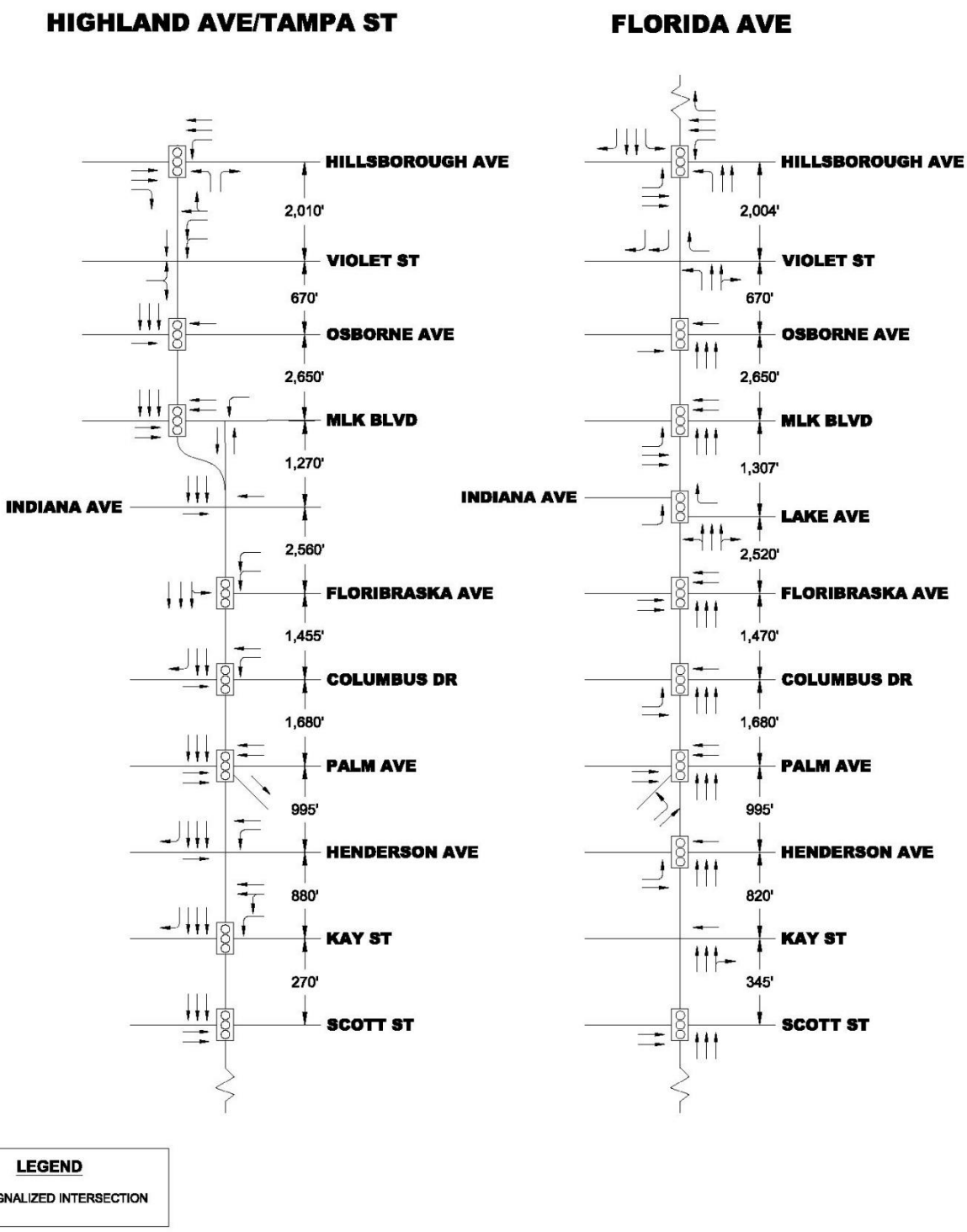


Figure 2: Existing Intersection Lane Geometry

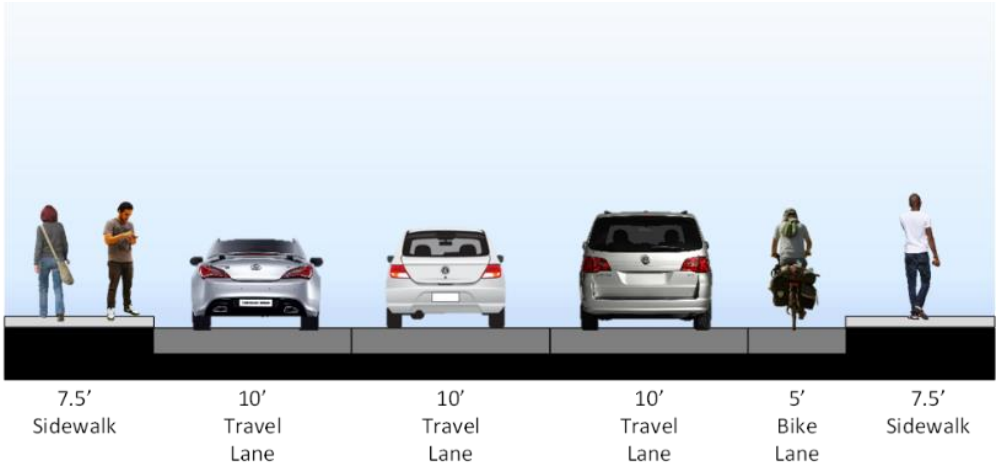


Figure 3: Florida Avenue Existing Typical Cross-Section

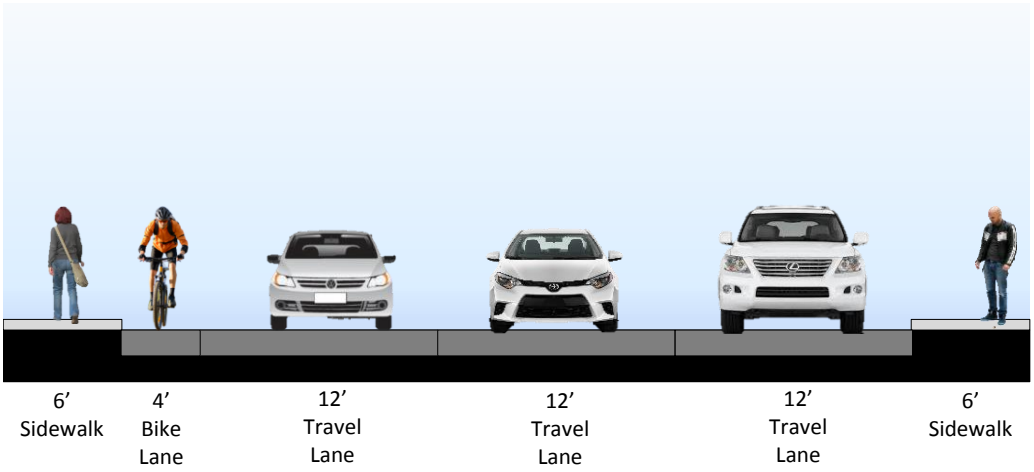


Figure 4: Tampa Street/Highland Avenue Existing Typical Cross-Section

Traffic Volumes

A comprehensive evaluation of existing traffic volumes along the corridor was performed. Included in this evaluation was a review of existing annual average daily traffic (AADT) volumes for the corridor and major intersecting side streets. Figure 5 shows the AADTs along the corridor and along the major intersecting side streets. Along with AADTs factors such as directional design hour volumes, level of service, turning movements, and intersection operations and level of service were also analyzed and documented.

