Meeting of the Livable Roadways Committee
Wednesday, August 15, 2018, 9:00 a.m.

I. Call to Order

II. Public Comment - 3 minutes per speaker, please

III. Approval of Minutes – June 20, 2018

IV. Action Items
   A. West Tampa Multimodal Plan (Chris Keller, Tindale Oliver)
   B. South Coast Trail Connector Feasibility Study (Wade Reynolds or Wyatt Bowers, Atkins)
   C. Westshore Transportation Action Plan (Michael Maurino and Lauren Brooks, Westshore Alliance)

V. Status Reports
   A. Complete Streets Crash Modification Factors (Stephen Benson, FDOT)

VI. Old Business & New Business
   A. LRC Next Meeting: September 19, 2018
   B. Bay to Bay Follow Up- requested presentation status and letter
   C. It’s Time Tampa Bay! Launched itstimetampabay.org

VII. Adjournment

VIII. Addendum
   A. MPO Meeting Summary & Committee Report
   B. Regional Transportation Leadership Workshop #2 – August 27, 2018
   C. Special STWG and Info BBQ (Pasco Safety Town) flyer
   D. How Air Pollution Causes Diabetes

The full agenda packet is available on the MPO’s website, www.planhillsborough.org, or by calling (813) 272-5940.

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I. CALL TO ORDER

A quorum being established, Chair Green called the meeting to order at 9:02 a.m. and the Pledge of Allegiance took place. The meeting was held in the Plan Hillsborough Room on the 18th Floor of the County Center Building.

Members Present: Melissa Collazo, Cathy Coyle, June Farrell, Trent Green, David Hey, Mark Hudson, Gus Ignas, Jason Jackman, Arizona Jenkins, Christina Kopp, Karen Kress, Nina Mabilleau, Michael Maurino, Neale Stralow, Chris Thompson, Charles White

Others Present: Lisa Silva, Gena Torres – MPO; Sharon Snyder – Planning Commission; Chad Polk, Robert Paguin, Jenn Rhodes, Cris Schooley – Jacobs; Ken Sides – Sam Schwartz; Roger Menendez – Volkert; Whit Remer

II. PUBLIC COMMENT

Whit Remer introduced himself and stated he spoke before this Committee approximately 14 months ago, right after he moved to Tampa. He and his family were walking along Bay-to-Bay to get a pizza and were almost killed. The same day he spoke, Calvin Hardy with the City of Tampa announced the City had a plan to improve Bay-to-Bay. For months, he followed the City’s plan to make the road safer. However, after the City put the plan out to public comment, the Mayor made the decision not to move forward with the safer Complete Streets design because a few hundred constituents complained it would increase their commute time. According to the TKS study, the longest time that would be added was 5 seconds per vehicle at the intersection of Himes, but levels of service at every other intersection would improve. Mr. Remer is asking when decision and policy makers are going to stop putting politics before engineering, design and safety. Jean Duncan, with the City, was comfortable with how the traffic pattern was going to be realigned, but stated the City underestimated the backlash. He feels Committee members need to talk to the citizens to promote these projects as the right thing to do because people don’t have time to review the studies. The City should have done a better job selling this project as the right thing for the City and the community. He feels Committee members need to talk to the citizens to promote these projects as the right thing to do because people don’t have time to review the studies. The City should have done a better job selling this project as the right thing for the City and the community. He feels Committee members need to talk to the citizens to promote these projects as the right thing to do because people don’t have time to review the studies.

Today, 20 businesses along Bay-to-Bay will be sending a letter to every County Commissioner and the City of Tampa, asking them to re-open the project because their livelihood depends on Mr. Remer making it safely to Cappy’s to pick up his pizza because if he dies on the way, it’s a bad headline and they don’t get their money.

Mr. Remer is asking the Committee to propose a resolution or an amendment. He is asking for the lawyers to look into what kind of teeth the Vision Zero Policy has. The City sent the outdated
four lane roadway plan, designed in the 1960s, to repave Bay-to-Bay to the County to review. This is a plan that says this road is not going to be as safe as it could have been. Mr. Remer feels that when the potholes are fixed during the resurfacing, drivers are going to be flying down Bay-to-Bay, and when someone gets killed, he’ll be on record saying someone should have looked into it. All these businesses along Bay-to-Bay are going to be on record saying look into it. He feels the best thing to do is delay this repaving project and open up a meaningful consensus based public comment period, not a “we’re for” or “we’re not for bike lanes”, which is what it’s been about.

Ms. Silva explained to the Committee the Vision Zero speaker’s bureau and stated the Vision Zero Project Manager (Gena Torres) will be speaking during the meeting later, if Mr. Remer can stay to speak with her. Mr. Remer had another speaking engagement with the Moms of South Tampa to explain the Complete Streets project to them. He stated he is taking a lot of time out of his day to do the job of educating the citizens in person that the City and County have failed to do, however, he provided his contact information to Ms. Silva.

Discussions were held regarding whether the Committee can send a letter to the MPO Board, requesting the Bay-to-Bay resurfacing project be placed on hold or for a status update at the next meeting.

Mr. Reynolds, BPAC Staff Liaison, offered his understanding of the status of the project. He stated the City is proceeding with the section from Bayshore to MacDill which involves adding extra turn lanes onto the Selmon Expressway, adding 2 eastbound to northbound turn lanes onto Bayshore, which will involve a complete stoppage of the northbound traffic on Bayshore instead of the 2 through lanes continuing, except for at the crosswalk. As part of the repaving project, they will be redoing the crosswalk markings, but it would be a straight 4 lanes section as it exists today. They are also working with TECO to move the poles back and he thinks they have made progress with that. To his understanding, these are the only pedestrian safety improvements.

Ms. Silva stated she has an update on the School Transportation Working Group Agenda for next week because they are expediting the Bayshore Blvd. improvements due to all the public outreach on that roadway.

**Motion**: Request a status of the Bay-to-Bay Complete Street project at the August meeting (Ignas – Thompson). The motion passed unanimously.

Mr. Ignas asked if a motion was needed to send a request to the County Commissioners, asking they not spend the money yet to resurface Bay-to-Bay. Mr. Green stated the motion would be to make a recommendation to the MPO Board to send a letter to the County Commissioners. Ms. Collazo expressed concern about waiting until the next meeting in August to take action. Ms. Silva stated there are a couple of options: (1) reconvene in July to discuss this topic; (2) she can share information with members so they can send their opinions to the City; or (3) the Committee can ask the Board to take action when they meet on July 31st. Ms. Coyle located the construction fact sheet and stated construction is scheduled for September 2018. This gives the Committee time to take action in August; therefore, Mr. Ignas withdrew his second motion.
III. **APPROVAL OF MINUTES**

Approval of the May 16, 2018 minutes *(White – Maurino)*. The motion passed unanimously.

IV. **ACTION ITEMS**

A. **West Busch Blvd. Corridor Study (Brian Shroyer, FDOT)**

Mr. Cris Schooley, with Jacobs Engineering, a consultant for FDOT, presented in Mr. Shroyer’s absence. Mr. Schooley has been working on this study for over a year and appreciates the opportunity to provide an update. The project is 3.3 miles, from North Dale Mabry Highway to North Nebraska Avenue, within the City of Tampa and unincorporated Hillsborough County. The CSX rail lines run along the south side of the project for the majority of the limits and there is a concurrent resurfacing, restoration and rehabilitation (RRR) project from Armenia to west of Florida Avenue. Busch Blvd. is a very important east to west corridor with high traffic flow and high pedestrian/bicycle crashes.

The purpose of the study is to identify the corridor vision for the future West Busch Blvd. and the recommendations and implementation plan. Jacobs is near the end of the study schedule and has an Alternatives Public Meeting scheduled on July 10th. The study will wrap up in August or early September and going onto the next phase of the project. The new FDOT context classification was utilized for this project. Three different context classifications were used on this project: C3R (Suburban Residential), C4 (Urban General) and C3C (Suburban Commercial). He reviewed the existing conditions in each segment of the project and explained that context classification allows for a varied design speed and other contributing factors to the roadway design to be sensitive to the context. C4, C5 or C6 allows for on-street parking which could benefit speed management and support local businesses, but it would have to be part of the local comprehensive plans before it could be implemented. It is not currently part of the City of Tampa plans.

Mr. Schooley stated traffic is very high along the corridor, there is a poor level of service at most of the intersections and it is forecasted to get slightly worse through 2040. Crashes are very high, particularly at Dale Mabry and Himes, as well as Twin Lakes Blvd. on the west side of the project. On the east side, Florida Avenue and I-275 ramps terminals are high crash areas. He presented a map with symbols noting fatalities, most of which are on the east end of the project, with 3 of the 6 during the analysis period being pedestrians. There is high bicycle/pedestrian/transit use along the project, although they observed more pedestrians and bikes crossing Busch Blvd., than riding along the roadway. This could be due to the lack of facilities, such as no bike lanes, sidewalk gaps, high traffic volume and high speeds. They also observed people choosing to walk along the railroad tracks to the south of Busch Blvd.

Ms. Mabilleau stated the City has an intersection improvement plan for Armenia and Busch Blvd., that is 90-95% design complete, and scheduled for construction to begin in late summer of 2019 or early 2020. Improvements for bike/pedestrians are included in this plan. Jacobs Engineering
reviewed these plans for several ongoing projects while studying the project to ensure compatibility.

The high traffic volume does justify a 6-lane facility, but that is policy constrained by the City’s Comp Plan. The policy would have to be changed before the 6-lane typical section could be implemented. The bicycle/pedestrian movement is higher north/south than east/west along the corridor. Five of the six fatalities occurred between Nebraska and North Blvd., corresponding with the higher pedestrian/bicycle movement.

Ms. Farrell asked where the City limits for the 6-lane roadway are and Mr. Schooley stated the City Comp Plan policy constraint is from Dale Mabry to Boulevard. There aren’t policy constraints from Boulevard to Nebraska.

Through public outreach and the project advisory group, they have received a lot of safety issues along the corridor, such as speeding, two-way left turn lane which is often used for passing or a travel lane when the queues get long, a need for lighting for pedestrians, sidewalk gaps, traffic congestion, signal timing improvements, as well as the need for aesthetic improvements.

Mr. Schooley reviewed the list of goals presented at their workshops. The most feedback received was in support of safety, followed by accessibility and connectivity, then economic development and mobility. Spot improvements receiving the most support at the workshops included lowering the speed limit, lead pedestrian intervals (LPI) at crosswalks, improved signal timing and completing the sidewalk gaps.

Mr. Schooley explained their project is set up as a tiered process. The corridor study is followed by the resurfacing project, then by the near-term improvement project, which is funded for design and will start right after the corridor study. This project still needs construction funding. The long-term improvement project involves a change in the typical section that requires significant right of way, requiring a PD&E that hasn’t been identified for funding.

The vision statement for the corridor is “The Busch Boulevard corridor offers safe, comfortable and convenient access through and across the corridor for all user and all travel modes”. Mr. Schooley reviewed the Typical Section Alternatives. In the segment with the two-way, left turn lane, they can implement some median islands for short distances that have limited effect on people’s access to their properties. There can be sections of curb and gutter, possibly with some landscaping, providing the City has a desire and a maintenance agreement for that, to provide traffic calming, a pedestrian refuge for those crossing midblock and an aesthetic benefit for the corridor.

Mr. Green asked if the median island is just a 4-foot width slab of concrete. Mr. Schooley explained that it will be 12-feet wide, with low level plants in the median. Mr. Green asked if the median will invite pedestrians to cross illegally, but Mr. Schooley explained the purpose is more to deter drivers from driving along a two-way, left turn lane. Mr. Schooley also explained that it is legal to cross at an intersecting street where there isn’t a crosswalk and the median will provide a refuge for pedestrians crossing.
Mr. Maurino asked if the median can be designed to direct pedestrians to use the crosswalks, similar to how the medians along 13th Street in Gainesville direct pedestrians to use the tunnel. Mr. Schooley stated he doesn’t think the medians can function that way. There are plans to add a signalized crossing at Rome because right now there is a one-mile distance between the signals at Armenia and North Blvd. This should also help pedestrians from relying on the median islands.

Other improvements being planned are high-emphasis pedestrian crossings/hardscape intersections, corridor lighting, completing sidewalk gaps, adding “your speed” speed limit signs, adding signal and/or mid-block crossing at Rome Circle or Willow Avenue, leading pedestrian interval or pedestrian-only phase at North Blvd., adding refuge islands or tighten curb radius at North Florida Avenue and North Nebraska Avenue, and implementing signal timing to encourage platooning at 35 mph.

A Range of Alternatives was developed for long term improvements. The alternatives are: No-Build (existing condition); 4-Lane (construct 4-lane divided roadway without bike lanes, but with raised median, border width, and wide 8’ sidewalk to accommodate additional pedestrian demand); 5-Lane (construct a 5-lane divided roadway with flush unrestricted median, bike/parking lanes, border width, 6’ sidewalks); or 6-Lane (construct a 6-lane divided roadway with raised medians, bike lanes, border width and 6’ sidewalks). Many variations are possible, but these alternatives provide a good range to receive feedback and further refine the concepts for the corridor vision. They will be presented at the Public Alternatives meeting.

Jacobs Engineering is seeking feedback on the alternatives. There is currently no construction funding, but when it becomes available, they would like a plan of action. The same segment doesn’t need to be constructed for the entire corridor. Mr. Hey stated that Segments with the 5 and 6-lanes are inconsistent with the City of Tampa Comprehensive Plan, unless the additional lanes are exclusively for bus transit. Mr. Hey feels residents need to be made aware of this restriction.

Mr. Schooley reviewed renderings of Alternative 1 (4 lanes with median and wide sidewalk on north side), Alternative 2 (4 lanes with center two-way left turn lane and buffered bike lanes) and Alternative 3 (6 lanes with median with buffered bike lanes). He also discussed potential parallel parking option for the segment between North Armenia and North Blvd.

He reviewed the evaluation matrix. Instead of meeting a purpose and need, they are evaluating the alternatives to determine how well they meet the vision statement for the comfort and convenience of the different modes. The Project Advisory Committee (PAC) seems to be more supportive of the 4 and 5- lane alternatives, over the 6-lanes. They also had a recommendation to use lower speeds along the corridor; however, this would require further study about how to influence drivers appropriately to drive the speed limit, utilizing design. Partnering agencies requests include transit shelters and transit signal priority.

The next step is the Public Alternatives Meeting on July 10th. Ms. Silva provided copies of the meeting notice to Committee members. The Alternatives report should be final in August and will be sent out for Agency and PAC review.
The resurfacing project has construction funding and will be going to construction early next year. The design project for the near-term improvements has design funding and will be starting before the end of the year. Any long-term study for recommendations has not received funding.

Discussions were held regarding the need for the sidewalks to be level along Busch Blvd. and Florida Avenue so wheelchairs don’t tilt; if there is an opportunity to reduce the number of driveways into businesses; which agencies form the PAC; the service agencies located at Busch Blvd. and Florida Avenue having a large number of clients that walk or use transit; the need for a recommendation to hold the PAC to the PD&E; advocating for a crosswalk around Rome due to the distance between crosswalks in that area; the Future Land Use should be the guiding principle because how the corridor is now is not the vision for the future; the need for bicycle lanes consistently along the corridor; and if the 5 or 6-lane alternative is selected, where the right away would come from.

**Motion:** Discuss alternatives and recommend a first and second choice. The Committee’s first choice is 4-lanes with median; second choice is 5-lanes, with caveat to amend comp plan. The Committee pointed out two of the three options would require a City of Tampa Comprehensive Plan amendment. (Farell - Ignas). All, but one member, were in favor.

**V. STATUS REPORTS**

**A. It’s Time Tampa Bay: Outreach in the Tri-County Growth Concepts (Johnny Wong, MPO Staff)**

Tabled until the next meeting due to time. Ms. Silva offered a brief synopsis. The MPO will present the outreach approaches with the regional Long Range Transportation Plan update. The website will go live at a meeting at the Tampa International Airport on July 20th at 1:00 p.m.

**B. Systemic Safety Approach to Crash Prediction (Chad Polk, Jacobs)**

Mr. Chad Polk, Jacobs, presented the Systemic Approach to Safety. He introduced his colleague, Robert Paguin. Mr. Polk began with the Henry Ford quote “If you always do what you’ve always done, you will always get what you always got.” The problem is there are too many crashes with too many lane miles to address and not enough money. One potential solution is the systemic approach to safety, which is the ability to identify at-risk locations based on the presence of characteristics affiliated with severe crashes.

The definition of Systemic Approach, taken from the Florida Highway Association (FHWA) website is: A systemic approach to safety involves widely implemented improvements based on high-risk roadway features correlated with specific severe crash types. The approach provides a more comprehensive method for safety planning and implementation that supplements and compliments traditional site analysis. Takeaways from this definition are (1) this is a data-driven approach, with no pre-conceived solutions, and it’s repeatable and (2) the risks are historical safety performance, have limitations and human health parallel.
Unique benefits to this approach are a defensible list of projects produces proactive and increased success in applying for Highway Safety Improvement Program (HSIP) funding. A HSIP application has been developed for every project on the list and the cost of systemic approach frequently “pays for itself” through increased success in HSIP applications. Jacobs works with agencies to create compliant HSIP applications and develops applications for all projects on the prioritized lists. The systemic approach is very flexible and can target all crashes or specific crash types. It is also scalable and works with numerous jurisdictions. Jacobs holds one day workshops for stakeholder engagement and the focus is on the four Es (Engineering, education, enforcement and emergency medical services). They hope to achieve the buy-in for the process.

Mr. Polk reviewed the data driven process and presented a risk example for infrastructure. Typically, road networks are broken up into intersections, segments and horizontal curves because the type and severity of crashes in each are different. He discussed the risk factors analyzed for rural intersections. They run a statistical analysis to determine which risk factors have the strongest correlation to the safety performance. They rank intersections based on these risk factors, assigning a star for each factor, then the intersections are ranked based on the number of stars, from 0 – 6. He reviewed the implementation priority list. They develop countermeasures which are predominantly low-cost countermeasures that can be applied to the at-risk system, include cost and effectiveness to inform decision-making and provide opportunity to proactively address severe crashes. He reviewed the adopted safety strategies/countermeasures, crash reduction factors and typical cost estimates.

Mr. Polk explained the Validation exercises Jacobs uses and the formulas used to develop the risk ratings for the rural 2-lane intersections. He explained how a driver is ten times more likely to have a crash at an intersection ranked with 6 stars, then at an intersection ranked with 1 star. In addition, a driver is 40 times more likely to have a severe crash at an intersection ranked with 6 stars than an intersection with a 1-star ranking. The number of intersections ranked with 6 stars are a low percent of all intersections. He also reviewed the Validation example that compares intersection distribution vs. combined risk ratings. The exercise looks for over-representation in which a majority of the crashes occur on a minority of the road network. Sixty-five percent of the severe right-angle crashes and 55% of the severe crashes occur at only 26% of intersections ranked three stars or higher. Clients are beginning to change their policies based on this information. He also reviewed the results of county road safety plans for the state of Minnesota and explained how the reduction in fatality rate corresponded with the widespread deployment of the safety strategies along the county system.

Jacobs Engineering pioneered the process and has analyzed more networks than any other consultants, developed FHWA Systemic Toolbox and developed case study for FHWA on Ped/Bike Systemic. Benefits from the Systemic Approach Planning include defensible project list, increased success in applying for HSIP funding, agency specific safety plans, location prioritization and countermeasure recommendations and stakeholder engagement.

Mr. Polk presented statistics from between 2012-2015 which shows 20% of the severe ped/bike crashes occur in the Florida Department of Transportation (FDOT) District 7 (Hillsborough/Pinellas), which only has 13% of lane miles in the State. This is some of the
methodology used to target areas. When looking at the State as a whole, District 7 would be first, with District 4 (Ft. Lauderdale) second (approximately 17% of severe crashes with 10% of the public road miles), and District 5 (Orlando) third (19% of severe crashes and 19% of the public road miles). They consider a district as “at risk” when the percentage of roads is equal to the percentage of crashes. Florida has the highest percentage of bicycle fatalities (17%) and 11% of the pedestrian fatalities with 6% of the national population.

In closing, Mr. Polk provided a quote by John Wooden, “Failure is not fatal, but failure to change might be.”

VI. OLD BUSINESS & NEW BUSINESS

A. Next LRC Meeting August 15, 2018

VII. ADJOURNMENT

There being no further business, the meeting adjourned at 10:58 a.m.
Board & Committee Agenda Item

**Agenda Item**
West Tampa Multimodal Plan

**Presenter**
Chris Keller, Tindale - Oliver

**Summary**
The West Tampa Multimodal Plan is an effort to identify opportunities to enhance the multimodal transportation network, improve connections between existing and planned pedestrian and bicycle facilities, and identify opportunities to implement complete streets strategies throughout West Tampa.

The study area includes the neighborhoods of North Hyde Park, Old West Tampa, West Tampa, West Riverfront, Macfarlane Park, Armory Gardens, Carver City/Lincoln Gardens, North Bon Air, and Oakford Park. The neighborhoods and study area have a rich historical context and includes a National Historic District and a well-established street grid. The study area is home to a significant amount of historic and contributing structures including the first public library in Hillsborough County, the West Tampa Free Public Library. Enhance the multimodal environment throughout West Tampa will help to reinforce and reestablish a sense of place, create new connections, and improve economic opportunity.