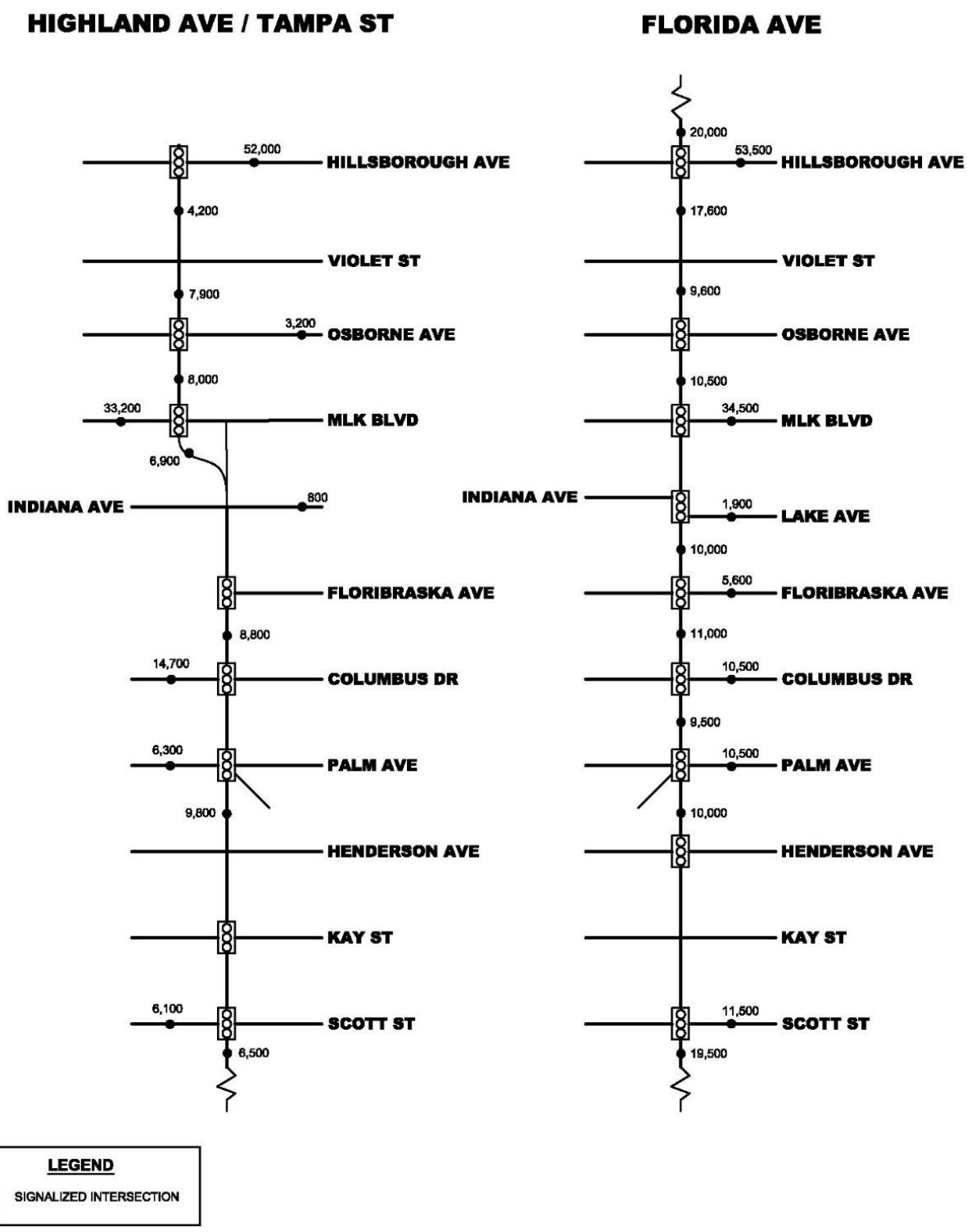
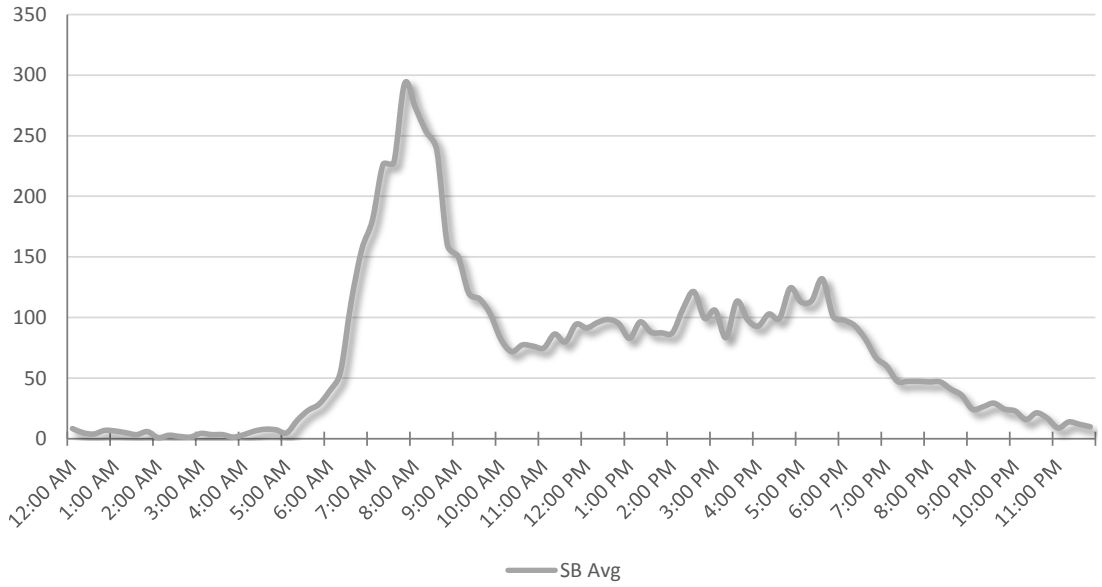


Figure 5: Existing AADT Volumes

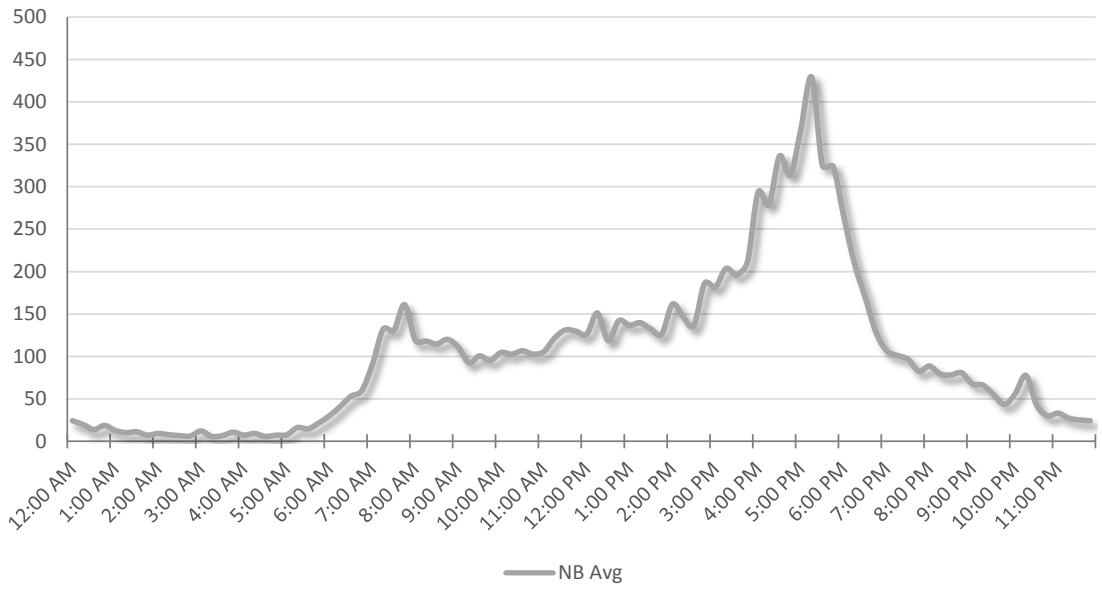
Daily Travel Patterns

AADTs provide a sense of the overall daily traffic demand of a roadway; however, to better understand the daily traffic volume patterns for different corridor segments, traffic volume counts collected in 15-minute intervals were charted and analyzed. Evaluating the daily traffic volume charts showed that there is a well-defined peak travel period for both Florida Avenue and Tampa Street/Highland Avenue. Tampa Street/Highland Avenue has a well-defined AM peak period with between 25 and 30 percent of the daily traffic volumes occurring between the hours of 7:00 AM and 9:00 AM. Florida Avenue exhibits an opposite pattern with a clearly defined PM peak period with between 25 and 30 percent of the daily traffic volumes occurring between 4:00 PM and 6:00 PM. This peak in traffic can be seen in Figure 6 and Figure 7 that show the daily traffic volumes, in 15-minute intervals, along both Florida Avenue and Tampa Street south of Dr Martin Luther King Jr Boulevard.



Data Source: Florida Traffic Online Synopsis Report Two-Day Average

Figure 6: Daily Traffic Volume Counts – Tampa Street south of Dr. Martin Luther King Jr. Boulevard



Data Source: Florida Traffic Online Synopsis Report Two-Day Average

Figure 7: Daily Traffic Volume Counts – Florida Avenue south of Dr. Martin Luther King Jr. Boulevard

Travel Speeds

In addition to the evaluating existing traffic volumes, an informal travel time study was conducted along Florida Avenue during the PM peak period from Scott Street through Hillsborough Avenue. This informal study was done to provide an estimate on typical average segment and corridor travel speeds during the PM peak period along Florida Avenue. The results of the travel time study show that the average observed travel speed for the entire stretch from Scott Street through Hillsborough Avenue is approximately 15 MPH. However, as shown in Figure 8, there are variations in average travel speeds between the different segments of the corridor. The average observed travel speed between Scott Street and Osborne Avenue (approximately 2.25 miles) is approximately 27 MPH, whereas the average observed travel speed between Osborne Avenue and Hillsborough Avenue (approximately 0.5 miles) is approximately 6 MPH. Figure 9 shows the typical PM peak queue for northbound Florida Avenue at Hillsborough Avenue, the picture was taken at Violet Street, approximately 2,000 feet south of Hillsborough Avenue.