The Plan’s Objectives are:
- **Enhance Connections**: Explore opportunities to enhance pedestrian and bicycle connections between existing and planned facilities and to/from destinations within West Tampa.
- **Complete Streets**: Integrate complete streets strategies and develop concept improvements along corridors such as Main Street and Columbus Drive.
- **Bicycle Boulevards**: Explore bicycle boulevard/neighborhood greenway/bikeway opportunities along streets such as Gray Street, Beach Street, and Palmetto Street.
- **Safety and Mobility Improvements**: Identify general safety and mobility improvements that support the City’s “Livable City” vision and provide a safe, comfortable, and convenient environment for all users.

**Recommended Action**
Support for the Plan’s recommendations and forward to the MPO Board for approval.

**Prepared By**
Michele Ogilvie, MPO Staff

**Attachments**
West Tampa Multi Modal Plan Draft.
City of Tampa Walk–Bike Plan Phase VI
West Tampa Multimodal Plan
Draft June 2018

Completed For:

Hillsborough County Metropolitan Planning Organization
601 East Kennedy Boulevard, 18th Floor
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Task Authorization: TOA – 09

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**Table of Contents**

Executive Summary .................................................................................................................................................................................. 1
  Introduction and Purpose ........................................................................................................................................................................ 1
  Background and Existing Conditions Review ........................................................................................................................................ 1
  Multimodal Enhancements ..................................................................................................................................................................... 2
    Best Practice Enhancements .............................................................................................................................................................. 2
  Next Steps ........................................................................................................................................................................................................ 6
Introduction ........................................................................................................................................................................................................ 8
West Tampa Study Area ........................................................................................................................................................................... 8
  West Tampa Planning Efforts ..................................................................................................................................................................... 10
    City of Tampa Walk–Bike Plans ........................................................................................................................................................... 10
    Green Spine Corridor ......................................................................................................................................................................... 10
    Westshore Pedestrian Plan ................................................................................................................................................................ 11
    Westshore Circulator Study .............................................................................................................................................................. 11
    West River Master Plan .................................................................................................................................................................. 11
    West Tampa CRA Plan ...................................................................................................................................................................... 12
    West Tampa Strategic Action Plan .................................................................................................................................................. 12
    Greenways and Trails Master Plan .................................................................................................................................................. 12
    Dale Mabry Pedestrian Overpass Technical Feasibility Analysis .................................................................................................. 12
    Spruce Street Pedestrian and Bicycle Improvements .................................................................................................................. 13
    Regional Transit Feasibility Study ................................................................................................................................................... 13
    Tampa Bay Next .................................................................................................................................................................................. 13
    USF Sustainable Transportation Class Project ................................................................................................................................ 13
Existing Conditions .................................................................................................................................................................................................. 16
  Community Assets ................................................................................................................................................................................. 16
  Overlays and Special Districts .............................................................................................................................................................. 18
    Community Redevelopment Areas .................................................................................................................................................. 18
    West Tampa National Historical District ........................................................................................................................................ 18
  Overlay Districts .................................................................................................................................................................................... 18
Roadway Classification ............................................................................................................................................................................................. 22
Intersection Control ....................................................................................................................................................................................................... 22
Pedestrian Facilities ....................................................................................................................................................................................................... 22
Bicycle Facilities ....................................................................................................................................................................................................... 22
Crash History ............................................................................................................................................................................................................ 21
Transit Routes and Ridership ................................................................................................................................................................................... 21
Planned Capital Improvements .................................................................................................................................................................................... 26
Himes Avenue Improvements ................................................................................................................................................................................ 26
Lois Avenue Improvements .................................................................................................................................................................................. 27
Willow Avenue Improvements ................................................................................................................................................................................ 27
Howard-Armenia Avenue Improvements .......................................................................................................................................................... 27
Rome Avenue Improvements .................................................................................................................................................................................. 28
West Cypress Street Improvements ...................................................................................................................................................................... 28
West Spruce Street Improvements ...................................................................................................................................................................... 29
East-West Green Spine/Cass Street ................................................................................................................................................................. 29
Julian B. Lane Park .................................................................................................................................................................................................... 29
Enhancing Safety and Mobility in West Tampa ........................................................................................................................................................... 31
Best Practice Enhancements for Safety and Mobility .............................................................................................................................................. 31
  Complete Sidewalks ............................................................................................................................................................................................. 31
  Speed Management ............................................................................................................................................................................................. 32
  Lighting ................................................................................................................................................................................................................. 32
  Intersection Enhancements ................................................................................................................................................................................. 33
  Mid-Block Crossings ............................................................................................................................................................................................. 35
  Access to Transit ....................................................................................................................................................................................................... 35
  Drainage ............................................................................................................................................................................................................... 35
Site-Specific Enhancements ..................................................................................................................................................................................... 35
  Complete Streets Opportunities .......................................................................................................................................................................... 36
  Columbus Drive .................................................................................................................................................................................................... 41
  Howard Avenue and Armenia Avenue ............................................................................................................................................................. 47
  Neighborhood Greenway Opportunities ............................................................................................................................................................. 51
List of Figures

Figure 1: Study Area Boundary ................................................................. 9
Figure 2: City of Tampa Walk–Bike Plan Recommendations by Plan Phase ................................................................. 15
Figure 3: Community Assets and Points of Interest ........................................ 17
Figure 4: Community Redevelopment Areas ................................................ 19
Figure 5: West Tampa Historic District ......................................................... 20
Figure 6: Overlay Districts ............................................................... 21
Figure 7: Existing Intersection Controls ................................................. 23
Figure 8: Existing Sidewalks and Gaps .................................................. 24
Figure 9: Sidewalk Gaps on Classified Network ...................................... 25
Figure 10: Existing Bicycle Infrastructure ............................................... 19
Figure 11: Planned and Existing Bicycle Infrastructure ........................................ 20
Figure 12: All Crash Clusters and Counts .......................................... 22
Figure 13: Bicycle and Pedestrian Crash Clusters and Counts .................. 23
Figure 14: Existing Bus Service .................................................... 24
Figure 15: Average Daily Bus Stop Activity ........................................ 25
Figure 16: Intersection and Crosswalk Lighting Design .................................. 33
Figure 17: High-Emphasis Ladder Crosswalk Markings .................................. 33
Figure 18: Retrofitted Curb Cut with Smaller Turning Radius .................... 34
Figure 19: Bulb-Outs ............................................................................ 34
Figure 20: Neighborhood Traffic Circle ................................................. 34
Figure 21: Bulb-Out with Rain Garden .................................................... 35
Figure 22: Main Street Existing Typical Section ........................................ 37
Figure 23: Proposed Typical Section for Main Street from MacDill Avenue to Armenia Avenue .................................................. 37
List of Tables

Table 1: Existing Transit Routes Service in West Tampa ................................................................. 26
Table 2: Columbus Drive Typical Sections.................................................................................. 41
Table 3: Columbus Drive AADT .............................................................................................. 41

Appendices

Appendix A – Feasibility Review
Appendix B – Cost Estimates
Appendix C – Columbus Drive at Rome Avenue Intersection Review
Executive Summary

Introduction and Purpose

To help the City of Tampa achieve its “Livable City” vision of a robust network of pedestrian and bicycle facilities to improve transportation options and livability, the Hillsborough Metropolitan Planning Organization (MPO) and the City of Tampa have coordinated on the development of a series of Walk–Bike and multimodal plans that have identified opportunities for pedestrian and bicycle improvements throughout the city. Whereas parts of the greater West Tampa area have been reviewed by some of these previously-completed studies, many of these efforts considered how to get people through West Tampa as a means of connecting to other regional activity centers but were not focused on how people within West Tampa get around.

The purpose of this multimodal plan is to identify opportunities to improve safety and mobility for all transportation users with a focus on identifying opportunities to enhance the pedestrian and bicycle environment. Although some of the identified enhancements will help connect people through West Tampa, the focus of this plan is to support mobility within the neighborhoods of West Tampa. This has become increasingly necessary, as the West Tampa area has been experiencing a wave of reinvestment, revitalization, and growth; with this, there is an increasing need to ensure a safe, inviting, and well-connected transportation network that supports all users and modes.

The West Tampa Multimodal Plan study area includes the neighborhoods of North Hyde Park, Old West Tampa, West Tampa, West Riverfront, Macfarlane Park, Armory Gardens, Carver City/Lincoln Gardens, North Bon Air, and Oakford Park. The study area is bounded by Gray Street to the south, Lois Avenue to the west, Columbus Drive to the north, and North Boulevard to the east.

Background and Existing Conditions Review

A multitude of planning efforts that impact the West Tampa area have been developed and are essential for understanding how the area is intended to evolve in the coming decades. The review of West Tampa planning efforts helped inform recommendations and ensure that planning efforts are not duplicated or redundant.

A review of the existing conditions and facilities within the study area was conducted to provide background information and context and was used to guide the development of potential pedestrian and
bicycle improvements throughout the study area. The existing conditions review provided documentation of community assets and history, existing transportation facilities, planned improvements, crash history, and identified gaps in the current multimodal network.

**Multimodal Enhancements**

As noted, the purpose of this multimodal plan is to identify opportunities to improve safety and mobility for all transportation users by identifying opportunities to enhance the pedestrian and bicycle environment, improve connections between existing and planned pedestrian and bicycle facilities, and identify opportunities to implement complete streets strategies throughout the study area. The potential safety and mobility enhancements in this plan are categorized as either Best Practice Enhancements or Site-Specific Enhancements.

**Best Practice Enhancements**

A variety of transportation best practices have been established and are available for moving the West Tampa area towards the “Livable City” vision and connecting and enhancing the pedestrian and bicycle network. Although the list of Best Practice Enhancements is by no means exhaustive, it provides a range of enhancements that may or may not be appropriate based on an areas context, goals, and financial feasibility. Additionally, the identified Best Practice Enhancements typically go beyond providing improvements to the transportation realm and often create synergies that help beautify areas, bolster economic development, and improve community cohesiveness and sense of place. The following are best practices that should be considered throughout the study area, whether specifically mentioned or not, throughout the remainder of the plan:

- Complete sidewalks
- Speed management
- Lighting
- Intersection enhancements
- Mid-block crossings
- Access to transit
- Drainage

**Site-Specific Enhancements**

The Site-Specific Enhancements explore opportunities to improve safety and mobility at specific locations/corridors throughout the study area. Although many of the concepts from these enhancements could be applied elsewhere, they were developed specifically for the identified locations. The Site-Specific Enhancements were grouped into three categories—Complete Street Enhancements, Neighborhood Greenway Enhancements, and Trail Connections. The following is an overview of the identified Site-Specific Enhancements.

**Complete Street Enhancements**

“Complete streets” is a modern term for roadways designed and built to enable safe access for all users, including pedestrians, bicycles, motorists, and public transportation. Complete streets are accessible and promote safety and mobility for users of all ages and all abilities. Additionally, complete streets can be used to encourage economic development and activity, promote social cohesion, and make for an improved urban environment. Three corridors within the West Tampa study area were identified for potential complete street enhancements:
Main Street Complete Street Enhancements – Main Street was once the heart of the thriving City of West Tampa and is now the heart of the social and economic development in the West Tampa neighborhood. The historical and present significance of Main Street, the land use fronting the street, and a significant amount of pedestrian traffic provide additional opportunities for complete street enhancements to reinforce Main Street’s historic significance.

In general, the identified enhancements for Main Street involve better delineating the existing pavement by marking the on-street parking areas, providing shared-lane markings, improving the visibility of pedestrians at intersections through enhanced crosswalk markings and bulb-outs, and installing neighborhood traffic circles at selected intersections. Due to the planned West River redevelopment, most of the identified enhancements focused on the western part of Main Street between MacDill Avenue and Rome Avenue, but some identified enhancements could be considered between Rome Avenue and N Boulevard.

Columbus Drive Complete Street Enhancements – Columbus Drive provides east-west connections through West Tampa to the Westshore area on the western end of the corridor and to Tampa Heights, V.M. Ybor, and East Tampa beyond the Hillsborough River. Recently, some segments of Columbus Drive east of the study area were studied for complete street improvements. Considering complete street enhancements along Columbus Drive west of N Boulevard would improve safety and mobility throughout the West Tampa area.

The identified enhancements along Columbus Drive include enhanced corridor lighting where necessary, providing marked crosswalks along the corridor, wider sidewalks/pathways between Lois Avenue and Dale Mabry Highway, and intersection enhancements at Lincoln Avenue, MacDill Avenue, Habana Avenue, Armenia Avenue, Howard Avenue, and Albany Avenue. Additionally, a consideration for a road diet along Columbus Drive from Rome Avenue to N Boulevard was revisited (originally identified as a potential improvement in Phase I of the Walk–Bike Plan), along with potential road-diet improvements to the intersection of Columbus

- Main Street from MacDill Avenue to N Boulevard
- Columbus Drive from Dale Mabry Highway to the Hillsborough River
- Howard and Armenia Avenues from Columbus Drive to south of Gray Street
Drive at Rome Avenue; these alternative included an evaluation of signalizing the intersection or constructing a roundabout at the intersection.

Similar to the identified enhancements along Main Street and Columbus Drive, most of the identified enhancements along Howard Avenue and Armenia Avenue include enhancing lighting, improving pedestrian visibility through the use of enhanced crosswalk markings and bulb-outs, providing enhanced and additional crossings, and exploring speed management strategies throughout the corridor.

Howard Avenue and Armenia Avenue Complete Street Enhancements – Howard Avenue and Armenia Avenue are north-south one-way pairs that connect West Tampa to the neighborhoods to the north and south of the study area. Both streets are planned for resurfacing by Hillsborough County. A previous resurfacing project by the County included the addition of buffered bicycle lanes on the sections of Howard Avenue and Armenia Avenue from north of Columbus Drive to St. Louis Street, south of Columbus Drive. Although there are no known current plans to extend the buffered bicycle lanes south as part of the upcoming resurfacing project, providing complete and continuous bicycle facilities should be a top priority for both Hillsborough County and the City of Tampa.

Howard Avenue at Carmen Street (south of Cass Street)

Neighborhood Greenway Enhancements

Neighborhood greenways, also known as bicycle boulevards and bikeways, are streets that have been designed, designated, and prioritized for bicycle travel. Neighborhood greenways provide a safe, inviting, low-stress option for bicyclists of vary degrees of experience. Neighborhood greenways, as part of a larger bicycle network, help provide connections between neighborhoods, destinations, and different bicycle facilities. In addition to improving safety, comfort, and connectivity for bicyclists, neighborhood greenways create safer streets for all users and can help promote
communities that encourage bicycling as a more convenient, easy, and sociable mode of transportation.

Although there is no set design template for neighborhood greenways, a few common principles should apply when considering one:

- Logical, direct, and continuous bike route
- Safe and comfortable intersection crossings
- Reduced bicyclists delay
- Enhanced access to desired destinations
- Low motor vehicle speeds
- Low motor vehicle volumes

Enhancements identified for Gray Street include the addition of pavement markings and signage that distinguish the street as a neighborhood greenway, speed management strategies including the installation of speed cushions and neighborhood traffic circles, and the enhancement of crossings at major streets such as Lois Avenue, MacDill Avenue, Armenia Avenue, and Howard Avenue.

**Beach Street Neighborhood Greenway Enhancements** – Beach Street is a two-lane two-way undivided east-west local street situated between Spruce Street and Columbus Drive. It is primarily residential in character, with low-speeds (posted 25 mph) and low traffic volumes, and it provides a continuous connection between Dale Mabry Highway and Rome Avenue. Similar to the Gray Street neighborhood greenway, the enhancements along Beach Street focus on providing pavement markings and signage, speed management through speed cushions and neighborhood traffic circles, and improving crossings at major streets such as MacDill Avenue, Armenia Avenue, and Howard Avenue.

**Trail Connections**

**I-275 Greenway and Green Spine Trail Connections** – The Green Spine and I-275 Greenway are key bicycle and pedestrian projects aimed at connecting the major activity centers and greenspaces in Tampa and providing recreational amenities to residents. Although the projects are separated by less than a half mile at parts, the lack
of a safe and obvious connection between the two is a challenge that interrupts the overall network.

Although both projects are incomplete, with many segments still in planning and design stages, a connection between the two pathways should be considered and addressed. Several alternative alignments for connecting to the two are available, the creation of which may further an integrated pedestrian and bicycle network beyond connecting only these two major infrastructure projects. Four potential alternatives to connect these facilities were examined as part of this effort:

- **Alternative 1** mostly uses existing Florida Department of Transportation (FDOT) right-of-way and portions of La Salle Street to connect the I-275 Greenway between Himes Avenue and North Boulevard.
- **Alternative 2** follows the Alternative 1 alignment between Himes Avenue and Rome Avenue. It would then use the planned bicycle lanes on Rome Avenue or a potential pathway along the west side of Rome Avenue to connect to the planned Green Spine extension along Cass Street.
- **Alternative 3** follows the Alternative 1 alignment between Himes Avenue and Armenia Avenue. This alignment proposes converting the east side of Armenia Avenue between the existing I-275 Greenway trailhead at Armenia Avenue to a potential future Cass Street extension. This alternative would require right-of-way through the existing armory to extend the Green Spine and Cass Street from Howard Avenue to Armenia Avenue.
- **Alternative 4** uses the Alternative 1 alignment between Himes Avenue and MacDill Avenue. It then travels along MacDill Avenue between La Salle Street and Main Street and then a two-way bikeway down the middle of Main Street from MacDill Avenue to N Boulevard. This alternative would require eliminating the on-street parking along Main Street and would prohibit many of the identified Main Street complete street enhancements, but it would move a large portion of the I-275 Greenway out the I-275 right-of-way.

**Next Steps**

The key to implementing the enhancements identified in this plan is continued coordination among the various involved agencies, including the Hillsborough MPO, City of Tampa, Hillsborough County, FDOT, and the West Tampa Community Redevelopment Area (CRA). This coordination will help to ensure that the identified improvements are realized.
Introduction

As part of the “Livable City” vision for the City of Tampa, a robust network of pedestrian and bicycle facilities has been identified as critical for both transportation and livability. To help achieve this vision, the Hillsborough MPO and the City of Tampa have coordinated on the development of a series of Walk–Bike Plans that have identified opportunities for pedestrian and bicycle improvements throughout the city. Whereas it has been reviewed, in part, by other plans, the greater West Tampa area has not been the focus of one of the previously-completed Walk–Bike Plans. The neighborhoods of West Tampa have been experiencing a wave of reinvestment, revitalization, and growth; with this, there is a need to ensure a safe, inviting, and well-connected transportation network that supports all users and modes and connects users to not only the major activity centers of West Tampa and the surrounding community but supports mobility within the neighborhoods themselves.

The purpose of this multimodal plan is to identify opportunities to improve safety and mobility for all transportation users by identifying opportunities to enhance the pedestrian and bicycle environment, improve connections between existing and planned pedestrian and bicycle facilities, and identify opportunities to implement complete streets strategies throughout the study area.

The multimodal plan is structured as follows:

- West Tampa Study Area
- West Tampa Planning Efforts
- Existing Conditions
- Planned Capital Improvements
- Enhancing Safety and Mobility in West Tampa
  - Best Practice Enhancements
  - Site-Specific Enhancements

West Tampa Study Area

The West Tampa Multimodal Plan’s study area is bounded by Gray Street to the south, Lois Avenue to the west, Columbus Drive to the north, and N Boulevard to the east, as shown Figure 1.

The study area includes the neighborhoods of North Hyde Park, Old West Tampa, West Tampa, West Riverfront, Macfarlane Park, Armory Gardens, Carver City/Lincoln Gardens, North Bon Air, and Oakford Park. The neighborhoods and study area have a rich historical context and a well-established street grid and include a National Historic District. The study area is home to a significant number of historic and contributing structures, including the first public library in Hillsborough County, the West Tampa Free Public Library. Enhancing the multimodal environment throughout West Tampa will help to reinforce and reestablish a sense of place, create new connections, and improve economic opportunity.
Figure 1: Study Area Boundary
West Tampa Planning Efforts

A multitude of planning efforts that impact the West Tampa area have been developed and are essential for understanding how the area is intended to evolve in the coming decades. The review of West Tampa planning efforts provided below will help inform recommendations and ensure that planning efforts are not duplicated or redundant. The following plans and studies were reviewed as part of this study effort:

- City of Tampa Walk–Bike Plans I–V
- Green Spine Corridor
- Westshore Pedestrian Plan
- Westshore Circulator Study
- West River Master Plan
- West Tampa Community Redevelopment Area (CRA) Plan
- West Tampa Strategic Action Plan
- Greenways and Trails Master Plan
- Dale Mabry Pedestrian Overpass Technical Feasibility Analysis
- Spruce Street Pedestrian and Bicycle Improvements Technical Memorandum
- Regional Transit Feasibility Study
- Tampa Bay Next
- USF Sustainable Transportation Class Project

City of Tampa Walk–Bike Plans

The City of Tampa has released five Walk–Bike plans between 2011 and 2016 that identify an extensive list of possible improvements to the pedestrian and bicycle network. Improvements and proposals including new, improved, and refurbished sidewalks and crossings, bicycle lanes, and overall network and connectivity redesign. Recent iterations of the Walk–Bike plan focus on a bicycle/pedestrian loop trail (the Green ARTery) linking downtown Tampa to neighborhoods along the river and back down through East Tampa and Ybor City to downtown, connecting parks, schools, and other destinations along its path.