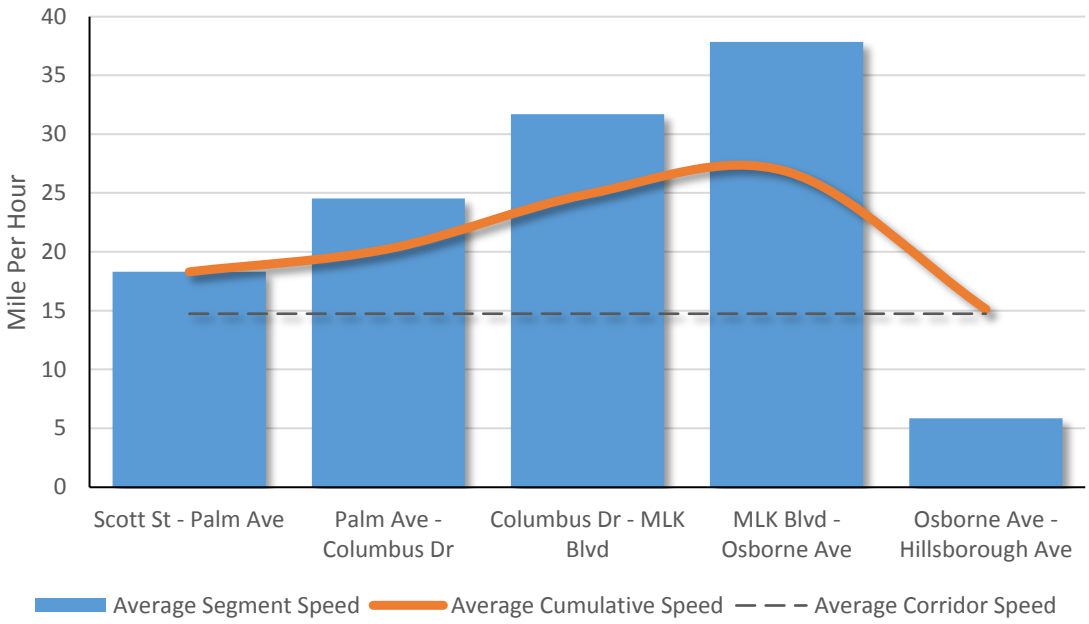


Figure 8: Observed Florida Avenue PM Travel Speeds

Figure 9: Observed PM Queue for NB Florida Ave at Hillsborough Ave (at Violet St)

Multimodal Network Inventory

An inventory of existing multimodal facilities (sidewalks, bike lanes, shared lane markings, etc.) within the study area was compiled using available data from the City of Tampa and FDOT. Both Florida Avenue and Tampa Street/Highland Avenue have complete sidewalks along both sides of the roadway. Also, many cross-streets, especially at the southern end of the corridor, have sidewalks that connect to Florida Avenue and/or Tampa Street/Highland Avenue on at least one side of the roadway. Within the northern section of the corridor, there are fewer side-street sidewalk connections; however, most of these roadways are residential roads with lower traffic volumes and posted speed limits, so the necessity for sidewalks is not as great as for higher-volume and/or higher-speed roadways like Florida Avenue and Tampa Street/Highland Avenue.

Florida Ave south of Lake Ave

There is an existing designated bicycle lane along Florida Avenue heading north out of downtown Tampa from Scott Street to Louisiana Street (one block south of Violet Street) and an existing designated bicycle lane along Tampa Street/Highland Avenue between Scott Street and Violet Street.

Florida Ave at Genesee St looking south

In addition to assessing the completeness of pedestrian and bicycle facilities along the corridor, a basic field review was conducted to document the physical condition of the existing multimodal facilities along the corridor. While there are sidewalks along both Florida Avenue and Tampa Street/Highland Avenue, the conditions of some of these facilities are not particularly comfortable or conducive to the walkable environment envisioned for the corridor in recent planning documents. These conditions include sections with missing, broken, or non-standard sidewalks, continuous driveways/dropped curb, vertical structures (e.g., fences and building walls) adjacent to the back of the sidewalk, low curbs with no set-back from traffic, utility poles, sign posts, trees and other objects in the middle of the sidewalk, unsanctioned street furniture, and drainage/tree grates within the pedestrian walkway.

Highland Ave at Hilda St looking south

Transit Service Evaluation

Transit service along the Florida Avenue and Tampa Street/Highland Avenue corridor is provided by Hillsborough Area Regional Transit (HART). Currently there are seven local fixed routes that serve the corridor in some manner, either by operating along the corridor or along roadways that intersect the corridor.

Route 1 is the primary transit route along Florida Avenue and Tampa Street/Highland Avenue, and is one of HART's top performing/higher ridership transit routes. Based on stop-level ridership data there are approximately 2,600 boardings or alightings on the average weekday along the corridor. Table 1 summarizes the top 10 intersections within the study area with the highest ridership in terms of average daily boardings and alightings.

Table 1: Bus Stop Ridership Activity by Intersection

Intersection	Avg. Daily Boardings + Alightings	Number of Stops
Florida Ave at Hillsborough Ave	640	5
Florida Ave at M. L. King Blvd	256	5
Tampa St at Columbus Dr	197	3
Florida Ave at Columbus Dr	187	3
Tampa St/Highland Ave at M. L. King Blvd	172	3
Tampa St at Ross Ave	150	1
Florida Ave at Henderson Ave	125	2
Florida Ave at Palm Ave	120	2
Florida Ave at Floribraska Ave	95	2
Florida Ave at Frances Ave	72	1

Data Source: HART August 2014 ridership data

Crash Data Analysis

A five-year (2010—2014) crash history within the corridor was analyzed using crash data extracted from the Crash Analysis Reporting System (CARS). During this five-year period, there were nearly 900 crashes within the corridor. Figure 10 shows the annual distribution of total crashes within the corridor. Over the past five years total crashes within the corridor have been trending down. 2010 recorded the highest frequency of crashes with 209 total crashes and, while there was an uptick in crashes in 2014, there was still fewer total annual crashes in 2014 than in 2010. Table 2 provides a list of the top 10 highest frequency crash intersections within the corridor.

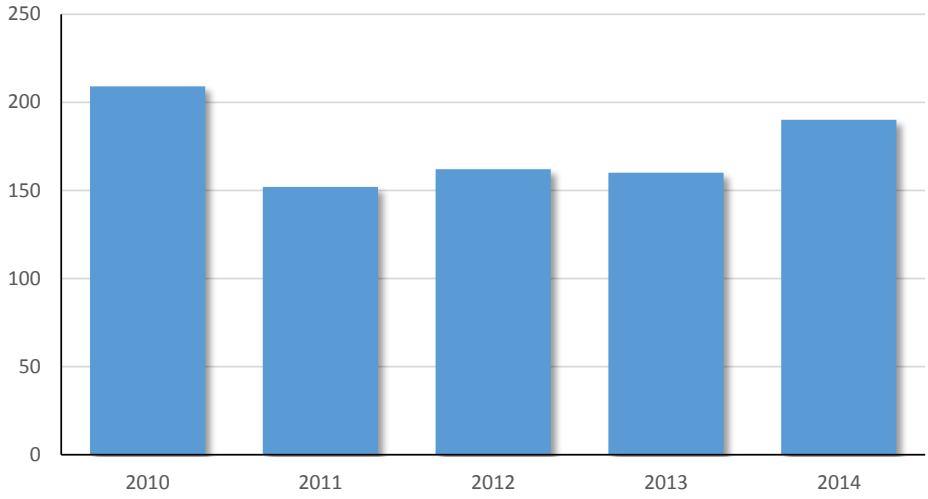


Figure 10: Annual Distribution of Total Crashes

Table 2: Bus Stop Ridership Activity by Intersection

Rank	Intersection	Crashes
1	Florida Ave at Hillsborough Ave	70
2	Highland Ave at Hillsborough Ave	43
3	Tampa St at Kay St	36
4	Tampa St at Columbus Dr	32
5	Florida Ave at Columbus Dr	29
6	Tampa St at Palm Ave	25
7	Highland Ave at MLK Blvd	25
8	Florida Ave at Palm Ave	23
9	Florida Ave at 7th Ave	21
10	Tampa St at 7th Ave	21

Data Source: Crash Analysis Reporting System extract

While it is important to reduce the overall number of crashes within the corridor, it is also important to understand where the most severe injury crashes (including both incapacitating injury and fatalities) are occurring and what is causing them. Understanding the cause and location of severe injury crashes will help to identify and prioritize safety concerns within the corridor. Figure 11 shows the annual distribution of severe injury crashes within the corridor. Between 2010 and 2014 there were 49 severe injury crashes, but there has been a significant decrease in the annual number of severe injury crashes. In 2011, there were 16 severe injury crashes within the corridor, while in 2014 that number was reduced to five crashes, with zero fatalities.