Phase I of the Walk–Bike Plan identified Cypress Street, Willow Avenue, MacDill Avenue, Lois Avenue, N Boulevard, Rome Avenue, Himes Avenue, and Habana Avenue for improvements. Phase II identified the Howard–Armenia Avenue corridor for possible improvements. Figure 2: City of Tampa Walk–Bike Plan Recommendations

Figure 2 shows previously identified Walk–Bike Plan improvements in the study area.

Green Spine Corridor

The Green Spine Corridor is a proposed and partially-completed separated cycle-track facility along Cass Street and Nuccio Parkway between Howard Avenue and 21st Avenue. Phase I of the project between the Cass Street Bridge and Nebraska Avenue was completed in 2016, and Phase II, between Howard Avenue and the Cass Street Bridge, is slated to begin construction sometime in summer 2018. The project, once completed, will result in a 3.4-mile cycle-track facility connecting North Hyde Park, Downtown Tampa, and Ybor City and will be a significant component of a well-connected bicycle network.
Westshore Pedestrian Plan

The Westshore Pedestrian Plan, originally released in 2005 and updated in 2009, identified pedestrian improvements and designated pedestrian priorities streets within the Westshore area, which overlaps with the West Tampa Multimodal Plan study area between Dale Mabry Highway, Lois Avenue, Boy Scout Boulevard, and Gray Street. Of note, the plan identified Cypress Street, Spruce Street, and Lois Avenue as pedestrian priority roadways. Three enhanced pedestrian crosswalks were identified on Lois Avenue between La Salle Street and Green Street, and intersection crosswalk improvements were identified at the intersection of all major roadways within the study area. The plan also proposed a trail along I-275 from Dale Mabry Highway to Westshore Boulevard, which has carried through multiple plans and iterations.

Westshore Circulator Study

Findings from this 2012 study from the Hillsborough MPO indicated conditional support for bus circulator service within the Westshore Area, which aimed to expand on and provide mobility choices for various markets, including residents, workers, visitors, and students, connecting key area such as Tampa International Airport, Raymond James Stadium, Al Lopez Park, and the two regional malls in the area. The study indicated that key triggers such as land use changes, proposed premium transit services, and developing economic development initiatives would foster the environment needed for a viable circulator service. The study stressed that the service can be a major asset to the community, given it is implemented at a level and time that are consistent with the needs presented by the community and corresponding triggers.

West River Master Plan

The West River Master Plan is a transformative redevelopment plan for the between I-275, Columbus Drive, Rome Avenue, and the Hillsborough River. The area will be home to multiple mixed-use developments with a focus on creating a livable urban environment. The plan includes a comprehensive section on transportation infrastructure improvements that identifies several new bicycle and pedestrian facilities that will be created or improved with the new development, as well as several new streets that will seek to reinforce or reestablish the grid network in the area.
West Tampa CR A Plan

The West Tampa Community Redevelopment Plan was published with the goal of providing a strategy to “eliminate conditions of blight found to exist within the area.” The West Tampa CRA Plan identified several transportation issues to address, notably that 33% of the roadways within the CRA have a pavement condition index of “Failed” and that there is an overabundance of surface parking that was identified as an impediment to growth and aesthetically displeasing. In terms of transit and mobility, the CRA identified the need for additional transit choices and improved frequency of service and further identified the need for new and improved bicycle and pedestrian facilities. The creation of a trail along the west side of the Hillsborough River was identified as a potential mobility and beautification improvement.

West Tampa Strategic Action Plan

The West Tampa CRA is in the process of developing a Strategic Action Plan for the West Tampa area, which is envisioned to include strategic public investment projects that attract private investment, regulatory actions that can foster quality development, incentive programs to attract private investment, and community services that enhance the economic standing, social and cultural environment, and public safety of the area. Work on the plan is currently identifying priorities, including economic development, job creation, housing and business assistance, infrastructure improvements, greenspace, transportation, parking, and sensitivity to and embracing of the West Tampa area’s history, culture, and diversity.

Greenways and Trails Master Plan

In 2016, the Hillsborough MPO, Hillsborough County, and the City of Tampa updated the Tampa-Hillsborough Greenways and Trails Master Plan. The plan identified several enhancements, including continuation of the I-275 Greenway, an essential component of the Greenways and Trails Master Plan that ultimately aims to connect Cypress Point Park and the Courtney Campbell Trail to Robles Park north of Downtown Tampa through West Tampa and over the Fortune Street Bridge. Much of the trail uses the I-275 right-of-way but also traverses several parallel streets and facilities, including the West River Greenway.

The northeast corner of the study area also includes a small portion of the proposed Perimeter Trail, which is envisioned to circle Central Tampa. The Perimeter Trail aims to connect neighborhood assets, the Hillsborough River, Tampa’s greenspaces, and the Greenways and Trails System with improved bicycle and pedestrian facilities both on- and off-street.

Dale Mabry Pedestrian Overpass

Technical Feasibility Analysis

This analysis examined potential alignments and the engineering feasibility of providing a pedestrian overpass across Dale Mabry Highway in the vicinity of I-275. The overpass is to become a part of the I-275 Greenway and was identified as a critical gap in the planned trail. The analysis recommended an alignment along the south side of I-275 using existing FDOT right-of-way to provide a continuous uninterrupted trail facility from Cypress Street at I-275 to Himes Avenue.
Spruce Street Pedestrian and Bicycle Improvements

The Spruce Street Pedestrian and Bicycle Improvement Plan was completed by the Hillsborough MPO to identify safety and mobility improvements for pedestrians and bicyclists along the Spruce Street corridor between Rome Avenue and Dale Mabry Highway. The plan identified intersection improvements throughout the corridor, including at Dale Mabry Highway, Armenia Avenue, and Howard Avenue, the potential for a small urban roundabout at Rome Avenue, the reconstruction of the sidewalk/pathway along the south side of Spruce Street in front of Macfarlane Park, and the inclusion of a wide sidewalk along the north side of Spruce Street between Dale Mabry Highway and Lincoln Avenue.

Regional Transit Feasibility Study

The Tampa Bay Regional Transit Feasibility Plan aims to identify a catalyst transit project that has the greatest potential to be built, compete for federal and State dollars, and spur further investment in transit services in Tampa Bay. The plan’s catalyst and recommended project is a 41-mile express or rapid bus service between Wesley Chapel and St. Petersburg that uses I-275 as the primary corridor. The plan calls for several stations to be built along the I-275 right-of-way, including an elevated station at Howard/Armenia and street-level stations at Himes Avenue and N Boulevard. As the study progresses, identifying pedestrian and bicycle connections to and from the planned station areas will be a critical component of any transit investments through West Tampa.

Tampa Bay Next

Tampa Bay Next is a transportation modernization effort aimed at addressing transportation problems throughout Tampa Bay with a comprehensive set of multimodal solutions. A large component of Tampa Bay Next is identifying interstate improvements, including the potential for new express lanes along I-275 through West Tampa and the reconstruction of the I-275/SR 60 interchange to the west of the study area and the Downtown interchange east of the study area. Current interstate plans call for express lanes to be built from I-4 in Ybor City through I-275 to St. Petersburg using right-of-way within I-275. Currently, the Tampa Bay Next process is exploring express lane options that include looking at the potential for express lane access ramps at either Himes Avenue or MacDill Avenue, or potentially both. Decisions on what and how I-275 may operate in the future are being made concurrently with the timeframe of this study and will be monitored for further development as part of the study process.

USF Sustainable Transportation Class Project

Recently the Hillsborough MPO paired with the University of South Florida’s (USF) Department of Civil and Environmental Engineering Sustainable Transportation class to consider complete street redesigns for Columbus Drive between Dale Mabry Highway and the Hillsborough River. As part of the class project, four concepts for complete street redesigns came out of the cooperative effort. Some notable concepts from the class projects included:
• Roundabouts at MacDill Avenue and Himes Avenue
• Creation of a bicycle intersection at Howard Avenue and Armenia Avenue
• Dedicating a lane of Columbus Drive for transit, either as a bus lane or streetcar extension
• Directional medians
• Road diet that would include bike lanes, where feasible
• Improved signage, street lighting, and pedestrian lighting
Figure 2: City of Tampa Walk–Bike Plan Recommendations by Plan Phase
Existing Conditions

A review of the existing conditions and facilities within the study area was conducted to provide background information and context and has been used to guide the development of potential pedestrian and bicycle improvements throughout the study area. This section provides documentation of community assets and history, existing transportation facilities, planned improvements, and identified gaps in the current multimodal network.

Community Assets

The West Tampa area is rich with historic and modern community assets, including a state-of-the-art community center, a recently-refurbished riverfront park, and the first public library in Hillsborough County. Recognizing, documenting, and mapping the range of community assets available aids in identifying where people are going within the neighborhood and how to create a network of facilities that effectively connects people to destinations that are frequented. Figure 3 shows the location of community assets, including the many parks, community centers, and schools located within and adjacent to the study area.

Several community centers are scattered throughout the study area that provide a range of services and recreational opportunities for residents of varying incomes. The newest community center is the new Bryan Glazer Family Jewish Community Center (JCC), which opened in December 2016 in the historic Fort Homer Hesterly Armory building and has 100,000+ square feet for community services, including aquatics, visual arts, and senior centers, areas for teens and tweens, event space, community services space, and a business accelerator and incubator. Other community centers include the Dr. Martin Luther King Jr. Community Center with a pool complex, the Rey Park Community Center, the Tampa Bay Community Center, and the David Barksdale Senior Citizen Center. The Loretta Ingraham Center and Pool is immediately outside the study area boundaries.

The study area is home to eight city parks, with MacFarlane Park the largest and most central and the newly-renovated Julian B. Lane Park, immediately adjacent to the study area, the other major park. Other parks in the study area include Jim Walters Park, Lincoln Gardens Park Soccer Field, Fremont Linear Park, Salcines Park, Villa Brothers Park, Rey Park, and the Dr. Martin Luther King Jr. Center Parks.

The West Tampa area is home to one public library, the West Tampa Branch Library, which was Hillsborough County’s first public library. Funded by a $17,500 grant by Andrew Carnegie, the structure opened in 1914 and is currently recognized as a historical building, in part due to its Neo-classical revivalist architectural characteristic of Carnegie libraries.

The study area is home to five public schools, with three additional public schools within a mile of the study area. It also is home to two private schools. Just Elementary, West Tampa Elementary, and Macfarlane Elementary are within the study area, and Graham Elementary and Mitchell Elementary are within a half-mile of the study area. Stewart Middle Magnet School is the only middle school in the study area, and Roland Park K–8 is immediately outside the study area. Blake High School and Jefferson High School are immediately outside the study area bounds. Other notable schools include St. Joseph Catholic School and Tampa Preparatory School and the University of Tampa.
Figure 3: Community Assets and Points of Interest
Overlays and Special Districts

Several distinct overlays or special district designations are located within the study area, including a CRA, a National Historic District, and two Special Overlay Districts.

Community Redevelopment Areas

The West Tampa CRA (see Figure 4), established in 2015, is located within the study area and encompasses 964 acres immediately adjacent to the Central Business District (CBD). The West Tampa area was identified as being physically, economically, and aesthetically distressed, and the CRA and the use of Tax Increment Financing (TIF) were created to allow for strategic investments and facilitate redevelopment throughout the community.

West Tampa National Historical District

West Tampa is home to a nationally-recognized Historic District – home to buildings, properties, and sites that have been designated as historically or architecturally significant. National Historic Districts are recognized through the US Department of the Interior under the National Park Service, are afforded no special legal status, and impose no restrictions on what property owners may do with a designated property. Historic Districts contain two types of properties—contributing and non-contributing; contributing structures are broadly considered to add to the historical integrity or architectural qualities that make a historic district significant. Figure 5 shows the extent of the West Tampa National Historic District.

Overlay Districts

The West Tampa area overlay districts are shown in Figure 6.

West Tampa Overlay

The West Tampa Overlay District is intended to ensure that all types of new and infill development and other major additions to structures are compatible in building and structural orientation, design elements, height, lot dimensional requirements, public safety, and other site and spatial relationships set by current precedent in the area. Standards within the overlay include setbacks, roof pitches, parking, and other elements intended to complement or simulate the historic and architectural significance of the neighborhood.

Westshore Overlay

The Westshore Overlay District Standards are designed to guide the future development and character of the Westshore area through creating an appealing business, commercial, and residential development environment and improve existing conditions through the lens of public health, safety, comfort, amenities, properties, and general welfare. The standards provide guidance on the appropriate advertisement of goods and services, enhancing pedestrian and bicyclist connectivity, and increasing public awareness of the Westshore District as a significant economic activity area with high concentrations of retail, business, and residential and mixed-use density. The standards simultaneously aim to protect and preserve the existing lower-density residential development in the District from encroachment and adverse impacts and identify several pedestrian priority streets that include guidance on sidewalk widths, setbacks, building heights, and other design criteria. Identified priority streets include Westshore Boulevard, Lois Avenue, Spruce Street, Himes Avenue, Kennedy Boulevard, Dale Mabry Highway, and Hillsborough Avenue.
Figure 4: Community Redevelopment Areas
Figure 5: West Tampa Historic District
Figure 6: Overlay Districts
Roadway Classification

Roadways are grouped into functional classes according to the character of the service they provide or are intended to provide. The following are the major roadways in the study area grouped by their current functional classification:

- **Arterial** – Dale Mabry Highway, MacDill Avenue, Howard Avenue, Armenia Avenue, Lois Avenue, Columbus Drive, N Boulevard

- **Collector** – Habana Avenue (I275 to Columbus Drive), Himes Avenue, Cass Street, Cypress Street (Lois Avenue to MacDill Avenue), Willow Avenue

- **Neighborhood Collector** – Cypress Street (MacDill Avenue to N Boulevard), Main Street, Spruce Street (MacDill Avenue to Lois Avenue)

Intersection Control

In 2015, Florida ranked as the #1 state in the country for intersection-related traffic facilities; 30% of all traffic fatalities in Florida occur as a result of intersection-related crashes. A great opportunity for improving the safety of the transportation network in the study area lies in improving or addressing operational and safety issues at at-grade intersections. As part of the existing conditions analysis, all signalized and four-way stop intersections within the study area were identified and mapped and are shown in Figure 7.

Pedestrian Facilities

Sidewalks and other facilities such as curb ramps are essential components of creating a safe, accessible, and well-connected pedestrian network. A significant portion of the roadways within and immediately surrounding the study area have a sidewalk on one or both sides of the roadway, and the major roadways typically have a sidewalk and ADA accessible curb ramps on both sides of the roadway and at intersections. Figure 8 shows existing sidewalks along with current sidewalk gaps in the study area, and Figure 9 shows sidewalk gaps along the classified/major roadway network. Consideration to prioritizing sidewalks along these streets should be given. It is important to note that current projects are addressing sidewalks and the pedestrian network along Himes Avenue, Cass Street, Lois Avenue, Willow Avenue, and North Boulevard.

Bicycle Facilities

Bicycle facilities including trails/shared-use paths, bicycle lanes, and shared-lane markings provide bicyclists with opportunities to travel on various facilities based on their levels of comfort and experience. Figure 10 shows the various existing bicycle facilities within the greater West Tampa area.

Several planned bicycle facilities are within and adjacent to the study area. Figure 11 shows these planned improvements along with the existing facilities. A few of the more prominent bicycle improvements include the expansion of the Green Spine, a protected two-way cycle track along Cass Street from the Cass Street Bridge to Howard Avenue; buffered bike lanes along both Howard Avenue and Armenia Avenue between Kennedy Boulevard and Columbus Drive; new bike lanes along Himes Avenue and along Lois Avenue between Kennedy Boulevard and Boy Scout Boulevard; and a potential trail bridge along the south side of I-275 at Dale Mabry Highway.
Figure 7: Existing Intersection Controls
Figure 8: Existing Sidewalks and Gaps
Figure 9: Sidewalk Gaps on Classified Network
Figure 10: Existing Bicycle Infrastructure
Figure 11: Planned and Existing Bicycle Infrastructure
Crash History

To help inform and prioritize safety improvements, a five-year (2013–2017) crash history, obtained from the FDOT District 7 Crash Data Management System, was reviewed. Figure 12 shows the location and concentration of total crashes that occurred within the study area; crashes were grouped into clusters based on proximity to each other to better show where the crashes occurred and the concentration of crashes within the study area. Based on review, it was determined that most crashes were concentrated along the study area’s major roadways, with the highest crash clusters near the following intersections:

- Dale Mabry Highway at Columbus Drive
- Cypress Street at Dale Mabry Highway
- Cypress Street at Lois Avenue
- Armenia Avenue off-ramp from I-275
- Himes Avenue at Columbus Drive

Given that a major focus of this planning effort is to improve pedestrian and bicycle safety, understanding where pedestrian and bicycle crashes are occurring is an essential component of identifying potential safety enhancements. Figure 13 shows clusters of pedestrian and bicycle crashes within and adjacent to the study area. Similar to total crashes, most of the pedestrian and bicycle crashes are concentrated along the major roadways, with the following locations having the highest concentration of pedestrian and bicycle crashes:

- Dale Mabry Highway at Gray Street
- Dale Mabry Highway at Spruce Street
- Dale Mabry Highway at Kennedy Boulevard
- Rome Avenue at Main Street

Transit Routes and Ridership

To help inform the design of the pedestrian and bicycle network, existing transit routes, stops, and stop ridership were evaluated. Figure 14 shows the existing fixed-route transit network within the study area, and Table 1 lists the existing transit routes with their existing service frequencies and operating times. Figure 15 shows stop-level transit ridership (boardings + alightings) for the stops within the study area.

The majority of routes within the study area operate on 30-minute headways during weekdays and 60-minute headways on weekends. Existing bus routes provide connections to the St. Petersburg Gateway area, Tampa International Airport, Downtown Tampa, Yukon Transfer Center, and other essential destinations in the county. In addition to the fixed-route services provided by Hillsborough Area Regional Transit (HART), there is a FLEX Route within the study area that provides door-to-door or door-to-transit service for all within the FLEX zone.

The highest ridership fixed-route bus stops within the study area are:

- Himes Avenue at Columbus Drive
- Dale Mabry Highway at Spruce Street
Figure 13: Bicycle and Pedestrian Crash Clusters and Counts
Figure 15: Average Daily Bus Stop Activity
### Table 1: Existing Transit Routes Service in West Tampa

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<td>30 min</td>
<td>5:00 a.m. – 11:00 p.m.</td>
<td>60 min</td>
</tr>
<tr>
<td>14</td>
<td>Armenia/Howard Avenue</td>
<td>30 min</td>
<td>5:00 a.m. – 11:00 p.m.</td>
<td>30 min</td>
</tr>
<tr>
<td>15</td>
<td>Columbus Drive</td>
<td>30 min</td>
<td>5:00 a.m. – 11:00 p.m.</td>
<td>60 min</td>
</tr>
<tr>
<td>30</td>
<td>Kennedy Boulevard</td>
<td>30 min</td>
<td>4:30 a.m. – 12:30 a.m.</td>
<td>30 min</td>
</tr>
<tr>
<td>32</td>
<td>Dr. MLK Jr. Boulevard</td>
<td>30 min</td>
<td>5:00 a.m. – 12:45 a.m.</td>
<td>60 min</td>
</tr>
<tr>
<td>36</td>
<td>Dale Mabry Hwy / Himes Avenue</td>
<td>30 min</td>
<td>5:00 a.m. – 11:00 p.m.</td>
<td>60 min</td>
</tr>
<tr>
<td>45</td>
<td>Yukon / Westshore</td>
<td>30 min</td>
<td>5:00 a.m. – 11:00 p.m.</td>
<td>60 min</td>
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<tr>
<td>60LX</td>
<td>Cross County Limited Express</td>
<td>60 min</td>
<td>5:30 a.m. – 10:20 p.m.</td>
<td>60 min</td>
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</table>

### Planned Capital Improvements

#### Himes Avenue Improvements

Himes Avenue between Kennedy Boulevard and Columbus Drive is currently a four-lane roadway with a center two-way left-turn lane and no existing bicycle facilities. The City of Tampa currently has planned improvements for Himes Avenue that will include the installation of raised median islands and dedicated left-turn lanes and as well as the narrowing of the existing travel lanes to create space for a bike lane on both sides of Himes Avenue. Additionally, a new mid-block crossing is planned along Himes Avenue between Carmen Street and Cass Street.

*Himes Avenue, Showing Bike Lanes, Median, and Midblock Crossing North of Beach Street*
Lois Avenue Improvements

Lois Avenue is currently being evaluated for a complete street redesign between Kennedy Boulevard and Boy Scout Boulevard. A concept study has identified bicycle and pedestrian connectivity issues and established new lane configuration that includes 4’ bike lanes on both sides of the roadway.

Willow Avenue Improvements

Willow Avenue is currently receiving shared-lane markings from Kennedy Boulevard to Main Street and improvements to address sidewalk and ADA issues along both sides of the street between Cass Street and I-275. Additional signage and pavement markings are also proposed as part of the overall improvements along Willow Avenue.