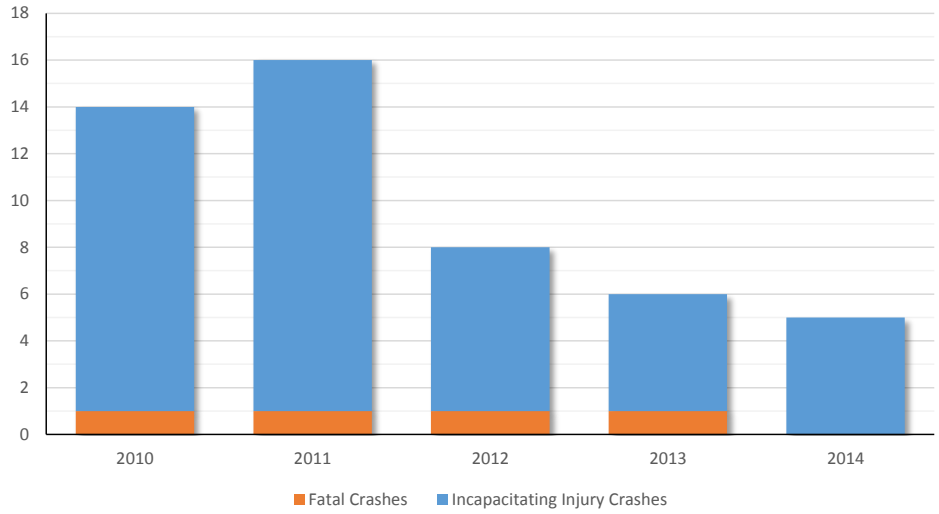


Figure 11: Annual Distribution of Severe Injury Crashes

The severe injury crashes were also examined to better understand what type of crashes are causing the most severe injuries and fatalities. As shown in Figure 12, angle/left turn crashes are the most frequent crash type at 44.9 percent of all severe injury crashes. This proportion is similar to that of all crashes. However, the second most frequent crash type is pedestrian and bicycle crashes at nearly one-quarter of all severe injury crashes, compared to only eight percent of total crashes. For comparison purposes, within Hillsborough County, angle/left turn crashes are attributed to 29.4 percent of all severe injury crashes and pedestrian and bicycle crashes are attributed to 14.4 percent of the severe injury crashes.

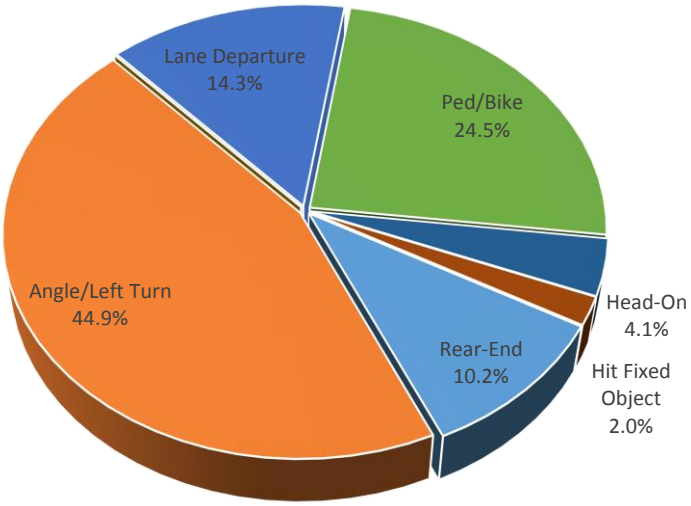


Figure 12: Severe Injury Crashes by Crash Type

A closer look at pedestrian and bicycle crashes was conducted to better understand any trends and locational patterns within the corridor. Figure 13 illustrates the annual distribution of pedestrian and bicycle crashes within the corridor. There has been an upward trend in pedestrian and bicycle crashes over the five-year period; however, since 2011 and 2012 where there were 18 total pedestrian and bicycle crashes each year, there has been a decline in the overall total. Much of the decline in overall pedestrian and bicycle crashes within the corridor can be attributed to fewer pedestrian crashes while the number of bicycle crashes has been fairly consistent. There are a few locations within the corridor that have a higher concentration of pedestrian and bicycle crashes; specifically, Florida Avenue at Hillsborough Avenue, Florida Avenue near Floribraska Avenue, Tampa Street at Columbus Drive, and Columbus Drive just west of Tampa Street.

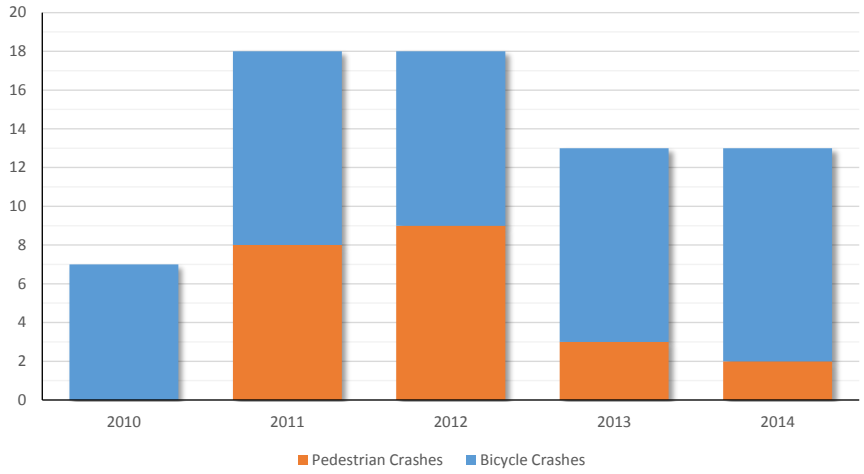


Figure 13: Annual Distribution of Pedestrian and Bicycle Crashes

Land Use/Socioeconomic Evaluation

An analysis was conducted to understand the make-up and diversity of land uses within the corridor. As shown in Figure 14, a majority of the land area within the study corridor is comprised of residential uses; residential uses account for more than half of the study area acreage, of which nearly 94 percent is single family dwellings. Examining the properties that are directly along Florida Avenue and Tampa Street/Highland Avenue highlights some of the diversity of land uses along the corridor, particularly the difference between the compositions of uses along Florida Avenue compared to Tampa Street/Highland Avenue. Table 3 summarized the existing land use of the properties along Florida Avenue and Tampa Street/Highland Avenue. The majority of the properties, both in total number of parcels and land area, are associated with either commercial or institutional uses. Along Tampa Street/Highland Avenue, the residential land use category comprises the largest number of parcels and the institutional land use category comprises the highest percentage of total acreage.

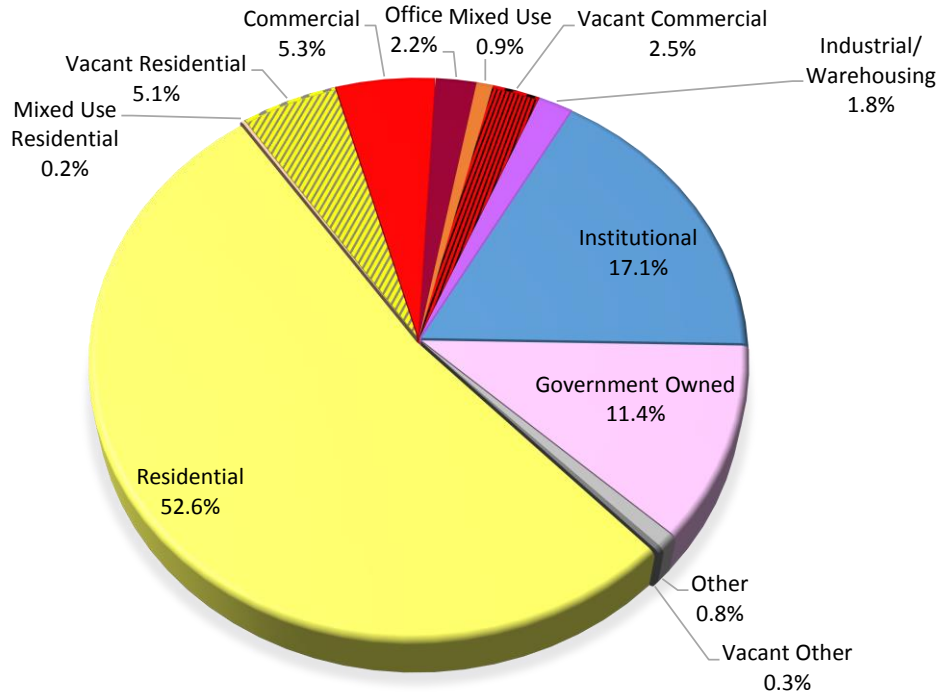


Figure 14: Distribution of Existing Land Uses (Total Acreage)

Data Source: Hillsborough County Property Appraiser March 2015 Parcel Data

Table 3: Characteristics of Properties Fronting Florida Avenue & Tampa Street/Highland Avenue

Existing Land Use Category	Number of Parcels	% of Total Parcels	Acres	% of Total Acres
Florida Avenue				
Commercial	92	41.6%	28.6	31.8%
Government Owned	5	2.3%	1.5	1.6%
Industrial/Warehousing	22	10.0%	7.7	8.6%
Institutional	40	18.1%	31.4	35.0%
Mixed Use	12	5.4%	6.0	6.7%
Office	19	8.6%	6.3	7.0%
Residential	8	3.6%	3.0	3.3%
Vacant Commercial	22	10.0%	4.8	5.3%
Vacant Residential	1	0.5%	0.7	0.7%
Tampa Street/Highland Avenue				
Commercial	17	6.9%	5.3	7.9%
Government Owned	9	3.6%	2.6	3.9%
Industrial/Warehousing	4	1.6%	2.0	2.9%
Institutional	24	9.7%	25.9	38.8%
Mixed Use	1	0.4%	0.2	0.3%
Mixed Use Residential	2	0.8%	1.1	1.6%
Office	8	3.2%	2.8	4.1%
Residential	155	62.5%	22.8	34.0%
Vacant Commercial	7	2.8%	1.4	2.2%
Vacant Residential	21	8.5%	2.9	4.3%

Data Source: Hillsborough County Property Appraiser March 2015 Parcel Data

In addition to examining the land use within the corridor a review of socioeconomic indicators (population and employment densities and growth) was also conducted. Higher population and employment densities are often associated with a higher percentage of alternative mode share. Between 2010 and 2040, the population within the corridor is projected to increase by approximately 4,300 people, equating to an average annual growth rate of 0.82 percent. During this same time period, employment within the corridor is projected to increase by more than 3,800 employees, equating to an average annual growth rate of 1.36 percent. For comparison purposes, the average annual countywide population growth rate for Hillsborough County between 2010 and 2040 is projected at 1.31 percent and the annual employment growth rate is

projected at 1.50 percent. While there is projected population growth within the corridor, it is at a rate slower than that projected on average countywide. Figure 15 illustrates the projected population and employment growth for the corridor.

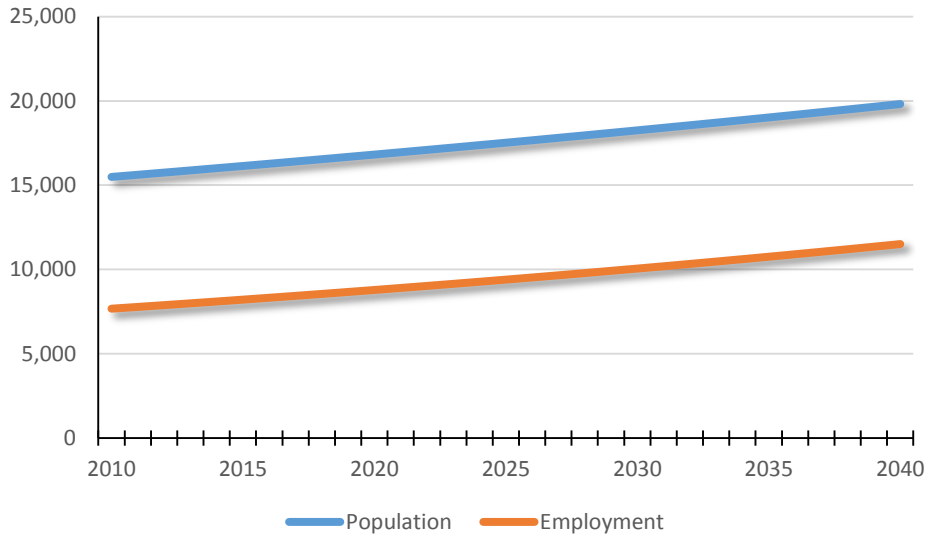


Figure 15: Projected Population and Employment Growth (2010—2040)

Data Source: 2040 Hillsborough County LRTP Socioeconomic Data

Alternatives Development

The development of potential corridor alternatives originated from the information presented in the existing conditions evaluation and the study's stated objectives. The study's PAG convened to collaboratively discuss potential alternative configurations, potential fatal flaws, and define the alternatives that would be further evaluated. The discussions on alternatives for the Florida Avenue and Tampa Street/Highland Avenue corridor were based on a framework that the majority of the potential alternatives fell into one of four alternative categories, and that within each of these categories there could be multiple variations. Also, it was discussed that Florida Avenue and Tampa Street/Highland Avenue would not necessarily have to have the same alternative treatment and that the alternatives would not necessarily need to be considered for the entire corridor length, for example there could be a lane reduction on Florida Avenue and a two-waying of Tampa Street/Highland Avenue. Figure 16, and the text following, highlight the alternative categories that were discussed and considered for the corridor.

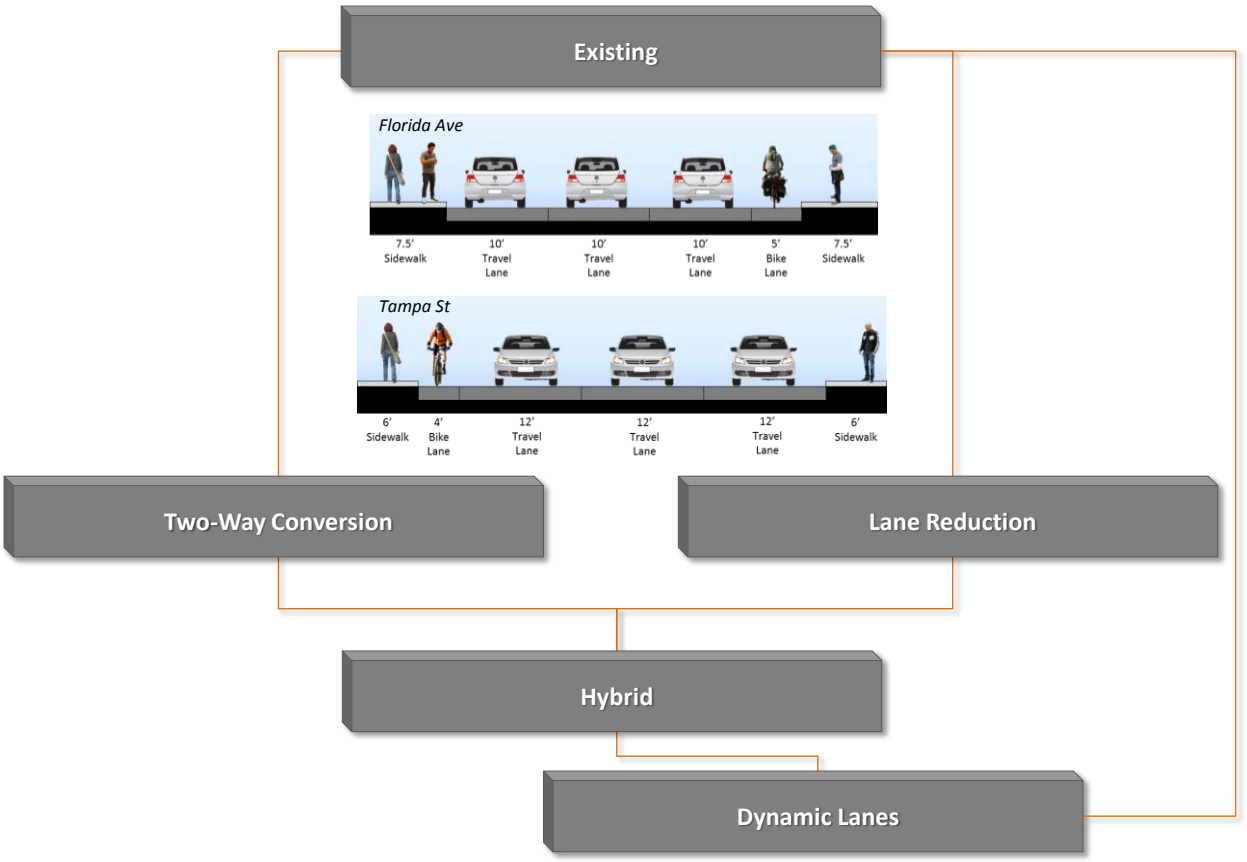


Figure 16: Framework for Developing Alternatives

Two-Way Conversion – Two-way conversion refers to the conversion of Florida Avenue and Tampa Street/Highland Avenue as one-way pairs to a two-way operation along both roadways throughout the corridor.

Lane Reduction – Lane reduction refers to the taking a traditional through lane and using it for another purpose, such as alternative modes (transit, enhanced bike, wider sidewalk, etc.) or parking.

Hybrid – Hybrid options refer to a mix of two-way conversion and lane reduction options spread across the Florida Avenue and Tampa Street/Highland Avenue Corridor.

Dynamic Lanes – Dynamic lanes include looking at options to manage the movement of traffic within the corridor using techniques such as reversible lanes or contraflow lanes that could change based on time of day and travel demand.

Ultimately, after discussion and deliberation, the PAG determined that the alternatives evaluation would analyze, in addition to a no-build alternative, the

two-way and lane reduction alternatives; the following is an overview of the selected alternatives for evaluation:

- No-Build Alternative: The no-build alternative considers no change to the existing lane configuration and fundamental operating characteristics of the corridor. The no-build alternative will however recognize some potential infrastructure enhancements that could include sidewalk improvements, additional pedestrian crossings, bus stop enhancements, and other minor enhancements throughout the corridor.
- Alternative 1 – Lane Reduction: This alternative considers the impacts of repurposing one travel lane along both Florida Avenue and Tampa Street/Highland Avenue to convert both roadways from 3-lane one-way facilities to 2-lane one-way facilities.
- Alternative 2 – 2-Way Conversion: This alternative considers the impacts of converting both Florida Avenue and Tampa Street/Highland Avenue from 3-lane one-way facilities to 2-lane, with left turn lanes, two-way facilities.