Howard-Armenia Avenue Improvements

Although within the City of Tampa, Howard Avenue and Armenia Avenue are owned and maintained by Hillsborough County, which is currently developing plans to resurface both in the near future. A recently-completed resurfacing project along these streets north of Columbus Drive included the addition of buffered bicycle lanes. This report will examines enhancements that could potentially be incorporated into the upcoming resurfacing project.
Rome Avenue Improvements

Identified in Phase I of the City of Tampa Walk–Bike Plan are improvements to Rome Avenue that address sidewalk gaps and the addition of bicycle lanes. The City’s current capital improvement program lists construction for these improvements some time in fiscal year 2020.

West Cypress Street Improvements

West Cypress Street is functionally classified as a Collector Road from Dale Mabry Highway to MacDill Avenue and a Neighborhood Collector Road from MacDill Avenue to N Boulevard. Improvements to the roadway are currently divided into two phases that are being constructed independently and are intended to improve mobility and accessibility between the Westshore District and Downtown Tampa in accordance with Walk–Bike Plan Phase I.

Phase I of the W Cypress Street improvements from N Dale Mabry Highway to N Himes Avenue include:
- Widening the existing three-lane roadway to a four-lane roadway with a centered left-turn lane from Dale Mabry Highway to Himes Avenue
- Reconstructing the signalization infrastructure at Himes Avenue
- Providing a continuous sidewalk on both sides of the roadway
- Providing shared-lane markings

Phase II of W Cypress Street improvements from N Himes Avenue to N Boulevard include:
- Providing shared-lane markings
- Providing sidewalk connectivity on the north side of Cypress Street from Himes Avenue to MacDill Avenue
- ADA upgrades including curb ramps
**West Spruce Street Improvements**

West Spruce Street is functionally classified as a Neighborhood Collector Road and consists of two lanes with a center two-way left-turn lane from Lois Avenue to Dale Mabry Highway and a two-lane, two-way roadway from Dale Mabry Highway to N Boulevard. Proposed improvements to W Spruce Street include roadway resurfacing and targeted improvements to operation and safety issues and to alleviate congestion.

Preliminary engineering is underway to identify operation improvements to traffic flow and congestion at the Dale Mabry Highway intersection. Additionally, the project is looking at a potential midblock crossing and the possibility of a multi-use path between Hesperides Street and Manhattan Avenue.

![Image: West Spruce Street](source: City of Tampa)

**East-West Green Spine/Cass Street**

The East-West Green Spine is an urban trail/cycle track project that, when complete, will provide pedestrian and bicycle connections between North Hyde Park, Downtown, and Ybor City. The first phase of the Green Spine, between the Cass Street Bridge and Nebraska Avenue, was completed as part of the two-way conversion project along Cass Street and Tyler Street. The second phase of the Green Spine is expected to follow Cass Street and connect the North Hyde Park neighborhood from Howard Avenue into Downtown with a separated two-way cycle track. The current capital improvement program has identified just under $1 million in construction funds for the extension of the Green Spine.

![Image: Proposed Green Spine Concept between Howard Avenue and Willow Avenue](source: City of Tampa)

**Julian B. Lane Park**

Julian B. Lane Park, on the eastern border of the study area, recently opened after a $35 million renovation that provided a variety of new services, amenities, and recreation opportunities for the West Tampa area. The park is envisioned to become a major activity center and attraction, not only for the West Tampa community but for the entire city of Tampa.

![Image: Renovated Julian B. Lane Park](source: City of Tampa)
Enhancing Safety and Mobility in West Tampa

This section explores potential safety and mobility enhancements and is arranged in the following sections:

- **Best Practice Enhancements** – This section reviews a variety of general transportation best practices that should be considered throughout the study area, whether specifically mentioned or not. In many instances, the Best Practice Enhancements noted herein may already have been established and are in place in many locations throughout the study area.

- **Site-Specific Enhancements** – This section explores opportunities to enhance safety and mobility at specific locations/corridors throughout the study area. Although the concepts from these enhancements could be applied elsewhere, they were developed specifically for the identified locations.

### Best Practice Enhancements for Safety and Mobility

The “Livable City” vision for Tampa promotes a safe, accessible, and effective network of bicycle and pedestrian pathways across Tampa that connect people and neighborhoods to key destinations and also allow for local circulation. With the wave of growth and redevelopment in the West Tampa area, and given recent plans from the variety of transportation agencies in the Tampa Bay region, a thorough multimodal plan for the West Tampa area is needed to fulfill the “Livable City” vision. Although existing plans create a relatively effective network of trails, pathways, and sidewalks that connect the West Tampa area to key destinations such as Downtown Tampa, Westshore, and the USF area, major network gaps exist within the study area that impede the full effective use of transportation facilities. Existing plans have focused primarily on and created networks that connect the primary activity centers of Tampa, but have not been as focused on intra-neighborhood networks.

A variety of transportation best practices have been established and are available for moving the West Tampa area towards the “Livable City” vision and connecting and enhancing the planned bicycle and pedestrian networks. This list of Best Practice Enhancements is by no means exhaustive, but it provides a range of enhancements that may or may not be appropriate based on an area’s context, goals, and financial feasibility. Additionally, the identified Best Practice Enhancements typically go beyond providing improvements to the transportation realm and often create synergies that help beautify areas, bolster economic development, and improve community cohesiveness and sense of place.

### Complete Sidewalks

Sidewalks are an essential component of a transportation network and act as a conduit for pedestrian movement, access, and connectivity. Sidewalks are the ultimate public space, serving as facilitators of economic activity, social interaction, and community cohesion. As streets become bigger with higher-speed traffic and higher traffic volumes, sidewalks become a necessary component of the transportation system. Providing sidewalks along both sides of all major roadways should be a priority, followed by completed connections along local streets by filling sidewalk gaps and missing links.
Speed Management

Speed plays a critical role in the cause and severity of crashes, and there is a direct correlation among higher speeds, crash risk, and injury severity. Speed is also a factor in determining livability and overall comfort for all travel modes along a street. Managing travel speeds can help make streets feel like a part of the city rather than highways running through it.

Although speed reduction cannot be achieved simply by reducing the posted speed limit, a variety of speed management strategies can be employed to bring speeds to a more “livable” level. There are two approaches to managing speed—change the physical design of the street and/or change people’s perceptions and responses to the street.

Changing a street’s design changes people’s behavior. Street design traditionally has been based on highway design principles that accommodate higher speeds and are forgiving of driver error. Designing for higher speeds often means including mandated design features such as larger curb radii, wider travel lanes, and clear zones, features that have many positive benefits on highways intended to move a large number of fast-moving vehicles, but in complex urban environments with multiple users traveling at various speeds often create a less-than-favorable environment, especially for non-motorized users.

The conventional highway design practice for establishing posted speed limit involves establishing a roadway design speed based on existing observed (85th percentile) speeds on a roadway. The design speed is then used to determine the various design features of the roadway. An alternative approach to establishing posted speed is to set the design speed and design features based on a target speed—the speed intended for drivers to travel—rather than the observed operating speeds. Target speed should be determined based on the context of the street and consistent with the existing/desired level of multimodal activity to provide mobility for motor vehicle and a safe environment for non-motorized users.

Using target speed to establish a roadway’s design speed can result in greater flexibility in implementing speed management strategies. Popular design strategies used to manage traffic speeds, change driver behavior, and improve the quality of the non-motorized environment include narrower lane widths, roadside landscaping, and extended curbs. Exploring strategies to manage speeds and create a safer and more livable environment throughout West Tampa should be supported and implemented where feasible.

Lighting

Street lighting is a critical component of street safety and should be designed to provide adequate illumination for all roadway users. Many factors affect street lighting and its effectiveness in improving safety, including the location and space of lights; orientation, intensity (brightness), and color; ambient light; type of light (e.g., LED or high-pressure sodium), and others. Generally, street lighting can be divided into two categories—intersection lighting and roadway lighting or lighting along the street. For intersection lighting, considerations to the placement of overhead lights in relation to the intersection and crosswalk should be considered; ideally, intersection lighting should be placed in advance of a crosswalk to positively illuminate pedestrians within the crosswalk (Figure 16).
Another form of lighting along the street is pedestrian-level lighting, which can enhance the overall environment and sense of place along a street while also improving pedestrian visibility to motorists. Pedestrian lighting differs from traditional street lighting in that it is often placed lower in height and is designed to light the primary walkway as opposed to the street itself.

**Intersection Enhancements**

As intersections are among the most dangerous places for road users, a variety of best practices have been developed to improve the safety and mobility of users. Possible intersection enhancements include the following.

**Improved Crosswalk Markings** – Crosswalks are a vital component of the pedestrian network and provide a designated crossing area for pedestrians, alerting drivers of the likelihood of pedestrians. Providing high-emphasis markings (Figure 17) helps discourage drivers from encroaching on the crosswalk area and may help pedestrians assert their right-of-way. Marked crosswalks should be provided at all signalized intersections and considered along major streets at cross-street and major driveway intersections.

**Reduced Turning Radii** – The radii of curbs and corners at intersections directly impact vehicle turning speeds and crossing distance for pedestrians. Smaller curb radii require vehicles to slow down more to complete a turning movement and are a key to creating compact urban intersections with safe turning speeds and short, safe pedestrian crossings. Figure 18 shows a reconstructed intersection corner with a reduced curb radius.
**Figure 18: Retrofitted Curb Cut with Smaller Turning Radius**

**Bulb-outs** – Bulb-out (curb extensions or bump-outs) are extensions of the sidewalk into the roadway or parking lane at either intersections or mid-block locations. They provide additional space for pedestrians at intersections and increase pedestrian safety through improved visibility and shorter crossing distances. They also can be used to help reduce turning radii and slow down turning movement speeds. Figure 19 is an example of how bulb-outs can be used to reduce crossing distances and provide opportunities for an enhanced streetscape.

**Roundabouts** – Modern urban roundabouts and mini-roundabouts are near-circular intersections designed to reduce speeds, conflict points and provide for a more stable, smooth flow of traffic at intersections. Roundabouts may vary in size and design but follow the same general design principles and have similar applications. They are intended to make intersections safer through reduced speeds and reduced conflict points.

**Neighborhood Traffic Circles** – Similar to roundabouts, neighborhood traffic circles (Figure 20) are raised circular medians constructed most often in the center of intersections along primarily residential streets. Vehicles approaching the circle must change their path of travel to maneuver around it, and they often are used in conjunction with an all-yield intersection. Although not as effective as roundabouts at managing travel speeds, neighborhood traffic circles can reduce travel speeds when used in series along a corridor, can promote a more consistent rate of travel, and provide an opportunity for increased aesthetics and landscaping.
Mid-Block Crossings

Pedestrian crossings, particularly at or over busy roadways, are essential for creating a safe and uninterrupted pedestrian network. Although pedestrian crossing improvements typically focus on crossings at intersections, trail and mid-block crossings are also a needed component of pedestrian networks and often can be overlooked. Pedestrians are not always likely to cross at marked intersections, particularly where the markings are inconvenient or unsafe. Several pedestrian or trail crossings are proposed or needed within the study area.

Access to Transit

The so-called “first mile–last mile” dilemma is a well-documented challenge for transit riders or those who wish to use transit. As a result, connecting the pedestrian and bicycle network to transit stop locations is an essential consideration for network design. Given that transit stops are traditionally located on busy high-traffic roadways, creating safe and accessible bicycle and pedestrian connections to stops can be a challenge. Best practices for creating improved access to transit for all users focus on complete street enhancements to auto-centric roadways and creating parallel alternative routes for other users where complete streets enhancements may not be practical.

Drainage

Streets and other impervious surfaces are a significant contributor to stormwater in urbanized areas, creating standing pools of water and flooding. Recognizing this dilemma, modern complete streets improvements are integrating stormwater management and green infrastructure practices such as rain gardens (Figure 21) and bioswales into roadway design. Integrating stormwater management into street design allows for stormwater to be controlled at the source, provides an opportunity for improved aesthetics, may provide traffic calming benefits, and increases resiliency to climate change.

Site-Specific Enhancements

The following section identifies potential improvements and recommendations for enhancing safety and mobility in West Tampa, with the aim of creating effective intra-neighborhood networks and significant safety enhancements. Through the variety of best practice treatments and practices discussed in the previous section, recommendations can significantly improve mobility for residents, beautify the neighborhood, bolster economic development, and reinforce the urban and social fabric of the area.
Complete Streets Opportunities

Complete streets is a modern term for roadways designed and built to enable safe access for all users, including pedestrians, bicycles, motorists, and public transportation. Complete streets are accessible and promote safety and mobility for users of all ages and all abilities. Additionally, complete streets can be used to encourage economic development and activity, promote social cohesion, and make for an improved urban environment. Three corridors within the West Tampa study area were identified for potential complete street enhancements:

- Main Street from MacDill Avenue to N Boulevard
- Columbus Drive from Dale Mabry Highway to the Hillsborough River
- Howard Avenue and Armenia Avenue from Columbus Drive to south of Gray Street

Main Street

Main Street, once the heart of thriving West Tampa, is now the heart of social and economic development in the West Tampa neighborhood. The street and adjacent roadways are surrounded by a variety of historical structures and developing small businesses. Salcines Park fronts Main Street at Howard Avenue and serves as the center of the neighborhood. The western end of Main Street leads into Macfarlane Park, a major recreational area and greenspace for residents, and the eastern end connects into the West River redevelopment, which is planned as a new model for urban living. The historical and current significance of Main Street, the uses fronting the roadway, and a significant amount of existing pedestrian traffic provide additional opportunities for complete streets enhancements to reinforce Main Street’s historic significance as the center of business and social life in West Tampa.

Main Street is a two-way two-lane undivided street with on-street parking on both sides throughout most of the corridor. The posted speed limit along Main Street is 25 mph. For most of its length, there is approximately 60 feet of right-of-way, comprising 40 feet of pavement and 5-foot sidewalks separated from the street by a 5-foot landscape buffer. Figure 22 is a representation of the typical section along the majority of Main Street.

Current pavement conditions along Main Street indicate that it has not been resurfaced in some time, as evidenced by cracked pavement, faded paint, and potholes. For the most part, the sidewalks along Main Street are in good condition and adequate for the existing levels of pedestrian activity, but there are locations where the sidewalks are severely cracked and in need of repair. There are existing street lights along the corridor, and it appears that many of the lights at intersections have been recently upgraded to brighter and more energy efficient LED lights.

In general, the identified complete streets enhancements for Main Street involve better delineating the on-street parking areas, which will have a narrowing effect on the travel lanes, improving the visibility of pedestrians at intersections through enhanced crosswalk markings and bulb-outs, installing neighborhood traffic circles at select intersections, and providing shared lane markings along the corridor. Due to the planned West River redevelopment, most of the identified enhancements are focused on the part of Main Street between MacDill Avenue and Rome Avenue, but there are some
identified enhancements for Main Street that could be consider between Rome Avenue and N Boulevard.

The following is a detailed description of identified enhancements for Main Street.

Main Street, MacDill Avenue to Armenia Avenue – This portion of Main Street is primarily fronted by single family homes and begins to transition to commercial frontage near the Armenia Avenue intersection. While on-street parking is permitted through this section the lack of on-street parking delineation creates the appearance of an extremely wide travel lane. There are no stops along Main Street between MacDill Avenue and Armenia Avenue, this in combination with wide travel lanes results in travel speeds that often exceed the posted 25 MPH through this segment. Some of the enhancements for this segment of Main Street include delineating the on-street parking areas and providing shared lane markings. These improvements will help to better define the roadway surface and create a narrower feeling street that is more conducive to non-motorized users (see Figure 23).
Potential enhancements along this segment of Main Street include the following:

- As a considerable amount of westbound to southbound turning movements were observed during field visits, consider conducting a turning movement count at this locations to determine if a westbound left-turn lane on Main Street would be warranted. Additionally, based on the turning movement count, consider determining if a traffic signal would be warranted at this location.
- The north side of Main Street east of MacDill Avenue is used by Macfarlane Park IB Elementary School as a student pick-up/drop-off area. Consider providing pavement markings/striping in front of the school to help designate this area as a drop-off/pick-up area and consider including signage stating that there is no parking during the designated drop-off and pick-up times.
- The sidewalk along the north side of Main Street between MacDill Avenue and Gomez Avenue is severely cracked in multiple locations and poses a potential trip hazard, especially given the proximity to Macfarlane Park and Macfarlane Elementary. Consider repairing/replacing the broken sidewalk sections.
- Evaluate the intersections of Habana Avenue and Tampania Avenue for neighborhood traffic circles and conversion from two-way stop control to an all-yield intersection. Also consider providing marked crosswalks on all legs of these intersections. As an alternative to the neighborhood traffic circles, consider installing bulb-outs at the intersections.

**Main Street at Armenia Avenue** – This intersection begins the transition to the more commercial segments of Main Street, and the identified enhancements help align the travel lanes to the proposed enhancements for the next block of Main Street between Armenia Avenue and Howard Avenue. Potential enhancements that could be considered for this intersection include the following:

- Consider enhancing the existing crosswalk markings to include high-visibility ladder-style markings; alternatively, consider utilizing a decorative crosswalk with the ladder style markings integrated into the crosswalk (Figure 24).
- Evaluate constructing a raised (landscaped) median along Main Street west of Armenia Avenue extending from the intersection to approximately 225 feet west of the intersection.
- On the east side of the intersection, evaluate constructing a raised median between the westbound left-turn lane and the eastbound travel lane and extending the median approximately 225 feet east of the intersection past the left-turn lane.

![Figure 24: Enhanced Decorative Crosswalk Markings](image)
Main Street, Armenia Avenue to Howard Avenue – The block of Main Street between Armenia Avenue and Howard Avenue begins the transition from single-family residential to commercial. This segment also is signed for no on-street parking, partly due to the existing left-turn lanes at both Armenia Avenue and Howard Avenue.

Potential enhancements along this segment of Main Street include the following:

- Consider providing a raised landscaped median along Main Street between the left-turn lanes to help physically narrow the street and provide opportunities for enhancements to the streetscape and a potential gateway feature to the Main Street commercial district. Figure 25 is an illustrative concept of the proposed typical section between Armenia Avenue and Howard Avenue.

Main Street, Howard Avenue to Albany Avenue – The segment of Main Street between Howard Avenue and Albany Avenue is fronted by commercial properties and is the civic and commercial center for the corridor. The segment is anchored by parks on both ends, has 10-foot sidewalks, active storefronts, and on-street parking. Opportunities to highlight this segment as the commercial center of West Tampa should be explored and could include the addition of pedestrian-scale pedestal lighting and mid-block curb extensions that could be used to improve the streetscape and provide variety to the pedestrian environment. Figure 26 shows how shared-lane markings, marked on-street parking, and curb extensions could be used to transform the street without the need for major reconstruction.

Potential enhancements for this segment of Main Street include the following:

- At Howard Avenue, consider constructing bulb-outs in the northwest and northeast quadrants. In the northeast quadrant, consider continuing the curb extension along the north side of Main Street (adjacent to Salcines Park) to Ysolino Street. Also, consider enhancing the crosswalk markings at the intersection to include high-visibility ladder-style markings; alternatively, consider providing decorative crosswalks integrated with the ladder style markings.
West Tampa Multimodal Plan

Figure 26: Proposed Typical Section for Main Street from Howard Avenue to Albany Avenue

- There are existing alleyways behind the commercial properties north and south of Main Street; consider better using the alleyways to circulate traffic and for parking access within this segment. Encouraging parking access from the alleys could provide additional opportunity to improve the pedestrian realm along Main Street.
- At Albany Avenue, consider extending the curb along the north side of Main Street from the northwest corner at Albany Avenue to the existing driveway located west of the park. Additionally, consider constructing a bulb-out in the southwest quadrant and along Main Street in the northeast and southeast quadrants.
- Consider enhancing the existing crosswalk markings to high visibility ladder style markings at Albany Avenue.

Main Street, Albany Avenue to Rome Avenue – This segment of Main Street begins the transition back to primarily residential from the commercial frontage in the previous blocks. As with the portions on the western end of the corridor, most of the enhancements through this segment are focused on better defining the roadway surface through the delineation of on-street parking and the inclusion of shared-lane markings. Other enhancements for this segment of Main Street could include the following:

- Consider providing crosswalk markings across the side street intersection at Fremont Avenue and extending the curb along Main Street to define the on-street parking areas and improve the visibility of pedestrians at this intersection.
- Consider providing enhanced intersection lighting at Rome Avenue; there currently is one overhead LED light in the northwest corner of the intersection. Evaluate the existing intersection and crosswalk lighting levels and enhance if necessary.
- The existing crosswalk markings at Rome Avenue are faded and in need of rehabilitation. Consider enhancing the crosswalk markings to high-visibility ladder-style markings. In addition to rehabilitating and enhancing the crosswalk markings, evaluate the existing pedestrian curb ramps to ensure that they meet ADA requirements and provide ADA detectable truncated dome pads within the curb ramps.
Consider constructing bulb-outs along Rome Avenue in the northeast and southwest intersection quadrants. Additionally, consider evaluating the current need for northbound and southbound right-turn lanes on Rome Avenue; if turn lanes are not needed, consider constructing bulb-outs within these intersection quadrants.

Main Street at Rome Avenue

Main Street, Rome Avenue to N Boulevard – The West River Redevelopment Plan includes the portions of Main Street between Rome Avenue and N Boulevard. The West River Plan recognizes the historical and future importance of Main Street to the West Tampa area and has identified Main Street for land use, streetscape, and infrastructure enhancements that will promote pedestrian activity and incorporate complete street principles. Continue coordination with the West River Planning efforts and support for continued complete street enhancements along this segment of Main Street.

Columbus Drive provides east-west connections through West Tampa to the Westshore area on the western end of the corridor and to Tampa Heights, V.M. Ybor, and East Tampa beyond the Hillsborough River. The travel demand and character of Columbus Drive changes throughout the study area. Table 2 provides typical roadway information for the various segments of the corridor, and Table 3 shows recently collected annual average daily traffic (AADT) counts.

### Table 2: Columbus Drive Typical Sections

<table>
<thead>
<tr>
<th>From – To</th>
<th>Lanes</th>
<th>Posted Speed (mph)</th>
<th>Est. ROW Width (ft)</th>
</tr>
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<tbody>
<tr>
<td>Lois Ave to Grady Ave</td>
<td>8D</td>
<td>50</td>
<td>210’</td>
</tr>
<tr>
<td>Grady Ave to Dale Mabry Hwy</td>
<td>6D</td>
<td>45</td>
<td>180’</td>
</tr>
<tr>
<td>Dale Mabry Hwy to Himes Ave</td>
<td>6D</td>
<td>45</td>
<td>130’</td>
</tr>
<tr>
<td>Himes Ave to E of Lincoln Ave</td>
<td>4D</td>
<td>40</td>
<td>80’</td>
</tr>
<tr>
<td>E of Lincoln Ave to N Boulevard</td>
<td>4U</td>
<td>40</td>
<td>50’ – 60’</td>
</tr>
</tbody>
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### Table 3: Columbus Drive AADT

<table>
<thead>
<tr>
<th>Columbus Drive from/to</th>
<th>AADT (Year)</th>
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</thead>
<tbody>
<tr>
<td>Lois Ave to Dale Mabry Hwy</td>
<td>48,000 (2015)</td>
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<tr>
<td>Dale Mabry Hwy to Himes Ave</td>
<td>25,500 (2015)</td>
</tr>
<tr>
<td>Himes Ave to MacDill Ave</td>
<td>26,052 (2015)</td>
</tr>
<tr>
<td>Habana Ave to Armenia Ave</td>
<td>21,500 (2015)</td>
</tr>
<tr>
<td>Rome Ave to N Boulevard</td>
<td>17,703 (2015)</td>
</tr>
</tbody>
</table>

Recently, some segments of Columbus Drive east of the study area were studied for complete street improvements. Considering complete street enhancements along Columbus Drive west of N Boulevard would improve safety and mobility throughout the West Tampa area. The following is a detailed description of the identified enhancements for Columbus Drive; in addition to the identified enhancements, consideration should be given to enhancing lighting along the corridor where necessary and to providing marked
crosswalks at side streets and major driveway intersections along the corridor.

**Columbus Drive, Lois Avenue to Grady Avenue** – Consistent with previous Walk–Bike Plans, bicyclists in this high-speed, high-volume segment should be provided as an alternative to traveling in the on-street bike lanes. This is especially important because the on-street bike lanes are fragmented by right-turn drop lanes at either side of Jim Walter Boulevard, creating a challenging condition for bicyclists.

Potential enhancements to this segment of Columbus Drive include the following:

- Consider widening or reconstruction of existing 6’ sidewalks to 8’ minimum or preferred 12’ shared-use paths.
- Consider improvements to sidewalk geometry at signalized and unsignalized intersections to better align pedestrian paths with intersection crosswalks and reduce out-of-direction travel.
- Consider providing pedestrian-scale lighting at roadway crossings to better enhance the safety of sidewalk/pathway users.

**Columbus Drive, Grady Avenue to Dale Mabry Highway** – This high-speed, high-volume segment does not have an existing eastbound bicycle lane.

Potential improvements to this segment include the following:

- Consider widening or reconstruction of existing 6’ sidewalks to either minimum 8’ sidewalk or preferred 12’ shared-use path. From aerial and parcel map review, it appears that there may not be enough right-of-way to provide a continuous 12’ path along the south side of Columbus Drive, but that there may be adequate room for a 10’ pathway without adversely impacting the properties along Columbus Drive.

  - Consider improving sidewalk geometry to better align the pedestrian path with intersection crosswalks.
  - Consider providing pedestrian-scale lighting at roadway crossings to enhance the safety of sidewalk/pathway users.

**Columbus Drive at Dale Mabry Highway** – This is a very large, high-volume intersection with geometric and operation conditions that do not favor non-motorized users.

Potential improvements for the safety and mobility for non-motorized users include the following:

- Consider reducing the curb radius in the southwest corner of the intersection to allow larger vehicles to turn into the center of inside travel lanes of southbound Dale Mabry Highway, and realign the crosswalk accordingly.
- The channelized westbound and southbound right-turn movements operate under free-flow conditions, which can diminish driver yield rates to pedestrians and result in higher-speeds and more severe crashes. Free-flow right turns may also contribute to rear-end crashes when the leading driver slows, not realizing the free-flow condition exists. To address this issue and improve safety at the northbound (non-free-flow) right-turn channel, consider the following:
  - Perform an intersection operational analysis to determine whether the free-flow condition is
necessary to maintain acceptable level of service at the intersection. If not, consider converting the free-flow lanes into conventional right-turn lanes without receiving lanes.
  
  o Consider providing raised crosswalks between the curb and right-turn islands to reduce right-turning traffic speeds.
  
  o Provide R10-15 (“Turning Traffic Yield to Pedestrians”) signage.
  
  o Consider providing push-button activated Rectangular Rapid Flashing Beacons (RRFBs) to facilitate right-turn lane crossings between the curb and the channelized islands.
  
• Evaluate existing intersection and crosswalk lighting conditions and enhance as necessary; see Florida Design Manual Chapter 231 for guidance.

**Columbus Drive, Dale Mabry Highway to Himes Avenue** – This segment has a 10’ sidewalk along most of the south (eastbound) side of the roadway, and a sidewalk currently is being constructed along the north side of the roadway adjacent to the New York Yankees training facility.

Potential improvements to this segment include the following:
  
• Consider monitoring development and identifying opportunities to complete the 10’ wide sidewalk along the south side of Columbus Drive.

**Columbus Drive, Himes Avenue to East of Lincoln Avenue** – This segment has approximately 60’ of pavement with two travel lanes in each direction and a center two-way left-turn lane with intermittent landscaped medians.

  • The City of Tampa is in the process of enhancing Himes Avenue; enhancements to Columbus Drive include:
    
    o Replacing the existing painted median between Himes Avenue and Glen Avenue with a raised median.
    
    o Extending the existing raised median between Glen Avenue and Lincoln Avenue into the existing painted median areas east and west of the median.

Potential enhancements to this segment include the following:

  • Consider evaluating the need for a mid-block crossing at Glen Avenue by conducting a pedestrian count near this intersection.

  • At Lincoln Avenue, consider the following:
    
    o Enhance the existing crosswalks to high-visibility ladder-style markings.
    
    o There are LED overhead lights in the northeast and southwest quadrants of the intersection; lighting may be sufficient, but consider evaluating existing lighting levels and enhance if necessary.
    
    o Evaluate the existing pedestrian curb ramps to ensure that they meet ADA requirements and install ADA detectable truncated dome pads within the curb ramps.
    
    o The left turns from Columbus Drive onto Lincoln Avenue are permissive controlled movements. Consider conducting an operational analysis to
determine the feasibility of implementing a protected-permissive left-turn signal phase. Additionally, evaluate the existing span-wire signal structure to determine if it would support additional four-section flashing yellow arrow traffic signal assemblies.

- Consider extending the existing raised median into the painted median areas, similar to the planned improvements between Glen Avenue and Lincoln Avenue.

**Columbus Drive, East of Lincoln Avenue to East of Habana Avenue** – This segment has approximately 48’ of pavement with two travel lanes in each direction and no median. Between Matanzas Avenue and MacDill Avenue, the right-of-way is constrained by the Marti-Colon Cemetery along the south side of Columbus Drive. The sidewalk on the south side is substandard, at approximately 3’ wide and adjacent to an approximate 4’ tall wall. Traffic volumes on this segment exceed 25,000 AADT, making this segment a poor candidate for a conventional road diet.

Potential enhancements along this segment include the following:

- Consider reducing travel lane widths to 10’ and provide a narrow 8’ painted/textured median buffer with intermittent 6’ wide landscaped median islands to help calm traffic.
- Consider widening the existing 5’ sidewalks into the adjacent grass utility strip to provide a minimum 8’ pathway that could be shared by pedestrians and bicyclists.
- Between St. Vincent Street and MacDill Avenue, there appears to be adequate pavement width; consider reducing the travel lanes to 10’ and extend the curb along the south side to accommodate a wide (8’) sidewalk.
- At MacDill Avenue, consider enhancing the existing crosswalk markings to high-visibility ladder-style markings and evaluating the existing intersection lighting levels and enhance if necessary.
- The existing eastbound and southbound left-turn movements are controlled by a permissive-only phase; consider conducting an operational analysis to determine the feasibility of implementing a protected-permissive left-turn phase for these movements. Both the westbound and northbound left-turns are controlled by a protected-permissive phase. Additionally, evaluate the existing span-wire signal structure to determine if it would support additional four-section flashing yellow arrow traffic signal assemblies; also determine if it would support replacing the existing five-section signal assemblies with four-section assemblies.
- Along MacDill Avenue, south of Columbus Drive, consider providing green skip markings through the northbound bike lane transition to the keyhole across the right-turn lane.
- Along MacDill Avenue north of Columbus Drive, consider extending the curb in the northeast quadrant into the existing painted gore area north of the intersection.
- At Habana Avenue, consider enhancing the existing crosswalk markings, evaluating intersection lighting conditions, and evaluating the existing pedestrian curb ramps to ensure that they meet ADA requirements. Additionally, consider installing ADA detectable truncated dome pads within the curb ramps.
- The left turns from Columbus Drive onto Habana Avenue are permissive controlled movements. Consider conducting
an operational analysis to determine the feasibility of implementing a protected-permissive left-turn signal phase. Additionally, evaluate the existing span-wire signal structure to determine if it would support additional four-section flashing yellow arrow traffic signal assemblies.

Columbus Drive, East of Habana Avenue to West of Rome Avenue – This segment has approximately 40’ of pavement with two travel lanes in each direction and no median. The available right-of-way in this segment reduces to approximately 50’ with 5’ sidewalks located between the curb and right-of-way line.

Potential enhancements for this segment include the following:

- At Armenia Avenue, consider evaluating the existing pedestrian curb ramps to ensure that they meet ADA requirements and consider installing ADA detectable truncated dome pads within the curb ramps.
- At Howard Avenue, consider evaluating the existing pedestrian curb ramps to ensure that they meet ADA requirements and consider installing ADA detectable truncated dome pads within the curb ramps.
- Albany Avenue splits into two two-way streets north of Columbus Drive; one continues straight north through the intersection, and the other continues in a northeast diagonal towards Kathleen Street. Consider either constructing a cul-de-sac to close off access to this portion of Albany Avenue from Columbus Drive or completely eliminate the diagonal segment of Albany Avenue between Columbus Drive and Kathleen Street.

Columbus Drive at Albany Avenue

Columbus Drive at Rome Avenue – The intersection of Columbus Drive and Rome Avenue is emerging as an important access point for the West River area and should be considered for safety, mobility, and operational enhancements. The following is a summary of potential intersection enhancements; Appendix A and Appendix C
contain additional discussion on these potential enhancements. Also, note that the identified improvements for this intersection are based on the assumption of a road diet along the portion of Columbus Drive from Rome Avenue to North Boulevard.

- Signalized intersection alternative – Consider installing a traffic signal at the intersection with the following intersection lane arrangement:
  - Northbound – single through left-turn lane with a single right-turn lane.
  - Southbound – single lane
  - Eastbound – prohibit left turns onto Rome Avenue, single through lane, right-turn drop lane onto Rome Avenue
  - Westbound – single through lane with dedicated left-turn lane

- Roundabout alternative – Consider constructing a compact modern urban roundabout with the following lane arrangement:
  - North leg – single southbound entry lane and single northbound exit lane
  - South leg – single northbound entry lane and single southbound exit lane; may need a southbound merge lane to accommodate right-turning vehicles from Columbus Drive
  - East leg – dual westbound entry lanes and a single eastbound exit lane
  - West leg – single eastbound entry leg with a single right-turn bypass lane onto Rome Avenue, two westbound exit lanes

*Columbus Drive East of Rome Avenue, Looking West*

*Columbus Drive, West of Rome Avenue to North Boulevard* – This segment has approximately 40’ of pavement with two travel lanes in each direction and no median. The available right-of-way through this segment is approximately 50’ with 5’ sidewalks between the curb and right-of-way line.

Potential enhancements for this segment of Columbus Drive are as follows:

- Based on existing AADT, it appears reasonable to consider a road diet along the portion of Columbus Drive between Rome Avenue and North Boulevard.
  - Across the Hillsborough River Bridge is approximately 38’ of pavement; consider a two-lane section with 10’ travel lanes, a 4’ median buffer, and buffered bike lanes (bicyclists currently are...
asked to walk their bikes across the bridge due to the lack of available space; see Figure 27).

- From the river to N Boulevard is approximately 40’ of pavement; consider a two-lane section with 10’ travel lanes, a center turn lane with intermittent landscaped median islands, and 5’ bike lanes on both sides.

From the river to N Boulevard is approximately 40’ of pavement; consider a two-lane section with 10’ travel lanes, a center turn lane with intermittent landscaped median islands, and 5’ bike lanes on both sides.

Figure 27: Columbus Drive Bridge, Looking East

Howard Avenue and Armenia Avenue

Howard Avenue and Armenia Avenue are north-south one-way pairs that connect West Tampa to the neighborhoods to the north and south. Both are planned for resurfacing by Hillsborough County. A previous resurfacing project by the County included the addition of buffered bicycle lanes on the sections of Howard Avenue and Armenia Avenue from north of Columbus Drive to just south of Columbus Drive at St. Louis Street. Although there are no current plans to extend the buffered bicycle lanes south as part of the upcoming resurfacing project, providing complete and continuous bicycle facilities should be a top priority for both Hillsborough County and the City of Tampa. The following is a detailed description of the identified enhancements for Howard Avenue and Armenia Avenue between Gray Street and Columbus Drive.

**Gray Street to Cypress Street**

Howard Avenue – Between Gray Street and Cypress Street, Howard Avenue is a three-lane one-way (northbound) street with some on-street parking along the west side and a posted speed limit of 40 mph. There are left-turn lanes into the Glazer Jewish Community Center parking lot and at Cypress Street. The existing pavement width through this section is approximately 40 feet, and there are 5’ sidewalks along both sides of the street. The AADT on this segment of Howard Avenue was 17,500 in 2015.

Potential enhancements for this segment of Howard Avenue include the following:

- As part of the Gray Street Neighborhood Greenway, consider constructing bulb-outs along the west side of Howard Avenue and providing a marked crossing supplemented by RRFBs.
- Evaluate strategies to reduce the posted speed limit on this segment of Howard Avenue from 40 mph to 35 mph or less. If the posted speed can be lowered to or below 35 mph, consider providing shared lane markings along this segment.
- Consider widening the sidewalk along the east side of Howard Avenue using the existing utility strip. This wide sidewalk could accommodate both pedestrians and
bicyclists, especially if speeds cannot be reduced along Howard Avenue.

**Howard Avenue at Carmen Street (south of Cass Street)**
- Consider conducting an operational analysis to determine if the northbound left-turn lane onto Cypress Street is needed. If not, consider shifting the through travel lanes to the west (between State Street and Cypress Street) and construct a bulb-out in the southeast corner along Howard Avenue.

**Armenia Avenue** – Armenia Avenue between Gray Street and Cypress Street is a two-lane one-way (southbound) street with on-street parking along both sides and a pavement width of approximately 48’. The posted speed limit along this segment is 40 mph. There are no bicycle facilities along this segment, and there are 6’ sidewalks along both sides of the street.

Potential enhancements for this segment of Armenia Avenue include the following:

- Evaluate strategies to reduce the posted speed limit to 35 mph or less.
- Consider providing a buffered bicycle lane; 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with an 8’|7’|12.5’|12.5’|8’ lane configuration.
- Consider constructing bulb-outs at Gray Street and providing a marked crossing with RRFBs to accommodate the proposed Gray Street Neighborhood Greenway.
- Consider constructing bulb-outs along Armenia Avenue at all intersections between Gray Street and Cypress Street to better define the on-street parking lanes and improve pedestrian visibility.
- Consider conducting an operational analysis at the Armenia Avenue and Cypress Street intersection to determine if the southbound left- and right-turn lanes are needed to maintain appropriate intersection level of service. If not, consider repurposing the pavement width to better accommodate pedestrians at the intersection. If justified, consider constructing bulb-outs along Armenia Avenue in the southeast and southwest quadrants.

**Cypress Street to Spruce Street**

**Howard Avenue** – The portion of this segment between Cypress Street and I-275/Green Street is a three-lane one-way street with no on-street parking and a posted speed limit of 40 mph. At Main Street, Howard Avenue becomes a two-lane one-way street with a posted speed limit of 30 mph and on-street parking along both sides.

Potential enhancements for this segment of Howard Avenue include:
- Evaluate strategies to reduce the posted speed limit on the segment of Howard Avenue south of Main Street from 40 mph to 35 mph or less.
- Consider widening the existing sidewalk using the utility strip and FDOT right-of-way to accommodate a minimum 8’ sidewalk for both pedestrians and bicyclists through the interchange.
- On-street parking returns along Howard Avenue north of Green Street, and the posted speed limit is reduced to 30 mph north of Main Street. Consider providing shared-lane markings along Howard Avenue between Main Street and Spruce Street.
- At Main Street, consider the enhancement identified in the Main Street section of this report.
- At Spruce Street, consider the enhancements identified in the MPO’s Spruce Street Pedestrian and Bicycle Improvement Report; consider reconstructing the existing bulb-outs and providing enhanced crosswalk markings supplemented with RRFBs.
- Consider constructing bulb-outs along Howard Avenue at all intersections between Main Street and Spruce Street.
- Consider enhancing the existing crosswalk at Union Street to include high-visibility ladder-style markings.

Armenia Avenue – This segment of Armenia Avenue is similar to the segment to the south, in that it is primarily a two-lane one-way street with approximately 48’ of pavement and a posted speed limit of 40 mph. Between Laurel Street (I-275 Ramp) and Main Street are three travel lanes along Armenia Avenue and no on-street parking.

Potential enhancements for this segment of Armenia Avenue include the following:
- Evaluate strategies to reduce the posted speed limit to 35 mph or less.
- Consider providing a buffered bicycle lane; 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with a 8’|7’|12.5’|12.5’|8’ lane configuration.
- Consider construction bulb-outs along Armenia Avenue at all intersections between Cypress Street and Spruce Street.
- Consider providing marked crossing across south leg of the Armenia Avenue and Laurel Street/I-275 ramp intersection.
- Consider implementing the enhancements identified in the Main Street section of this report.
- At Spruce Street, consider the enhancements identified in the MPO’s Spruce Street Pedestrian and Bicycle Improvement Report; consider reconstructing the existing bulb-outs and providing enhanced crosswalk markings supplemented with RRFBs.
Howard Avenue – Between Spruce Street and Columbus Drive, Howard Avenue is a two-lane one-way street with on-street parking along both sides between Spruce Street and Beach Street. The posted speed limit through this segment is 30 mph. At St Louis Street, south of Columbus Drive, there is a buffered bicycle lane that continues north of Columbus Drive.

Potential enhancements for this segment of Howard Avenue include the following:

- Consider providing shared-lane markings between Spruce Street and Beach Street.
- North of Beach Street, there is no marked on-street parking; consider reducing the travel lane widths, delineate on-street parking on the west side, and provide a buffered (7’) bicycle lane to connect to the existing lane at St. Louis Street.

Armenia Avenue – This segment of Armenia Avenue is similar to the previous segments, in that it has two one-way travel lanes, a pavement width of approximately 48’, and a posted speed limit of 40 mph.

Potential enhancements for this segment of Armenia Avenue include the following:

- Evaluate strategies to reduce the posted speed limit to 35 mph or less.
- Consider providing a buffered bicycle lane; 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with a 8’|7’|12.5’|12.5’|8’ lane configuration.
- Consider constructing bulb-outs along Armenia Avenue at all intersections between Spruce Street and Columbus Drive.
- Consider relocating the existing signalized pedestrian crossing between Walnut Street and Pine Street to Pine Street.
Enhance the existing crosswalks at Pine Street to include high-visibility ladder-style markings.

Consider constructing bulb-outs and providing a marked crosswalk with RRFBs at Beach Street to accommodate the proposed Beach Street neighborhood greenway.