While there were many potential alternatives that could have been considered for the corridor, it was determined, at the direction of the PAG, that evaluating the selected alternatives would provide the needed information to continue the discussion on the feasibility of potential future alternatives for the Florida Avenue and Tampa Street/Highland Avenue corridor.

Alternatives Evaluation

For reader convenience, an overview of the evaluation is provided within this section, a more detailed review of the evaluation, including a detailed traffic and intersection operational analysis is provided within Technical Appendix A of this study. The evaluation of the identified alternatives primarily focused on how well each of the alternatives support the study's objectives and defined criteria and measures.

No-Build Alternative

The no-build alternative, as the name suggests, considered no changes to the existing lane configuration and fundamental operating characteristics of the corridor. The no-build alternative serves as the baseline or benchmark which the other alternatives were evaluated against. As previously stated, while the no-build alternative does not recognize changes to the configuration and operation of the corridor it does assume that some infrastructure enhancements, including sidewalk improvements, additional pedestrian crossing opportunities, bus stop enhancements, and other minor enhancements will be made throughout the corridor.

Alternative 1

Alternative 1, or the lane reduction alternative, was chosen to evaluate the impacts associated with repurposing one travel lane along both Florida Avenue and Tampa Street/Highland Avenue, converting both roadways from 3-lane one-way facilities to 2-lane one-way facilities. Figures 17 and 18 show what the potential typical roadway sections could look like in this alternative.

Notice the orange "flex space" shown on each figure, this space represents the space that could be gained by removing one travel lane. While the study is not recommending a particular use for this space, to understand the potential impacts of this alternative the study needed to designate this space to some use. For comparison purposes the study choose three alternative uses for the flex space; these alternatives are discussed on the following pages.

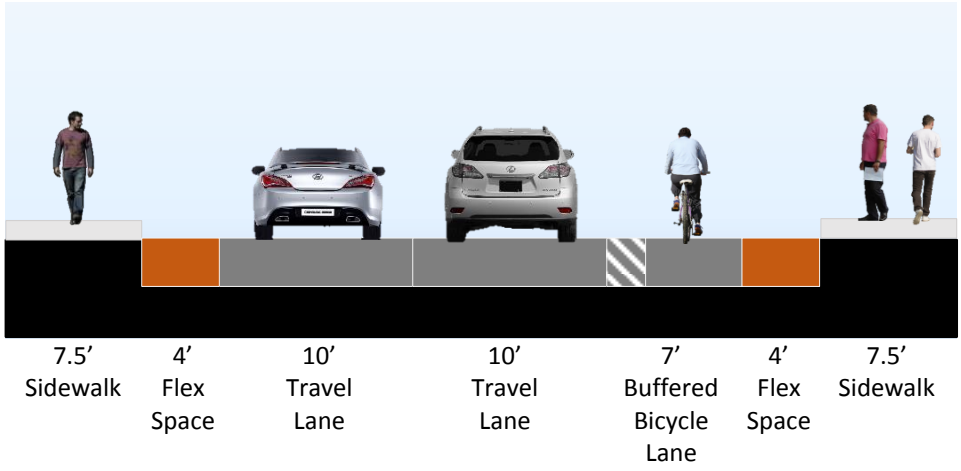


Figure 17: Florida Avenue Alternative 1 Typical Cross-Section

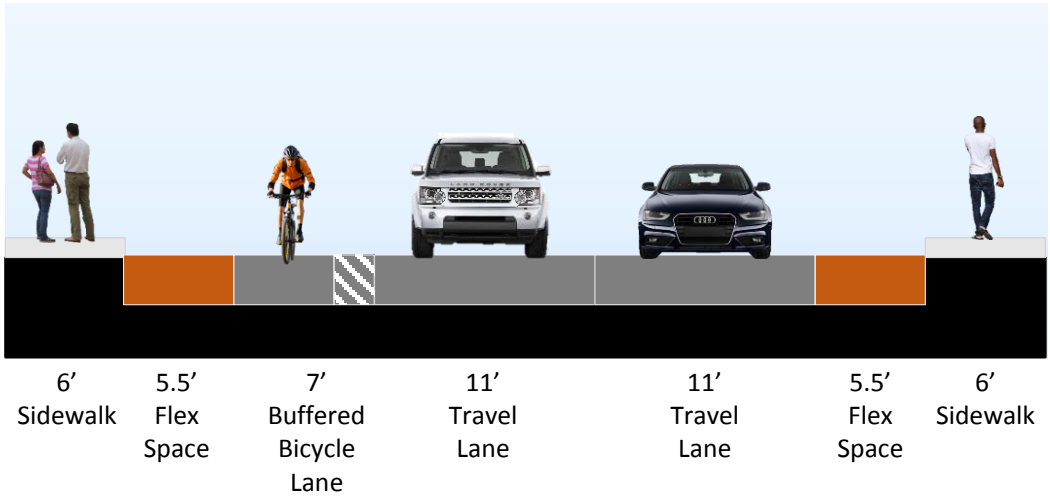


Figure 18: Tampa Street/Highland Avenue Alternative 1 Typical Cross-Section

Alternative 1.A

Alternative 1.A considers repurposing a travel lane as a transit lane that could be used as an on-street parking lane during off-peak periods. Depending on the positioning of the bicycle lane this alternative could essentially provide a "buffered" bicycle lane (separated from travel lanes by the transit lane). Also, this alternative could provide right turn lane options where needed.

Alternative 1.B

Alternative 1.B considers repurposing a travel lanes as a permanent on-street parking lane. In addition to an on-street parking lane this alternative could also accommodate amenities such as protected/separated bicycle lanes, bulb-outs at intersections, bus bays or bus bulbs, parklets, and/or right or left turn lanes where needed.

Alternative 1.C

Alternative 1.C considers looks at taking the space from the eliminated travel lane and repurposing it to provide enhanced pedestrian or bicycle facilities. These enhanced pedestrian or bicycle facilities could include provide separated or protected bicycle facilities that could accommodate bi-directional travel along Florida Avenue and/or Tampa Street/Highland Avenue, wider sidewalks with opportunities for landscape amenities, and/or enhanced bus stop/station areas.

Alternative 2

This alternative considers the impacts of converting both Florida Avenue and Tampa Street/Highland Avenue from 3-lane one-way facilities to 2-lane two-way facilities, with left turn lanes at the signalized intersections and at select locations along the corridor. Figures 19 and 20 show what the typical cross-sections of Florida Avenue and Tampa Street/Highland Avenue could look like as two-way facilities.