**Neighborhood Greenway Opportunities**

Neighborhood greenways, also known as bicycle boulevards and bikeways, are streets that have been designed, designated, and prioritized for bicycle travel. Neighborhood greenways provide a safe, inviting, low-stress option for bicyclists of varying degrees of experience. Neighborhood greenways, as part of a larger bicycle network, help provide connections between neighborhoods, destinations, and different bicycle facilities. In addition to improving safety, comfort, and connectivity for bicyclists, neighborhood greenways create safer streets for all users and can help promote communities that encourage bicycling as a more convenient, easy, and sociable mode of transportation.

Although there is no set design template for neighborhood greenways, a few common principles should be sought when considering one:

- Logical, direct, and continuous bike route
- Safe and comfortable intersection crossings
- Reduced bicyclists delay
- Enhanced access to desired destinations
- Low motor vehicle speeds
- Low motor vehicle volumes

Neighborhood greenways typically employ a set of features that include signs, pavement markings, traffic volume management, and traffic calming to improve the safety and comfort of bicycling. Several design treatments can be used to transform a street into a neighborhood greenway, but it is important to recognize that these treatments can be tailored to fit local needs and can be phased over a period of time to achieve the complete transformation. Some common design considerations for neighborhood greenways include the following:

- **Pavement Markings** – Pavement markings are a reminder to both bicyclists and motorists that bicycle travel is expected and has priority along the street.
- **Signage** – Signage can be used to passively identify the street as a neighborhood greenway and can help strengthen the branding of the facility. Neighborhood greenway signs can include post-mounted placard signs identifying the greenway at key points or specially-branded street name signs that identify the street as a neighborhood greenway. Wayfinding signage also can be provided to help direct, guide, alert, and inform bicyclists on distances and estimated travel times to key destinations.
- **Stop Sign Placement** – Frequent stop signs along a neighborhood greenway increase bicycling travel time and energy expenditure. This often increase the likelihood of non-compliance or the use of other routes. To improve bicycle travel and the attractiveness neighborhood greenways, bicyclists should be able to travel along the greenway with a minimal number of stops.
- **Intersection Treatments** – If bicyclists cannot safely and comfortably cross other roadways along the neighborhood...
greenway, improvements along the greenway will have limited impact. Intersection treatments along neighborhood greenways should improve the visibility of bicyclists, reduce crossing distances, increase awareness to the potential of bicyclists, reduce or eliminate conflicts/movements, reduce bicyclist delay, and ultimately, make crossing streets along the neighborhood greenway safer, more convenient, and more comfortable for bicyclists. Common neighborhood greenway intersection treatments include intersection bulb-outs, roundabouts, and neighborhood traffic circles.

- **Speed Management** – Maintaining low motor vehicle speeds along a neighborhood greenway is a key component in creating a safe and comfortable bicycling environment. Speed management techniques are generally divided into two categories, vertical elements (speed humps or cushions) and horizontal elements (pinch points). Although various speed management techniques can be used on their own, they are most effective when used in combination and with other design elements and techniques.

- **Volume Management** – Volume management uses physical and operational elements to reconfigure traffic patterns along a street to help reduce or discourage through traffic to ensure that traffic volumes are maintained at a level that is comfortable to a wide range of bicyclists. Some elements include forced turn movements, partial closures (divert motor vehicle traffic in one direction), and full closures that divert motor vehicle traffic in both directions while still accommodating bicyclists.

A common concern about neighborhood greenways, especially pertaining to traffic calming and volume management, is maintaining access to properties along the neighborhood greenway. Access along a neighborhood greenway should be maintained, the route to access particular properties may change. This is not uncommon during typical roadway reconstruction or access management improvements that may modify median openings and require drivers to adjust their route.

The following sections explore neighborhood greenway opportunities along two corridors, Gray Street between Westshore Boulevard and Rome Avenue and Beach Street between Himes Avenue and Rome Avenue.

**Gray Street**

Gray Street is a two-lane two-way undivided east-west local street that parallels Kennedy Boulevard to the south and Cass Street to the north. The street is residential in character, with low speeds (posted 25 mph) and low traffic volume. Unlike many local roads in the area, Gray Street provides a continuous connection between Westshore Boulevard and Rome Avenue and has signalized crossings at Westshore Boulevard and Dale Mabry Highway.

Gray Street’s connectivity and position between Kennedy Boulevard and I-275 makes it a candidate for neighborhood greenway treatments, which is most likely why it was identified in Phase I of the City of Tampa’s Walk–Bike Plan for enhancements. Following is a detailed overview of the proposed enhancements that would help transform Gray Street into a neighborhood greenway.
Although not identified in the detailed enhancements, one option that could be used to help “brand” the neighborhood greenway is the addition of specialized street name signage. There are many national and international examples of how cities have used street name signage to help in the designation of prioritized bicycle streets. Additionally, there are multiple options for pavement markings; some cities use special bike boulevard markings, some use typical shared-lane markings, and some—including some cities in Florida—have begun using shared-lane markings within a green background box (Figure 28).

**Figure 28: Shared-lane markings with green background**

**Gray Street, Westshore Boulevard to Lois Avenue** – The intersection of Gray Street and Westshore Boulevard is signalized, and this segment has existing traffic calming (speed humps). General considerations for this segment include the addition of pavement markings and supplemental signage (R4-11, “Bikes May Use Full Lane”). Additional neighborhood greenway enhancements along this segment include the following:

- Consider constructing neighborhood traffic circles and conversion to all-yield control at Hesperides Street, Manhattan Avenue, and Hubert Avenue.
- Consider providing wayfinding signage at Hesperides Street directing bicyclists to the trail that begins on Hesperides Street south of Carmen Street.
- Consider conducting a traffic signal warrant analysis at the intersection of Gray Street and Lois Avenue. The closest signalized intersections are at I-275 approximately 600’ to the north and Kennedy Boulevard approximately a quarter-mile to the south. An alternative to a signalized intersection would be to provide a raised median traffic diverter island along Lois Avenue that would allow bicyclists to continue through the intersection but would prohibit through and left-turn motor vehicle movements. The median island could be accommodated by narrowing the travel lanes on Lois Avenue.

**Gray Street, Lois Avenue to Dale Mabry Highway** – In addition to providing pavement markings and signage, potential enhancements along this segment include the following:

- Consider constructing a neighborhood traffic circle at Grady Avenue and converting the intersection from a four-way stop to an all-yield intersection.
- The intersection of Gray Street and Dale Mabry Highway is signalized. Consider installing bike boxes on the eastbound and westbound approaches and evaluating the feasibility of installing bicycle detection at the intersection to help reduce bicycle delay and improve compliance with the traffic signal.
Gray Street at Louis Avenue, Looking West

Gray Street, Dale Mabry Highway to Matanzas Avenue – Provide pavement markings and signage along with speed cushions between Himes Avenue and Glen Avenue and Lincoln Avenue and Matanzas Avenue. Additional enhancements include the following:

- Consider constructing neighborhood traffic circles at Glen Avenue, Lincoln Avenue, and Matanzas Avenue. Also consider converting these intersections from stop-controlled to all-yield.
- At Himes Avenue, consider conducting a traffic signal warrant analysis; the closest signalized intersections are at Cypress Street to the north and Kennedy Boulevard to the south, both approximately a quarter-mile from this intersection.

Gray Street at Dale Mabry Highway, Looking East

Gray Street, Matanzas Avenue to Armenia Avenue – Consider providing pavement markings and signage along with speed cushions between Matanzas Avenue and MacDill Avenue, MacDill Avenue and Gomez Avenue, Gomez Avenue and Habana Avenue, Habana Avenue and Tampania Avenue, and Tampania Avenue and Armenia Avenue. Following are additional enhancements for this segment:

- Consider conducting a traffic signal warrant analysis at MacDill Avenue. The closest signalized intersections are at Cypress Street to the north and Kennedy Boulevard to the south, both approximately a quarter-mile from this intersection.
- Consider neighborhood traffic circles and conversion to all-yield control at Gomez Avenue and Habana Avenue.
- At Armenia Avenue, consider constructing bulb-outs along Armenia Avenue in each quadrant and providing a marked crosswalk with RRFBs to accommodate the neighborhood greenway crossings.
Gray Street, Armenia Avenue to Rome Avenue – As with the other segments, consider providing pavement markings and signage. To help with traffic calming, consider speed cushions between Howard Avenue and Albany Avenue, Albany Avenue and Fremont Avenue, and Fremont Avenue and Rome Avenue. Also consider the following enhancements along this segment:

- At Howard Avenue, consider constructing bulb-outs along the west side and providing a marked crossing supplemented with RRFBs.
- Consider constructing neighborhood traffic circles at Albany Avenue and Fremont Avenue. If neighborhood traffic circles are installed, consider converting the intersections from stop controlled to all-yield.
- At Rome Avenue, consider providing a marked crossing supplemented with RRFBs along the south leg of the intersection.

Beach Street

Beach Street is a two-lane two-way undivided east-west local street situated between Spruce Street and Columbus Drive. It is primarily residential in character, with low speeds (posted 25 mph) and low
traffic volumes and provides a continuous connection between Dale Mabry Highway and Rome Avenue.

With the planned addition of bicycle lanes along Himes Avenue, it was determined that a logical western terminus of the neighborhood greenway would be Himes Avenue. Similar to Gray Street, there are multiple options for pavement markings, and the option of special street name signs could be included as part of the neighborhood greenway. Following is an overview of the enhancements that could help transform Beach Street into a neighborhood greenway.

**Beach Street, Himes Avenue to MacDill Avenue** – Consider providing pavement markings and supplemental signage (R4-11 “Bikes May Use Full Lane”) to this segment along with speed cushions between Himes Avenue and Glen Avenue, Glen Avenue and Lincoln Avenue, Lincoln Avenue and Matanzas Avenue, and Matanzas Avenue and MacDill Avenue. Additional enhancements to this segment include:

- Consider conducting a traffic signal warrant analysis at the intersection of Beach Street and Himes Avenue. The ongoing improvements to Himes Avenue will provide a marked mid-block crossing north of Beach Street, but it is unlikely that users of the neighborhood greenway will travel the distance out-of-direction to use the crossing. The closest signalized intersections to this intersection are Columbus Drive to the north and Spruce Street to the south, both approximately a quarter-mile from the intersection.
- Consider installing neighborhood traffic circles at Glen Avenue and Lincoln Avenue. In conjunction with the neighborhood traffic circles, consider converting the intersections from two-way stop control to all-yield intersections.
- Consider installing a neighborhood traffic circle at Habana Avenue and converting the intersection to an all-yield intersection.
- At Armenia Avenue, consider constructing bulb-outs within all four quadrants, enhancing the existing crosswalk markings, and supplementing the crossing with RRFBs.

**Beach Street, MacDill Avenue to Armenia Avenue** – Consider providing pavement markings and signage along this segment. Additionally, consider installing speed cushions between MacDill Avenue and Habana Avenue, Habana Avenue and Tampania Avenue, and Tampania Avenue and Armenia Avenue. Additional enhancements to this segment include:

- Consider constructing bulb-outs within all four quadrants at Howard Avenue, enhance the existing crosswalk markings, and supplementing the crossing with RRFBs.
- At Rome Avenue, consider installing a marked crosswalk with RRFBs to help facilitate movements to/from the neighborhood greenway.
Trail Connections – I-275 Greenway and Green Spine

The Green Spine and I-275 Greenway are key bicycle and pedestrian projects aimed at connecting the major activity centers and greenspaces in Tampa and providing recreational amenities to residents. Although the projects are separated by less than half a mile at parts, the lack of a safe and obvious connection between the two is a challenge that interrupts the overall network.

The Green Spine cycle-track, slated for Phase II construction on Cass Street between Howard Avenue and Willow Avenue, will be a transformative project for the North Hyde Park neighborhood, creating a continuous protected bicycle pathway between the Glazer Family Jewish Community Center, Downtown Tampa, Ybor City, and the Cuscaden Pool and Park.

The I-275 Greenway, similarly, is envisioned as a continuous trail that will connect Cypress Point Park and the Courtney Campbell Causeway to the west with Downtown Tampa and beyond to the east. This
alignment also is identified as part of a larger Sun Trail alignment that will connect the Tampa Bay region to Collier County in Southwest Florida.

Although both projects are incomplete, with many segments still in the planning and design stages, a connection between the two pathways should be considered and addressed. Several alternative alignments for connecting to the two are available, the creation of which may further an integrated pedestrian and bicycle network beyond connecting only these two major infrastructure projects. Four potential alternatives to connect these facilities were examined as part of this effort, a detailed summary of which follows. For each alternative, the western terminus is Himes Avenue at La Salle Street and the eastern boundary is N Boulevard.

**Alternative 1** – This alternative utilizes a combination of available right-of-way in the I-275 corridor and some on-street segments along La Salle Street. The total on-street portion of this alignment is just under a half-mile, similar to the alignment identified in the Tampa-Hillsborough Greenway and Trails Master Plan Update. Figures 29, 30, and 31 show the Alternative 1 alignment.

Key components of the alternative include the following:

- From Himes Avenue, continue the trail within the FDOT right-of-way adjacent to La Salle Street to east of MacDill Avenue at New Jersey Avenue. A crossing at MacDill Avenue would need to be provided, and the pond site between MacDill Avenue and New Jersey Avenue may need to be modified to accommodate a trail and still provide maintenance access to the pond.

- An on-street section of the trail would continue along New Jersey Avenue approximately 50’ to La Salle Street, continue along La Salle Street approximately 900’ to connect to the existing I-275 Greenway at Habana Avenue, and then continue along the existing trail to Armenia Avenue.

- A crossing would need to be provided at Armenia Avenue; from there, the trail would continue on-street along La Salle Street for about a quarter-mile to Habana Avenue where it would connect into the existing trail/maintenance road north of the residences that front La Salle Street.
The trail would continue along the existing trail/maintenance road to Oregon Avenue. At Oregon Avenue, consider continuing the trail within the FDOT right-of-way south of I-275 to N Boulevard.

**I-275 Greenway at Armenia Avenue, Looking West**

**Alternative 2** – Alternative 2 is similar to Alternative 1 except that at the eastern end of the study area the trail connects to the Green Spine/Cass Street via Rome Avenue. Figures 32, 33, and 34 illustrate the proposed alignment options, and the following provide details about the alternative:

- Use the I-275 right-of-way and La Salle Street to provide a connection between Himes Avenue and Rome Avenue.
- At Rome Avenue, use the planned bicycle lanes or consider exploring opportunities for a separated facility to connect to the planned Green Spine extension along Cass Street.
- The trail would then use the Green Spine to connect to and through downtown Tampa.
Figure 29: Alternative 1 Alignment, Dale Mabry Highway to New Jersey Avenue
Figure 30: Alternative 1 Alignment, New Jersey Avenue to Fremont Avenue
Figure 31: Alternative 1 Alignment, Fremont Avenue to N Boulevard
Figure 32: Alternative 2 Alignment, Dale Mabry Highway to New Jersey Avenue
Figure 33: Alternative 2 Alignment, New Jersey Avenue to Fremont Avenue
Figure 34: Alternative 2 Alignment, Fremont Avenue to N Boulevard
Alternative 3 – Alternative 3 explores options to connect the I-275 Greenway to the Green Spine via Armenia Avenue. Figures 35, 36, and 37 illustrate the potential Alternative 3 alignment between Himes Avenue and Armenia Avenue. This alignment is the same as Alternatives 1 and 2. The following provides information on how the Alternative 3 alignment could be accomplished. Note that part of this alternative assumes that Cass Street could be extended from Howard Avenue to Armenia Avenue through where the current armory is located.

- If the armory is relocated, the City could extend Cass Street and the Green Spine from Howard Avenue to Armenia Avenue. Extending Cass Street could provide an opportunity to extend the Green Spine to Armenia Avenue.
- To accommodate the bicycle facility, approximately 30 on-street parking spaces would need to be removed from the east side of Armenia Avenue.
- To create a separated bicycle facility along Armenia Avenue, consider constructing a 12’ two-way bicycle facility with a raised 4’ median along the east side of Armenia Avenue. This facility could connect the existing I-275 Greenway to where Cass Street could potential intersect Armenia Avenue. A potential typical section along Armenia Avenue is shown below.

Armenia Avenue at La Salle Street, Looking South

Alternative 4 – As with the other alternatives, this alternative begins at Himes Avenue and La Salle Street, but deviates north from the I-275 right-of-way at MacDill Avenue and continues down Main Street to N Boulevard Street. Figures 38, 39, and 40 show the Alternative 4 alignment, and the following provides a description of the connection from MacDill Avenue to Main Street and how the trail could be accommodated along Main Street.

- Consider providing a shared-use path along the east side of MacDill Avenue from north of La Salle Street to Green Street.
- Between Green Street and Main Street is an existing 5’ sidewalk and 5’ utility strip, and MacDill Avenue has approximately 50’ of pavement comprising four travel lanes and bicycle lanes. Consider eliminating the bicycle lanes through this section and extending the curb along the east side of the street to accommodate a minimum 10’ path along the east side of MacDill Avenue between Green Street and Main Street.
There are several driveways along both sides of Main Street that are not conducive to a trail facility along the side of the street. Main Street has approximately 40’ of pavement comprising two travel lanes and on-street parking along both sides of the street. To accommodate a trail along Main Street, consider eliminating the on-street parking and running the trail down the center of Main Street with 3’ separators between the travel lanes and the trail. A local example of a trail running down the middle of the street is the Pinellas Trail along Safford Avenue in downtown Tarpon Springs.

Pinellas Trail along Safford Avenue in Tarpon Springs

Continue the trail along Main Street into the West River redevelopment area and depending upon the design of the reconstructed downtown interchange consider connecting the trail in the vicinity of North Boulevard and Green Street to the West Riverwalk and across the Fortune (Laurel Street) Bridge.

Figure 41 illustrates the alignment of the four proposed trail alternatives.
Figure 35: Alternative 3 Alignment, Dale Mabry Highway to New Jersey Avenue
Figure 36: Alternative 3 Alignment, New Jersey Avenue to Fremont Avenue
Figure 37: Alternative 3 Alignment, Fremont Avenue to N Boulevard
Figure 38: Alternative 4 Alignment, Dale Mabry Highway to MacDill Avenue
Figure 39: Alternative 4 Alignment, MacDill Avenue to Fremont Avenue
Figure 40: Alternative 4 Alignment, Fremont Avenue to N Boulevard
Figure 41: Combined Trail Alternative Alignments
Connecting Existing and Planned Facilities

Providing a connected pedestrian and bicycle network will improve people’s ability to travel throughout the West Tampa area without a motor vehicle. As documented in this report, there are currently multiple efforts underway and various opportunities to further improve safety and mobility in West Tampa. This section examines additional connections and enhancements that could be considered throughout the West Tampa area, including the following:

- **Lincoln Avenue** – Although it does not continue through I-275, Lincoln Avenue is a significant north-south street in the West Tampa area. Consider providing shared-lane markings along Lincoln Avenue from Kennedy Boulevard to Cypress Street and from Green Street to Columbus Drive. Additionally, consider filling in sidewalk gaps and providing a complete sidewalk along both sides of Lincoln Avenue.

- **Habana Avenue** – Habana Avenue is an important north-south corridor within the West Tampa area, even though it does not cross I-275. Consider installing shared-lane markings and providing complete sidewalks along both sides of Habana Avenue.

- **Albany Avenue** – Albany Avenue does not cross I-275, but like Lincoln Avenue and Habana Avenue, it is an important north-south connector. There are sidewalks along Albany Avenue, but consider providing complete sidewalks along both sides of Albany Avenue and providing shared-lane markings, especially between Kennedy Boulevard and Cass Street and Main Street and Beach Street.

- **Kathleen Street** – Kathleen Street is located one block north of Columbus Drive. Columbus Drive does not have bicycle lanes and, due to right-of-way constraints and traffic demand, is not likely to be able to accommodate a bicycle facility. Consider transforming Kathleen Street into a neighborhood greenway between Himes Avenue and Rome Avenue, which would provide a parallel bicycle facility to Columbus Drive and provide bicyclists with a new east-west option.

**Feasibility Review**

For the Site-Specific Enhancements, a review of project feasibility was conducted with a goal of identifying potential fatal flaws or challenges that would make the suggested enhancements unfeasible (physically or fiscally) or significantly increase the complexity and/or cost to complete the enhancement. Appendix A contains a detailed summary of the feasibility review.

It is recommended that necessary engineering, survey, and/or design work be completed prior to commencing construction on any of the identified enhancements. Unless otherwise noted, most of the enhancements identified as part of this plan were developed to avoid major right-of-way impacts and avoid/minimize major reconstruction of the roadway, curb, and drainage structures.

**Cost Estimates**

Planning-level cost estimates for the identified enhancements were developed to provide general guidance on the expected financial investment for implementing the identified enhancements. Using a mix of generic cost estimates and pay-item unit costs from FDOT’s historic cost estimates, a list of cost estimate assumptions for the
identified enhancements was developed. For the most part, these cost assumptions include the costs associated with materials and base construction costs along with an assumed cost percentage to cover maintenance of traffic (MOT), mobilization, and project unknowns.

Additional detailed engineering and design work will be required to determine actual implementation costs, but using the developed cost assumptions provides a general planning-level estimate for the implementation of the identified enhancements.

Of note is that the cost estimates do not include any costs associated with the attainment of right-of-way; if right-of-way is needed, there could be significant cost increases associated with implementing the enhancements. Appendix B provides a more detailed breakdown of the cost estimates, but if all of the identified enhancements in this plan were implemented, the potential associated costs are estimated to be as follows:

- Main Street Complete Street Enhancements $1,669,000
- Columbus Drive Complete Street Enhancements $1,192,000
- Howard Avenue Complete Street Enhancements $904,000
- Armenia Avenue Complete Street Enhancements $2,559,000
- Gray Street Neighborhood Greenway Enhancements $2,084,000
- Beach Street Neighborhood Greenway Enhancements $1,405,000
- I-275 Greenway Trail Connections, Alternative 1 $1,425,000
- I-275 Greenway Trail Connections, Alternative 2 $1,241,000
- I-275 Greenway Trail Connections, Alternative 3 $1,147,000
- I-275 Greenway Trail Connections, Alternative 4 $2,596,000

Next Steps

The key to implementing the enhancements identified in this plan is continued coordination among the various involved agencies, including the Hillsborough MPO, the City of Tampa, Hillsborough County, FDOT, and the West Tampa CRA. This coordination will help to ensure that the identified improvements are realized.

Additionally, whereas a feasibility review for this plan was conducted and cost estimates were developed, they were done at the planning level and focused primarily on identifying fatal flaws and high-level challenges. Funding for additional project evaluation and engineering design should be allocated prior to implementing the identified improvements. The design effort will identify any additional challenges, further review the feasibility of the improvements, develop more accurate cost estimates that could be used in programming funding, and may result in some changes to the improvements identified in this plan.
Appendix A – Feasibility Review
<table>
<thead>
<tr>
<th>Location</th>
<th>Suggestion for Consideration</th>
<th>Review Comments</th>
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<tbody>
<tr>
<td>Main St, MacDill Ave to Armenia Ave</td>
<td>Delineate on-street parking areas and provide shared lane markings to better define the roadway surface and create a narrower feeling street that is more conducive to non-motorized users.</td>
<td>Maintain appropriate sight lines by adhering to on-street parking setbacks from intersections and driveways.</td>
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<td>A considerable amount of westbound to southbound turning movements were observed during field visits, consider conducting a turning movement count at this locations to determine if a westbound left turn lane on Main Street would be warranted. Additionally, based on the turning movement count consider determining if a traffic signal would be warranted at this location.</td>
<td>Conduct turning movement count to determine need for a westbound to southbound left turn lane and to determine if the overall turning movements at this intersection would warrant a traffic signal.</td>
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<td>The north side of Main Street, east of MacDill Avenue, is utilized by Macfarlane Park IB Elementary School as a student pick-up/drop-off area. Consider providing pavement markings/striping in front of the school to help designate this area as a drop-off/pick-up area and consider including signage stating no parking during the designated drop-off and pick-up times.</td>
<td>Coordinate with the school to establish potential designated drop-off and pick-up times.</td>
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<td>The sidewalk along the north side of Main Street between MacDill Avenue and Gomez Avenue is severely cracked in multiple locations and pose as potential trip hazards, especially given the proximity to Macfarlane Park and Macfarlane Elementary. Consider repairing/replacing the broken sidewalk sections.</td>
<td>There appears to be 10-15 sidewalk sections that are in need of repair.</td>
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<td>Evaluate the intersections of Habana Avenue and Tampania Avenue for neighborhood traffic circles and conversion from 2-way stop control to an all-yield intersection. Additionally, consider providing marked crosswalks on all legs of these intersections. As an alternative to the neighborhood traffic circles, consider installing bulb-outs at the intersections.</td>
<td>There appears to be sufficient pavement width to provide a min. 12' diameter traffic circle at both of these intersections without having to modify the intersection corners. For the bulb-out alternative, there appear to be no drainage inlets in proximity to the intersection that would be impacted by the construction of bulb-outs, however drainage should be evaluated as part of this consideration.</td>
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<td>Main St at Armenia Ave</td>
<td>Consider enhancing the existing decorative crosswalk markings to include high visibility ladder style markings integrated into the decorative markings</td>
<td>Could be considered as part of a resurfacing project along Armenia Ave.</td>
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<td>Evaluate constructing a raised (landscaped) median along Main Street on both sides of Armenia Avenue.</td>
<td>Alternative or interim options to providing a raised median could be to provide a painted/hashed median or to explore an alternative similar to what is used on portions of Nebraska Ave that use decorative stamped asphalt to delineate the median area.</td>
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<tr>
<td>Main St, Armenia Ave to Howard Ave</td>
<td>Consider providing a raised (landscaped) median along Main Street between the left turn lanes. The median would help physically narrow the street and could provide opportunities for streetscape and gateway feature enhancements.</td>
<td>A raised median may impact access to some sites within this block and may require some drivers to utilize the adjacent street network to access sites. Coordinate with local land owners and business on access concerns. Additionally, alternatives to a raised median could include a painted/hashed median or the use of decorative stamped asphalt to delineate the median area.</td>
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<td>Delineate on-street parking areas and provide shared lane markings to better define the roadway surface and create a narrower feeling street that is more conducive to non-motorized users.</td>
<td>Maintain appropriate sight lines by adhering to on-street parking setbacks from intersections and driveways.</td>
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<tr>
<td>Main St, Howard Ave to Albany Ave</td>
<td>At Howard Avenue, consider constructing bulb-outs in the northwest and northeast quadrants. In the northeast quadrant consider continuing the curb extension along the north side of Main Street (adjacent to Salcines Park) to Ysolino Street. Also, consider enhancing the crosswalk markings at the intersection to include high visibility ladder style markings.</td>
<td>While there are no drainage inlets near the proposed bulb-outs, a drainage evaluation should be conducted to identify any potential drainage impacts near the intersection.</td>
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<td>There are existing alleyways behind the commercial properties north and south of Main Street; consider better utilizing the alleyways to circulate traffic and for parking access within this segment. Encouraging parking access from the alleys could provide additional opportunity to improve the pedestrian realm along Main Street.</td>
<td>Further evaluation would be needed to establish a formal parking/circulation plan within this block.</td>
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<td>Main St, Howard Ave to Albany Ave</td>
<td>At Albany Avenue consider extending the curb along the north side of Main Street from the northwest corner at Albany Avenue to the existing driveway located west of the park. Additionally, consider constructing a bulb-out in the southwest quadrant and along Main Street in the northeast and southeast quadrants.</td>
<td>While there are no drainage inlets near the proposed bulb-outs, a drainage evaluation should be conducted to identify any potential drainage impacts near the intersection.</td>
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<td>Consider enhancing the existing crosswalk markings to high visibility ladder style markings.</td>
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<tr>
<td>Main Street, Albany Avenue to Rome Avenue</td>
<td>Delineate on-street parking areas and provide shared lane markings to better define the roadway surface and create a narrower feeling street that is more conducive to non-motorized users.</td>
<td>Maintain appropriate sight lines by adhering to on-street parking setbacks from intersections and driveways.</td>
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<td>Consider providing crosswalk markings across the side street intersection at Fremont Avenue and extending the curb along Main Street to define the on-street parking areas and improve the visibility of pedestrians at this intersection.</td>
<td>While there are no drainage inlets near the proposed bulb-outs, a drainage evaluation should be conducted to identify any potential drainage impacts near the intersection.</td>
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<td>Consider providing enhanced intersection lighting at Rome Avenue, there is currently one overhead LED light in the northwest corner of the intersection. Evaluate the existing intersection and crosswalk lighting levels and enhance if necessary.</td>
<td>Evaluate the existing wooden utility pole in the northeast quadrant to determine if an overhead luminaire could be affixed to the pole or if a new pole would need to be installed.</td>
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<td>The existing crosswalk markings at Rome Avenue are faded and in need of rehabilitation. Consider enhancing the crosswalk markings to high visibility ladder style markings. In addition to rehabilitating and enhancing the crosswalk markings evaluate the existing pedestrian curb ramps to ensure that they meet ADA requirements and provide ADA detectable truncated dome pads within the curb ramps.</td>
<td>NA</td>
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### Location

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<tr>
<td>Main Street, Albany Avenue to Rome Avenue</td>
<td>Consider constructing bulb-outs along Rome Avenue in the northeast and southwest intersection quadrants, additionally consider evaluating the current need for the northbound and southbound right-turn lanes on Rome Avenue, if the turn lanes are not needed consider constructing bulb-outs within these intersection quadrants as well.</td>
<td>While there are no drainage inlets near the proposed bulb-outs, a drainage evaluation should be conducted to identify any potential drainage impacts near the intersection.</td>
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<tr>
<td>Main Street, Rome Avenue to North Boulevard</td>
<td>The West River Plan recognizes the historical and future importance of Main Street to the West Tampa area and has identified Main Street for land use, streetscape, and infrastructure enhancements that will promote pedestrian activity and incorporate complete street principles.</td>
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<td>Columbus Drive Complete Street Enhancements</td>
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<td>Columbus Drive, Lois Avenue to Grady Avenue</td>
<td>Widening or reconstruction of the existing 6’ sidewalks to 8’ minimum, or preferred 12’ shared use paths.</td>
<td>May require modifications to the existing swale and drainage ditch.</td>
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<td>Consider improvements to the sidewalk geometry at the signalized and un-signalized intersections to better align the pedestrian paths with the intersection crosswalks.</td>
<td>May require modifications to the existing swale and drainage ditch.</td>
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<td>Consider providing pedestrian scale lighting at roadway crossing to better enhance safety of the sidewalk/pathway users.</td>
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<tr>
<td>Columbus Drive, Grady Avenue to Dale Mabry Highway</td>
<td>Widen or reconstruct the existing 6’ sidewalks to either a minimum 8’ sidewalk or preferred 12’ shared use path.</td>
<td>May require modifications to the existing swale and drainage ditch. Need to evaluate existing right-of-way along the south side of Columbus Dr to determine if a 12’ path could be accommodated or if a narrower 8’ to 10’ path is needed.</td>
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<td>Consider improving the sidewalk geometry to better align the pedestrian path with intersection crosswalks.</td>
<td>May require modifications to the existing swale and drainage ditch.</td>
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<td>Consider providing pedestrian scale lighting at roadway crossings to enhance the safety of sidewalk/pathway users.</td>
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<tr>
<td>Columbus Drive at Dale Mabry Highway</td>
<td>Reduce the curb radius in the southwest corner of the intersection to allow larger vehicles to turn into the center of inside travel lanes of southbound Dale Mabry Highway. Realign the crosswalk accordingly.</td>
<td>Evaluate drainage impacts. There is an existing drainage inlet on the south side of Columbus Dr, west of the intersection, but it should be set-back enough from the intersection to avoid the need for modification.</td>
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<tr>
<td>Columbus Drive at Dale Mabry Highway</td>
<td>The channelized westbound and southbound right turn movements operate under free-flow conditions. To address pedestrian and operation issues at these locations and to improve safety at the northbound (non-free-flow) right turn channel, consider the following:  • Consider converting the free-flow lanes into conventional right turn lanes without receiving lanes.  • Consider providing raised crosswalks between the curb and the right turn islands to reduce right turning traffic speeds. • Provide R10-15 (Turning Traffic Yield to Pedestrians) signage. • Consider providing push-button activated RRFBs to facilitate crossing from curb to right turn channels  • Evaluate existing intersection and crosswalk lighting conditions and enhance as necessary; see FDM Chapter 231 for guidance.</td>
<td>Perform an intersection operational analysis to determine whether the free-flow condition is necessary to maintain acceptable level of service at the intersection.</td>
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<tr>
<td>Columbus Drive, Dale Mabry Highway to Himes Avenue</td>
<td>Monitor development and identify opportunities to complete the 10’ wide sidewalk along the south side of Columbus Drive.</td>
<td>NA</td>
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<tr>
<td>Columbus Drive, Himes Avenue to East of Lincoln Avenue</td>
<td>The City of Tampa’s Himes Avenue enhancement project includes the following enhancements along Columbus Drive:  • Replacing the existing painted median between Himes Avenue and Glen Avenue with a raised median.  • Extending the existing raised median between Glen Avenue and Lincoln Avenue into the existing painted median areas east and west of the median.  Consider evaluating the need for a mid-block crossing at Glen Avenue by conducting a pedestrian count near this intersection.</td>
<td>NA</td>
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| Columbus Drive, Himes Avenue to East of Lincoln Avenue | **At Lincoln Avenue consider the following:**  
• Enhance the existing crosswalks to high visibility ladder style markings.  
• There are LED overhead lights in the northeast and southwest quadrants of the intersection, lighting may be sufficient, but consider evaluating existing lighting levels and enhance if necessary.  
• Evaluate the existing pedestrian curb ramps to ensure that they meet ADA requirements and install ADA detectable truncated dome pads within the curb ramps.  
• The left turns from Columbus Drive onto Lincoln Avenue are permissive controlled movements. Consider conducting an operational analysis to determine the feasibility of implementing a protected-permissive left turn signal phase. Additionally, evaluate the existing span-wire signal structure to determine if it would support additional four-section flashing yellow arrow traffic signal assemblies.  

Consider extending the existing raised median into the painted median areas, similar to the planned improvements between Glen Avenue and Lincoln Avenue. | Evaluate intersection and crosswalk lighting levels. Perform and intersection operational analysis to determine feasibility of introducing a protected-permissive left turn signal phase for the eastbound and westbound left turn movements from Columbus Drive.  
Evaluate the existing signal span-wire structure to determine if it could support additional signal head assemblies – if it will not evaluate signal structure upgrades.  
NA |
| Columbus Drive, East of Lincoln Avenue to East of Habana Avenue | Consider reducing the travel lane widths to 10’ and provide a narrow 8’ painted/textured median buffer with intermittent 6’ wide landscaped median islands to help calm traffic.  
Consider widening the existing 5’ sidewalks into the adjacent grass utility strip to provide a minimum 8’ pathway that could be shared by pedestrians and bicyclists.  
Between St Vincent Street and MacDill Avenue there appears to be adequate pavement width, consider reducing the travel lanes to 10’ and extend the curb along the south side in order to accommodate a wide (8’) sidewalk. | Evaluate access impacts.  
May require the relocation of some utilities.  
NA |
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<td>Columbus Drive, East of Lincoln Avenue to East of Habana Avenue</td>
<td>At MacDill Avenue consider enhancing the existing crosswalk markings to high visibility ladder style markings and evaluating the existing intersection lighting levels and enhance if necessary.</td>
<td>Evaluate intersection and crosswalk lighting levels.</td>
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<td>The existing eastbound and southbound left turn movements are controlled by a permissive only phase, consider implementing a protected-permissive left turn phase for these movements.</td>
<td>Perform an intersection operational analysis to determine the feasibility of implementing protected-permissive left turn phases for the eastbound and southbound movements. Additionally, evaluate the existing signal span-wire structure to determine if it would support additional four-section flashing yellow arrow traffic signal assemblies for the eastbound and southbound movements along with replacing the westbound and northbound five-section signal assemblies with four-section assemblies.</td>
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<td>Along MacDill Avenue, south of Columbus Drive, consider providing green skip pavement markings through the northbound bike lane transition to the keyhole across the right-turn lane.</td>
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<td>Along MacDill Avenue, north of Columbus Drive, consider extending the curb in the northeast quadrant into the existing painted gore area north of the intersection.</td>
<td>Evaluate potential drainage impacts.</td>
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<td>At Habana Avenue, consider enhancing the existing crosswalk markings, evaluate intersection lighting conditions, and evaluate the existing pedestrian curb ramps to ensure that they meet ADA requirements. Additionally, consider installing ADA detectable truncated dome pads within the curb ramps.</td>
<td>Evaluate existing intersection and crosswalk lighting levels.</td>
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<tr>
<td>Columbus Drive, East of Lincoln Avenue to East of Habana Avenue</td>
<td>The left turns from Columbus Drive onto Habana Avenue are permissive controlled movements, consider implementing a protected-permissive left turn signal phase for these movements.</td>
<td>Perform an intersection operational analysis to determine the feasibility of implementing a protected-permissive left turn phase for the left turns from Columbus Drive to Habana Avenue. Additionally, evaluate the existing signal span-wire structure to determine if it would support the additional four-section signal assemblies.</td>
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<tr>
<td>Columbus Drive, East of Habana Avenue to West of Rome Avenue</td>
<td>At Armenia Avenue, consider evaluating the existing pedestrian curb ramps to ensure that they meet ADA requirements and consider installing ADA detectable truncated dome pads within the curb ramps.</td>
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<td>At Howard Avenue, consider evaluating the existing pedestrian curb ramps to ensure that they meet ADA requirements and consider installing ADA detectable truncated dome pads within the curb ramps.</td>
<td>NA</td>
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<td>Albany Avenue splits into two two-way streets north of Columbus Drive, one continues straight north through the intersection, the other continues in a northeast diagonal towards Kathleen Street. Consider either constructing a cul-de-sac to close off access to this portion of Albany Avenue from Columbus Drive, or completely eliminate the diagonal segment of Albany Avenue between Columbus Drive and Kathleen Street.</td>
<td>Evaluate impacts to access and circulation.</td>
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<tr>
<td>Columbus Drive, West of Rome Avenue to North Boulevard</td>
<td>Based on existing AADTs it appears reasonable to consider a road diet along the portion of Columbus Drive between Rome Avenue and North Boulevard.</td>
<td>Perform an operational analysis to determine the feasibility of a road diet along this section of Columbus Drive.</td>
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<td>Across the Hillsborough River bridge there is approximately 38’ of pavement, if a road diet is feasible, consider a two lane section with 10’ travel lanes, a 4’ median buffer, and buffered bike lanes (bicyclists are currently asked to walk their bikes across the bridge due to the lack of available space).</td>
<td>Dependent on the feasibility of a road diet along Columbus Drive.</td>
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<td>Columbus Drive, West of Rome Avenue to North Boulevard</td>
<td>From the river to North Boulevard there is approximately 40’ of pavement, consider a two lane section with 10’ travel lanes, a center turn lane with intermittent landscaped median islands, and 5’ bike lanes on both sides.</td>
<td>Dependent on the feasibility of a road diet along Columbus Drive.</td>
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<tr>
<td>Columbus Drive at Rome Avenue</td>
<td>Conventional Intersection Alternative – Consider modifying the existing non-signalized intersection to include a westbound through lane and left turn lane, northbound through/left land and right-turn lane, and a single eastbound through lane with an eastbound right-turn drop lane onto Rome Avenue.</td>
<td>Dependent on the feasibility of a road diet along Columbus Drive – perform an intersection operational analysis. See Appendix C for more detail on the feasibility of this alternative.</td>
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<td>Roundabout Intersection Alternative – Consider converting the existing non-signalized intersection to a roundabout with single northbound and southbound entry lanes, a single eastbound entry lane with an eastbound right-turn bypass onto Rome Avenue, and dual westbound entry and through lanes.</td>
<td>Dependent on the feasibility of a road diet along Columbus Drive – perform an intersection operational analysis and determine potential right-of-way impacts of the proposed roundabout alternative. See Appendix C for more detail on the feasibility of this alternative.</td>
</tr>
<tr>
<td>Howard and Armenia Complete Street Enhancements</td>
<td>Consider constructing bulb-outs along the west side of Howard Avenue at Gray Street and providing a marked crossing supplemented by RRFBs in coordination with the development of the Gray Street neighborhood greenway.</td>
<td>There is a drainage inlet in the southwest corner of the intersection that will need to be modified to accommodate a curb extension. While there shouldn’t be impacts to the inlet in the northwest corner along Gray Street, evaluate potential drainage impacts from a bulb-out along Howard Avenue.</td>
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<tr>
<td>Howard Avenue, Gray Street to Cypress Street</td>
<td>Evaluate strategies to reduce the posted speed limit on this segment of Howard Avenue from 40 MPH to 35 MPH or less. If the posted speed can be lowered to or below 35 MPH consider providing shared lane markings along this segment.</td>
<td>Perform a speed analysis study to determine if the existing speeds along this segment of Howard Avenue warrant the existing posted speed limit.</td>
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<td>Consider widening the sidewalk along the east side of Howard Avenue utilizing the existing utility strip. This wide sidewalk could accommodate both pedestrians and bicyclists, especially if speeds cannot be reduced along Howard Avenue.</td>
<td>Would require either relocating the existing utility poles or routing the sidewalk around the existing utilities.</td>
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<tr>
<td>Howard Avenue, Gray Street</td>
<td>Consider conducting an operational analysis to determine if the northbound left turn lane onto Cypress Street is needed. If it is not needed, consider shifting the through travel lanes to the west (between State Street and Cypress Street) and construct a bulb-out in the southeast corner along Howard Avenue.</td>
<td>Perform intersection operational analysis. The southeast corner of the intersection is the only corner of the intersection that does not have a drainage inlet, constructing a bulb-out in this corner should have minimal impacts on drainage.</td>
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<td>to Cypress Street</td>
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<tr>
<td>Armenia Avenue, Gray Street</td>
<td>Evaluate strategies to reduce the posted speed limit on this segment of Armenia Avenue to 35 MPH or less.</td>
<td>Perform a speed analysis study to determine if the existing speeds along this segment of Armenia Avenue warrant the existing posted speed limit.</td>
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<td>to Cypress Street</td>
<td>Consider providing a buffered bicycle lane, 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with a 8’</td>
<td>7’</td>
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<tr>
<td>Howard Avenue, Cypress Street</td>
<td>Consider constructing bulb-outs at Gray Street and providing a marked crossing with RRFBs to accommodate the proposed Gray Street neighborhood greenway.</td>
<td>There are drainage inlets in all four intersection quadrants, further evaluation is needed to determine drainage impacts.</td>
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<td>to Spruce Street</td>
<td>Consider constructing bulb-outs along Armenia Avenue at all intersections between Gray Street and Cypress Street.</td>
<td>Most of the intersections have drainage inlets located at or near the intersection; evaluate drainage impacts.</td>
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<td>Consider conducting an operational analysis for the Armenia Avenue and Cypress Street intersection to determine if the southbound left and right-turn lanes are needed. If they are not needed, consider repurposing the pavement width to better accommodate pedestrians at the intersection. If they are justified, consider constructing bulb-outs along Armenia Avenue in the southeast and southwest quadrants.</td>
<td>Perform an intersection operational analysis to determine if the southbound left and right turn lanes on Armenia Avenue are needed to maintain an acceptable level of service. E Evaluate drainage impacts, there are drainage inlets within each corner of the intersection with the exception of the southeast corner.</td>
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<td>Evaluate strategies to reduce the posted speed limit on the segment of Howard Avenue south of Main Street from 40 MPH to 35 MPH or less.</td>
<td>Perform a speed analysis study to determine if the existing speeds along this segment of Howard Avenue warrant the existing posted speed limit.</td>
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<td>Consider widening the existing sidewalk utilizing the utility strip and FDOT right-of-way to accommodate a minimum 8’ sidewalk that could accommodate both pedestrians and bicyclists through the interchange.</td>
<td>Would require either relocating the existing utility poles or routing the sidewalk around the existing utilities.</td>
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<tr>
<td>Howard Avenue, Cypress Street to Spruce</td>
<td>On-street parking returns along Howard Avenue north of Green Street. The posted speed limit is reduced to 30 MPH north of Main Street. Consider providing shared lane markings along Howard Avenue between Main Street and Spruce Street.</td>
<td>Dependent on reduction in posted speed to 35 MPH or less.</td>
</tr>
<tr>
<td>Street to Spruce Street</td>
<td>At Main Street consider the enhancements identified in the Main Street section.</td>
<td>See Main Street review comments.</td>
</tr>
<tr>
<td></td>
<td>At Spruce Street consider the enhancements identified in the MPO’s Spruce Street Pedestrian and Bicycle Improvement Report and consider reconstructing the existing bulb-outs and providing enhanced crosswalk markings supplemented with RRFBs.</td>
<td>Impacts to drainage will need to be evaluated.</td>
</tr>
<tr>
<td></td>
<td>Consider constructing bulb-outs along Howard Avenue at all intersection between Main Street and Spruce Street.</td>
<td>Evaluate drainage impacts, there are drainage inlets at or near most of the intersection corners through this segment of Howard Avenue.</td>
</tr>
<tr>
<td></td>
<td>Consider enhancing the existing crosswalk at Union Street.</td>
<td>NA</td>
</tr>
<tr>
<td>Armenia Avenue, Cypress Street to Spruce</td>
<td>Evaluate strategies to reduce the posted speed limit on this segment of Armenia Avenue to 35 MPH or less.</td>
<td>Perform a speed analysis study to determine if the existing speeds along this segment of Armenia Avenue warrant the existing posted speed limit.</td>
</tr>
<tr>
<td>Street to Spruce Street</td>
<td>Consider providing a buffered bicycle lane, 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with a 8’</td>
<td>7’</td>
</tr>
<tr>
<td></td>
<td>Consider constructing bulb-outs along Armenia Avenue at all intersections between Cypress Street and Spruce Street.</td>
<td>Evaluate drainage impacts, there are drainage inlets at or near most of the intersection corners through this segment of Armenia Avenue.</td>
</tr>
<tr>
<td></td>
<td>Consider providing a marked crossing across the south leg of the Armenia Avenue and Laurel Street/I-275 Ramp intersection.</td>
<td>In addition to crosswalk markings include R10-15 signage to remind right turning drivers to yield to pedestrians in the crosswalk.</td>
</tr>
<tr>
<td></td>
<td>Consider implementing the enhancements identified in the Main Street section of this report.</td>
<td>See Main Street review comments.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Armenia Avenue, Cypress Street to Spruce Street</td>
<td>At Spruce Street, consider the enhancements identified in the MPO’s Spruce Street Pedestrian and Bicycle Improvement Report and consider reconstructing the existing bulb-outs and providing enhanced crosswalk markings supplemented with RRFBs.</td>
<td>Evaluate drainage impacts.</td>
</tr>
<tr>
<td>Howard Avenue, Spruce Street to Columbus Drive</td>
<td>Consider providing shared lane markings between Spruce Street and Beach Street.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>North of Beach Street there is no marked on-street parking, consider reducing the travel lane widths, delineate on-street parking on the west side, and provide a buffered bicycle lane to connect to the existing lane at St Louis Street, the lane configuration could be 9'</td>
<td>12'</td>
</tr>
<tr>
<td></td>
<td>Consider constructing bulb-outs along Howard Avenue at all intersections between Main Street and Beach Street.</td>
<td>Evaluate drainage impacts.</td>
</tr>
<tr>
<td></td>
<td>At Cherry Street, consider enhancing the existing crosswalks with high visibility markings supplemented with RRFBs.</td>
<td>NA</td>
</tr>
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<td></td>
<td>At Palmetto Street, consider replacing the existing flashing beacon with a push-button activated RRFB.</td>
<td>NA</td>
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<tr>
<td></td>
<td>At Beach Street, consider constructing bulb-outs and providing a marked crossing to accommodate the proposed Beach Street neighborhood greenway.</td>
<td>Evaluate drainage impacts. In the southeast corner an elongated curb extension could also serve as a bus bulb.</td>
</tr>
<tr>
<td>Armenia Avenue, Spruce Street to Columbus Drive</td>
<td>Evaluate strategies to reduce the posted speed limit on this segment of Armenia Avenue.</td>
<td>Perform a speed analysis study to determine if the existing speeds along this segment of Armenia Avenue warrant the existing posted speed limit.</td>
</tr>
<tr>
<td></td>
<td>Consider providing a buffered bicycle lane, 48’ feet of pavement for two travel lanes and two on-street parking lanes should provide more than enough space to accommodate a buffered (7’) bicycle lane with a 8’</td>
<td>7’</td>
</tr>
<tr>
<td></td>
<td>Consider constructing bulb-outs along Armenia Avenue at all intersections between Spruce Street and Columbus Drive.</td>
<td>Evaluate drainage impacts.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Armenia Avenue, Spruce Street to Columbus Drive</td>
<td>Consider relocating the existing signalized pedestrian crossing between Walnut Street and Pine Street to Pine Street. Enhance the existing crosswalks at Pine Street to include high visibility ladder style markings. Consider constructing bulb-outs and providing a marked crosswalk with RRFBs at Beach Street to accommodate the proposed Beach Street neighborhood greenway.</td>
<td>Identified as a Walk-Bike II enhancement. If not relocated construct bulb-outs at the existing location to improve visibility of crossing pedestrians. NA Evaluate drainage impacts.</td>
</tr>
</tbody>
</table>