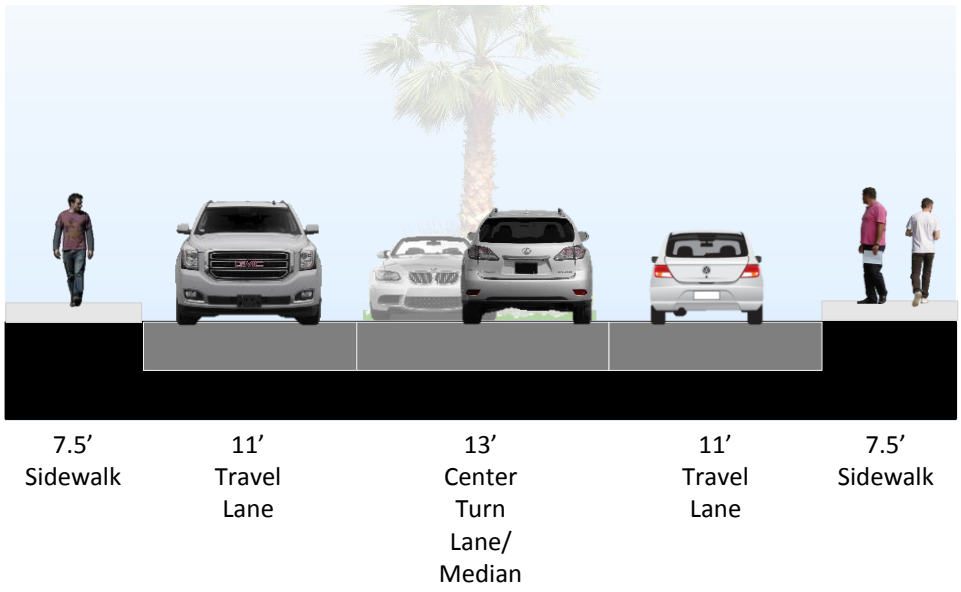


Figure 19: Florida Avenue Alternative 2 Typical Cross-Section

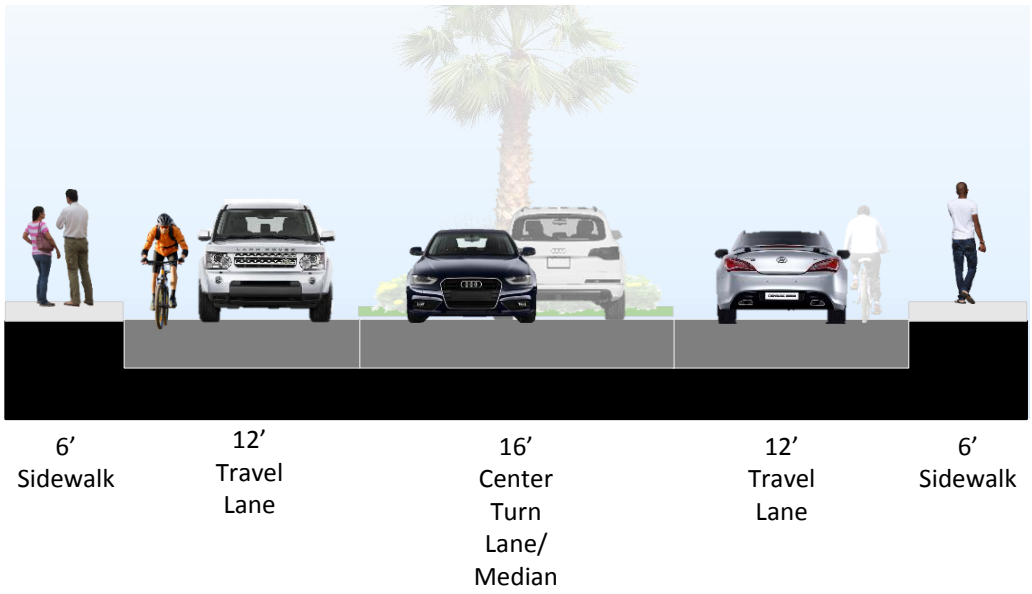


Figure 20: Tampa Street/Highland Avenue Alternative 2 Typical Cross-Section

Evaluation Summary

An evaluation of the alternatives was conducted to examine how well each of the proposed alternatives perform in several categories and measures against the no-build alternative. The evaluation of the alternative was intended to focus on a comparison of the alternatives to the no-build scenario using projected future (2040) traffic conditions; which include the proposed express lane improvements to I-275 from downtown to north of Bearss Avenue. When evaluating the 2040 traffic conditions for the no-build and alternatives it was observed that in the no-build scenario many of the signalized intersections within the corridor are expected to operate below what is considered an acceptable level of service. These intersections include:

- Florida Avenue at Scott Street (AM & PM)
- Florida Avenue at Henderson Avenue (PM)
- Florida Avenue at Palm Avenue (PM)
- Florida Avenue at Columbus Drive (PM)
- Florida Avenue at Dr MLK Jr Boulevard (AM & PM)
- Florida Avenue at Osborne Avenue (PM)
- Florida Avenue at Hillsborough Avenue (AM & PM)
- Tampa Street at Scott Street (AM & PM)
- Tampa Street at Kay Street (AM & PM)
- Tampa Street at Palm Avenue (AM)
- Tampa Street at Columbus Drive (AM & PM)
- Tampa Street/Highland Avenue at Dr MLK Jr Boulevard (AM & PM)
- Highland Avenue at Hillsborough Avenue (AM & PM)

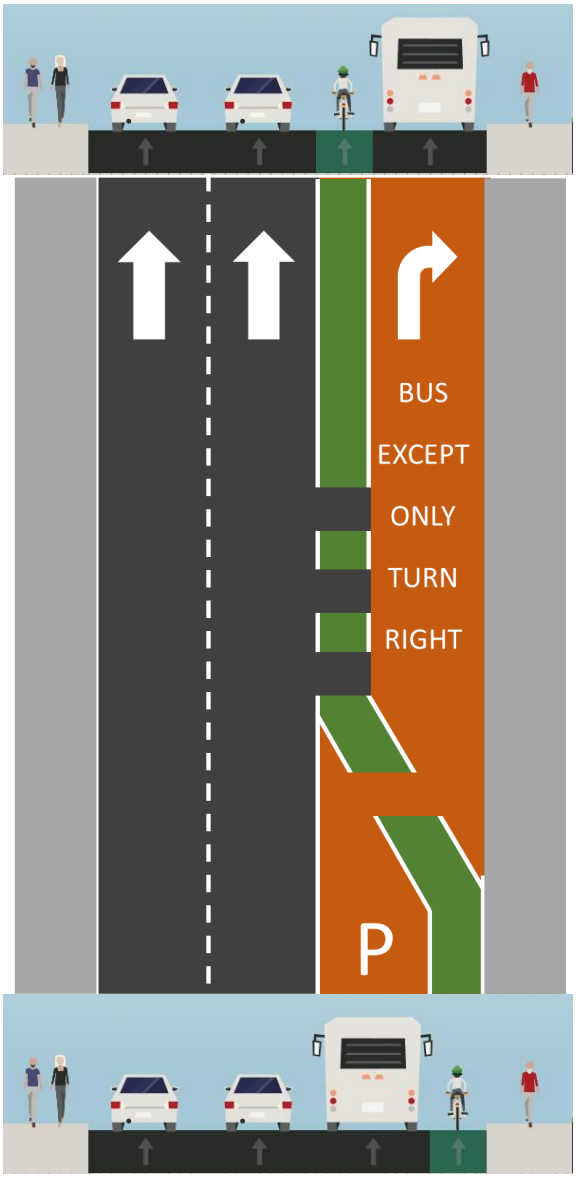
In addition to signalized intersection operations, the projected 2040 travel speeds and travel times in the no-build scenario were evaluated. As previously mentioned the existing PM peak travel speed along Florida Avenue from Scott Street through Hillsborough Avenue was observed to be approximately 15 miles per hour, which equates to a travel time of just over 12 minutes. In the 2040 no-build scenario the PM peak travel speeds are projected to be 5.6 miles per hour with a travel time of just over 31 minutes.

Given the results of the projected no-build traffic conditions it was determined, through discussions with the PAG members, that evaluating the projected traffic conditions of the alternatives to the projected no-build traffic conditions was not in the best interest of the study, and that looking at the alternatives from a more general impact to traffic perspective would be more beneficial. Also, shifting the focus to more general traffic impacts allows for more emphasis on the evaluation of the other criteria and measures.

Table 4 provides a summary of the evaluation of the alternatives to the no-build scenario. To help better convey the level of impact that each alternative has on the criteria and measures a color coding system was applied to the table, with dark green being the most positive impact and bright red being the most negative impact. Figures 21 through 24 on the subsequent pages provide further discussion on the evaluation of the alternatives and their impact on the various evaluation measures.

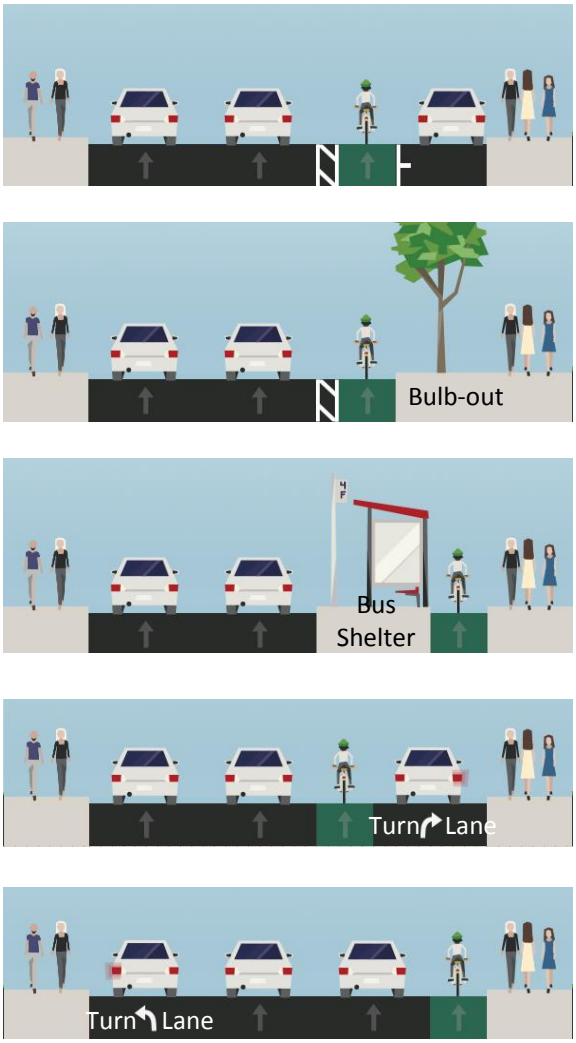
Table 4: Alternative Evaluation Summary

Measure	No-Build	Alt. 1.A	Alt. 1.B	Alt. 1.C	Alt. 2
Traffic Conditions - Travel Time					
Florida Ave PM Peak, Scott St - Hillsborough Ave (2015)	Neutral	Worse	Worse	Worse	Worse
Florida Ave PM Peak, Henderson Ave - Osborne Ave (2015)	Neutral	Worse	Worse	Worse	Worse
Florida Ave PM Peak, Scott St - Hillsborough Ave (2040)	Neutral	Worse	Worse	Worse	Worse
Florida Ave PM Peak, Henderson Ave - Osborne Ave (2040)	Neutral	Worse	Worse	Worse	Worse
Safety/Crash Mitigation					
Left-Turn Rear-End/Sideswipe	Neutral	Neutral	Neutral	Neutral	Better
Right-Turn Rear-End/Sideswipe	Neutral	Better	Better	Neutral	Neutral
Left-Turn/Angle	Neutral	Neutral	Neutral	Neutral	Worse
Fixed Object	Neutral	Better	Better	Better	Neutral
Sight Triangles	Neutral	Better	Better	Better	Worse
Mid-Block Crossing (Peds)	Neutral	Better	Better	Better	Better
Lateral Separation (Bikes)	Neutral	Better	Better	Better	Worse
Intersection Conflict Points	Neutral	Neutral	Neutral	Neutral	Worse
Speed/Speed Variance	Neutral	Better	Better	Better	Better
Pedestrian Environment					
Sidewalk Facilities	Neutral	Neutral	Better	Better	Neutral
Lateral Separation	Neutral	Better	Better	Better	Neutral
Bicycle Environment					
Bicycle Lanes	Neutral	Better	Better	Better	Worse
Lateral Separation	Neutral	Better	Better	Better	Worse
Transit					
Transit Travel Time	Neutral	Better	Worse	Worse	Worse
Enhanced Transit Options	No	Yes	No	No	No
Community Impacts					
Parking Opportunities	No	Yes	Yes	No	No
Circulation	Neutral	Neutral	Neutral	Neutral	Better
Environmental/Greenscaping	Neutral	Neutral	Better	Better	Better
Transit Orientied	Neutral	Better	Neutral	Neutral	Neutral
Public Realm Enhancements	Neutral	Neutral	Better	Better	Better
Other					
Plan Consistency	No	Yes	Yes	Yes	Yes
Capital Cost	Neutral	Low	Moderate	High	High



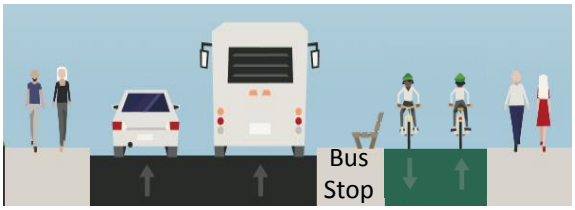
Measure	Summary
Auto ↓	Reduced capacity but opportunity for right turn lanes at key intersections and de-facto continuous right turn lane during peak hour.
Transit ↑	Improved running time; potential for higher person travel speeds in 2040.
Bike ↑	Could provide for buffered/protected bike lane and lower speeds in outside lane but right-hook crashes challenges must be carefully addressed in design.
Walk ↑	No change in facilities but greater lateral separation from traffic on right side of road.
Safety ↑	More uniform off-peak speeds; right turn lane; fewer general purpose lanes to cross.
Community ↑	Does not provide two-way circulation or streetscape improvements but does allow for premium transit and off-peak on-street parking.

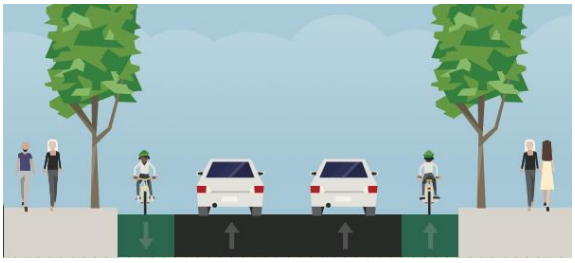
Figure 21: Assessment of Alternative 1.A

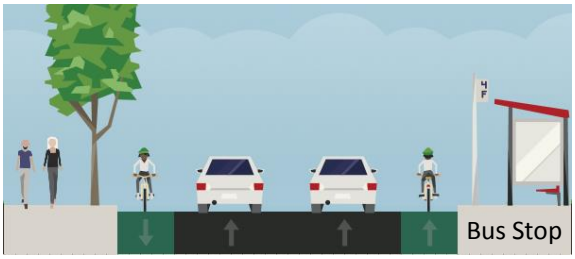


Measure		Summary
Auto	↓	Reduced capacity but opportunity for right turn lanes or left turn lanes at key intersections and bus bays to reduce friction.
Transit	↓	Decreased running time due to more congested conditions but opportunity for improved stop areas using bus bulbs.
Bike	↑	Provides for buffered/protected bike lane and lower speeds in outside lane.
Walk	↑	No change in sidewalk width but greater lateral separation from traffic on right side of road and curb and mid-block bulb-outs.
Safety	↑	More uniform off-peak speeds; turn lanes at key signals; shorter crossing distance, fewer lanes and tighter intersections (with bulb-outs).
Community	↑	Does not provide two-way circulation or premium transit but does allow for on-street parking and streetscape improvements.

Figure 22: Assessment of Alternative 1.B

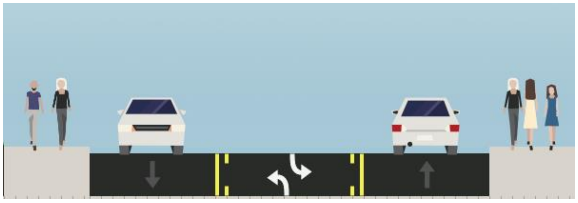


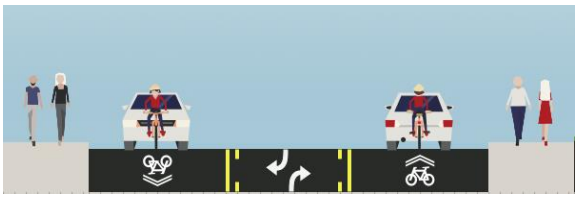




Measure		Summary
Auto	↓	Reduced capacity
Transit	↓	Decreased running time due to more congested conditions, but opportunity for improved stop areas using additional sidewalk width.
Bike	↑	Provides for two-way bicycle flow and lower speeds in adjacent travel lane. Two-way cycle track offers protected bicycle facility.
Walk	↑	Wider sidewalks with landscape amenities.
Safety	↑	More uniform off-peak speeds; shorter crossing distance, fewer lanes and tighter intersections.
Community	↑	Does not provide two-way circulation, premium transit, or on-street parking but does allow for significant streetscape improvements.

Figure 23: Assessment of Alternative 1.C





Measure		Summary
Auto	↓	Reduced capacity but opportunity for less out-of-direction travel.
Transit	↓	Decreased running time due to more congested conditions.
Bike	↓	Existing ROW and roadway cross section do not allow for bike lanes for much of the corridor but shared lane arrows with wide (12ft) lanes could be provided.
Walk	↑	No change in facilities but lower motor vehicle speeds and median refuge islands to simplify crossings.
Safety	↑	More complex intersection conflicts (due to two-way flow) but lower speeds; least general purpose lanes to cross for pedestrians where islands available.
Community	↑	Does not allow for premium transit, parking but does provide two-way circulation and opportunity for landscaped median treatments.

Figure 24: Assessment of Alternative 2

Next Steps

The purpose of this corridor study was to identify and evaluate the potential, viable alternative cross-sections and operating characteristics for Florida Avenue and Tampa Street/Highland Avenue from I-275 in Downtown Tampa to Hillsborough Avenue in Seminole Heights. However, this study does not recommend a preferred alternative nor does it establish specific cross-sections on a segment by segment basis for the proposed build alternatives.

Long-term, the logical next step is to conduct a Planning, Design, and Environmental (PD&E) study to:

- Refine the build alternatives including segment-by-segment typical sections.
- Conduct a broad and comprehensive public outreach process that includes input not only from the neighborhoods along the corridor but also from downtown commuters and transit customers who use the corridor
- Provide for coordination with HART to determine the need for/viability of a transit running way along all or some of the corridor as identified as a potential concept in Alternative 1.A.
- Provide for coordination with the TBX project, especially as related to the operation/typical section of Florida Avenue and Tampa Street between I-275 and Palm Avenue that will be impacted by the reconstruction of the downtown interchange.
- Provide for a formal lane elimination analysis and required coordination with FDOT Central Office if a build alternative is selected as the preferred alternative.

In the interim, the following strategies could be considered without the need for a formal PD&E study:

- Identify properties with continuous dropped curb/redundant driveways and “flag” these properties for redress in the City’s development review process such that in the event of redevelopment activity, efforts can be made to improve the sidewalk environment.
- Continue to work through FDOT’s Office of Modal Development and Traffic Operations/Safety Office to identify and implement strategies to enhance pedestrian safety at mid-block and intersection locations.
- Consider implementation of off-peak, on-street parking along segments of Florida Avenue where night-time lane reduction will serve business parking needs and enhance the safety of pedestrians crossing the roadway between off-site/shared parking and restaurants/pubs. This treatment could potentially extend north of Hillsborough Avenue.

- Where the curb-to-curb cross section of the subject roadways allow, implement FDOT's new 7-foot, buffered bike lane standard.
- To address peak and off-peak speeding concerns, consider a "paint-only" lane elimination along Tampa Street from Martin Luther King Jr., Boulevard to Palm Avenue predicated on the existing capacity constraint caused by the right turn drop lane at Columbus Drive. The transition to this configuration could be accomplished by terminating the right lane of Highland Avenue at Martin Luther King Jr. Boulevard as a right-turn only lane.