**Gray Street Neighborhood Greenway Enhancements**

<table>
<thead>
<tr>
<th>Location</th>
<th>Suggestion for Consideration</th>
<th>Review Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Street, Westshore Boulevard to Lois Avenue</td>
<td>Consider constructing neighborhood traffic circles and conversion to all-yield control at Hesperides Street, Manhattan Avenue, and Hubert Avenue. Consider providing wayfinding signage at Hesperides Street directing bicyclists to the trail that begins on Hesperides Street south of Carmen Street. Consider conducting a traffic signal warrant analysis at the intersection of Gray Street and Lois Avenue. The closest signalized intersections are at I-275 approximately 600’ to the north and Kennedy Boulevard approximately a quarter-mile to the south. - An alternative to a signalized intersection would be to provide a raised median traffic diverter island along Lois Avenue that would allow bicyclists to continue through the intersection, but would prohibit through and left turn motor vehicle movements. The median island could be accommodated by narrowing the travel lanes on Lois Avenue.</td>
<td>There appears to be adequate pavement width at these intersections to accommodate neighborhood traffic circles. NA Conduct a traffic signal warrant analysis, consider using the trail crossing requirements for this location.</td>
</tr>
<tr>
<td>Gray Street, Lois Avenue to Dale Mabry Highway</td>
<td>Consider constructing a neighborhood traffic circle at Grady Avenue and converting the intersection from a four-way stop to an all-yield intersection.</td>
<td>There appears to be adequate pavement width to accommodate a neighborhood traffic circle.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Gray Street, Lois Avenue to Dale Mabry Highway</td>
<td>The intersection of Gray Street and Dale Mabry Highway is signalized. Consider installing bike boxes on the eastbound and westbound approaches and evaluating the feasibility of installing bicycle detection at the intersection to help reduce bicycle delay and improve compliance with the traffic signal.</td>
<td>The east and west stop bars along Gray Street may need to be set-back to accommodate the bike boxes.</td>
</tr>
<tr>
<td>Gray Street, Dale Mabry Highway to Matanzas Avenue</td>
<td>Consider constructing neighborhood traffic circles at Glenn Avenue, Lincoln Avenue, and Matanzas Avenue. Also, consider converting these intersections from stop controlled to all-yield.</td>
<td>There appears to be adequate pavement width at these intersections to accommodate neighborhood traffic circles.</td>
</tr>
<tr>
<td></td>
<td>At Himes Avenue consider conducting a traffic signal warrant analysis, the closest signalized intersections are at Cypress Street to the north and Kennedy Boulevard to the south, both approximately a quarter-mile from this intersection.</td>
<td>Conduct a traffic signal warrant analysis, consider using the trail crossing requirements for this location.</td>
</tr>
<tr>
<td>Gray Street, Matanzas Avenue to Armenia Avenue</td>
<td>Consider conducting a traffic signal warrant analysis at MacDill Avenue. The closest signalized intersections are at Cypress Street to the north and Kennedy Boulevard to the south, both approximately a quarter-mile from this intersection.</td>
<td>Conduct a traffic signal warrant analysis, consider using the trail crossing requirements for this location.</td>
</tr>
<tr>
<td></td>
<td>Consider neighborhood traffic circles and conversion to all-yield control at Gomez Avenue and Habana Avenue.</td>
<td>There appears to be adequate pavement width at these intersections to accommodate neighborhood traffic circles.</td>
</tr>
<tr>
<td></td>
<td>At Armenia Avenue consider constructing bulb-outs along Armenia Avenue in each quadrant and providing a marked crosswalk with RRFBs to accommodate the neighborhood greenway crossings.</td>
<td>Evaluate drainage impacts.</td>
</tr>
<tr>
<td>Gray Street, Armenia Avenue to Rome Avenue</td>
<td>At Howard Avenue consider constructing bulb-outs along the west side of Howard Avenue and providing a marked crossing supplemented with RRFBs.</td>
<td>Evaluate drainage impacts.</td>
</tr>
<tr>
<td></td>
<td>Consider constructing neighborhood traffic circles at Albany Avenue and Fremont Avenue. If neighborhood traffic circles are installed consider converting the intersection from stop controlled to all-yield.</td>
<td>There appears to be adequate pavement width at these intersections to accommodate neighborhood traffic circles.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Gray Street, Armenia Avenue to Rome Avenue</td>
<td>At Rome Avenue consider providing a marked crossing supplemented with RRFBs along the south leg of the intersection.</td>
<td>Coordinate with planned improvement project along Rome Avenue.</td>
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</tbody>
</table>

**Beach Street Neighborhood Greenway Enhancements**

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<thead>
<tr>
<th>Location</th>
<th>Suggestion for Consideration</th>
<th>Review Comments</th>
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</thead>
<tbody>
<tr>
<td>Beach Street, Himes Avenue to MacDill Avenue</td>
<td>Consider conducting a traffic signal warrant analysis at the intersection of Beach Street and Himes Avenue. The ongoing improvements to Himes Avenue will provide a marked mid-block crossing north of Beach Street, but it is unlikely that users of the neighborhood greenway will travel the distance out-of-direction to utilize the crossing. The closest signalized intersections are Columbus Drive to the north and Spruce Street to the south, both approximately a quarter-mile from the intersection. Consider installing neighborhood traffic circles at Glenn Avenue and Lincoln Avenue. In conjunction with the neighborhood traffic circles, consider converting the intersections from two-way stop control to all-yield intersections.</td>
<td>Conduct a traffic signal warrant analysis, consider using the trail crossing requirements for this location. There appears to be adequate pavement width at these intersections to accommodate neighborhood traffic circles.</td>
</tr>
<tr>
<td>Beach Street, MacDill Avenue to Armenia Avenue</td>
<td>Consider conducting a traffic signal warrant analysis at the intersection of Beach Street and MacDill Avenue. The closest signalized intersections to this intersection are Columbus Drive to the north and Spruce Street to the south, both approximately a quarter-mile from the intersection. Consider installing a neighborhood traffic circle at Habana Avenue and converting the intersection to an all-yield intersection.</td>
<td>Conduct a traffic signal warrant analysis, consider using the trail crossing requirements for this location. There appears to be adequate pavement width at this intersection to accommodate a neighborhood traffic circle.</td>
</tr>
<tr>
<td>Beach Street, Armenia Avenue to Rome Avenue</td>
<td>At Armenia Avenue consider constructing bulb-outs within all four quadrants, enhancing the existing crosswalk markings, and supplementing the crossing with RRFBs.</td>
<td>Evaluate impacts to drainage. Coordinate with enhancements along Armenia Avenue.</td>
</tr>
<tr>
<td><strong>Beach Street, Armenia Avenue to Rome Avenue</strong></td>
<td>Consider constructing bulb-outs within all four quadrants at Howard Avenue, enhance the existing crosswalk markings, and consider supplementing the crossing with RRFBs.</td>
<td>Evaluate impacts to drainage. Coordinate with enhancements along Howard Avenue.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Beach Street, Armenia Avenue to Rome Avenue</td>
<td>At Rome Avenue consider installing a marked crosswalk with RRFBs to help facilitate movements to/from the neighborhood greenway.</td>
<td>Coordinate with improvements along Rome Avenue.</td>
</tr>
</tbody>
</table>

**I-275 Greenway and Green Spine Trail Connections**

| Alternative 1 | From Himes Avenue continue the trail within the FDOT right-of-way adjacent to La Salle Street to east of MacDill Avenue at New Jersey Avenue. A crossing a MacDill Avenue would need to be provided and note that the pond site between MacDill Avenue and New Jersey Avenue may need to be modified to accommodate a trail and still provide maintenance access to the pond. | Coordinate with FDOT on use of right-of-way and conduct necessary engineering work to determine if the pond site between MacDill Avenue and New Jersey Avenue would need to be modified to accommodate a trail adjacent to it. Additionally, there is a retaining wall and a slight elevation change along the east side of MacDill Avenue that would need to be mitigated for. |
| An on-street section of the trail would continue along New Jersey Avenue approximately 50’ to La Salle Street and then continue along La Salle Street approximately 900’ to connect to the existing I-275 Greenway at Habana Avenue and then continue along the existing trail to Armenia Avenue. | NA |
| A crossing would need to be provided at Armenia Avenue, from there the trail would continue on-street along La Salle Street for about a quarter-mile to Habana Avenue where it would connect into the existing trail/maintenance road north of the residences that front La Salle Street. | Could utilize proposed south leg crossing of Armenia Avenue and Laurel Street/I-275 Ramp intersection. Evaluate crossing opportunities at Howard Avenue. |
| The trail would then continue along the existing trail/maintenance road to Oregon Avenue. At Oregon Avenue consider continuing the trail with the FDOT right-of-way south of I-275 to North Boulevard. | NA |

<p>| Alternative 2 | Utilize the Alternative 1 alignment within the I-275 right-of-way and La Salle Street to provide a connection between Himes Avenue and Rome Avenue. | See Alternative 1 review comments. |
| At Rome Avenue utilize the planned bicycle lanes or consider exploring opportunities for a separated facility, to connect to the planned Green Spine extension along Cass Street. | Alternatively evaluate opportunities to construct a pathway along Rome Avenue to Cass Street, potentially along the west side of Rome Avenue. |
| The trail would then utilize the Green Spine to connect to and through downtown Tampa. | NA |</p>
<table>
<thead>
<tr>
<th>Location</th>
<th>Suggestion for Consideration</th>
<th>Review Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 3</td>
<td>Utilize the Alternative 1 alignment within the I-275 right-of-way and La Salle Street to Armenia Avenue.</td>
<td>See Alternative 1 review comments.</td>
</tr>
<tr>
<td></td>
<td>If the armory is relocated, the City of Tampa could potentially extend Cass Street and the Green Spine from Howard Avenue to Armenia Avenue. Extending Cass Street could provide an opportunity to extend the Green Spine to Armenia Avenue.</td>
<td>Depends on the relocation of the armory and the City's ability to obtain the right-of-way to connect Cass Street and the Green Spine from Howard Avenue to Armenia Avenue.</td>
</tr>
<tr>
<td></td>
<td>To create a separated bicycle facility along Armenia Avenue consider constructing a 12’ two-way bicycle facility with a raised 4’ median along the east side of Armenia Avenue. This facility could connect the existing I-275 Greenway to where Cass Street could potentially intersect Armenia Avenue.</td>
<td>To accommodate the two-way bicycle facility approximately 30 on-street parking spaces would need to be removed from the east side of Armenia Avenue. Consider conducting a parking utilization study along this segment of Armenia Avenue.</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>Utilize the Alternative 1 alignment within the I-275 right-of-way to MacDill Avenue.</td>
<td>See Alternative 1 review comments.</td>
</tr>
<tr>
<td></td>
<td>Consider providing a shared use path along the east side of MacDill Avenue from north of La Salle Street to Green Street.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Between Green Street and Main Street there is an existing 5’ sidewalk and 5’ utility strip, MacDill Avenue has approximately 50’ of pavement comprised of four travel lanes and bicycle lanes. Consider eliminating the bicycle lanes through this section and extending the curb along the east side of the street to accommodate a minimum 10’ path along the east side of MacDill Avenue between Green Street and Main Street.</td>
<td>May require relocation of some utilities.</td>
</tr>
<tr>
<td></td>
<td>There are several driveways along both sides of Main Street that are not conducive to a trail facility along the side of the street. Main Street has approximately 40’ of pavement that is comprised of two travel lanes and on-street parking along both sides of the street. In order to accommodate a trail along Main Street consider eliminating the on-street parking and running the trail down the center of Main Street with 3’ separators between the travel lanes and the trail.</td>
<td>Would require eliminating on-street parking along Main Street as well as eliminating the left turn lanes along Main Street at both Armenia Avenue and Howard Avenue.</td>
</tr>
<tr>
<td>Location</td>
<td>Suggestion for Consideration</td>
<td>Review Comments</td>
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<tr>
<td>Alternative 4</td>
<td>Continue the trail along Main Street into the West River redevelopment area and depending upon the design of the reconstructed downtown interchange consider connecting the trail in the vicinity of North Boulevard and Green Street to the West Riverwalk and across the Fortune (Laurel Street) Bridge.</td>
<td>Coordinate with the West River development.</td>
</tr>
</tbody>
</table>
Appendix B – Cost Estimates
<table>
<thead>
<tr>
<th>Location</th>
<th>Summary of Suggestions for Consideration</th>
<th>Planning Level Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Street Complete Street Enhancements</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Main Street, MacDill Avenue to Armenia Avenue | • Intersection enhancements at Main Street and MacDill Avenue including a potential westbound left turn lane on Main Street and potentially signalizing the intersection.  
• Repair/replace broken sidewalk segments  
• Provide shared lane markings  
• Delineate on-street parking areas  
• Neighborhood traffic circles at Habana Avenue and Tampania Avenue | $718,000 |
| Main Street at Armenia Avenue and Howard Avenue | • Intersection enhancements including possible bulb-outs  
• Enhanced crosswalk markings  
• Raised landscaped median west of Armenia Avenue and between Armenia Avenue and Howard Avenue | $139,000 |
| Main Street, Howard Avenue to Albany Avenue | • Delineate on-street parking areas  
• Provide shared Lane markings  
• Improving lighting conditions, including pedestrian scale lighting between Howard Avenue and Albany Avenue  
• Intersection Enhancements at Albany and Main Street including bulb-outs | $445,000 |
| Main Street, Albany Avenue to Rome Avenue | • Delineate on-street parking areas  
• Provide shared lane markings  
• Installing intersection lighting  
• Intersection enhancements including bulb-outs, enhanced crosswalks, and ADA compliant infrastructure | $155,000 |
| Main Street, Rome Avenue to North Boulevard | • Intersection enhancements including improved crosswalk markings  
• Improved intersection lighting | $212,000 |
| **Columbus Drive Complete Street Enhancements** | | |
| Columbus Drive, Lois Avenue to Grady Avenue | • Widen sidewalks  
• Sidewalk reconstruction and geometry improvements at intersections  
• Pedestrian scale lighting | $249,000 |
### Location

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<tr>
<th>Location</th>
<th>Summary of Suggestions for Consideration</th>
<th>Planning Level Cost Estimate</th>
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</table>
| Columbus Drive, Grady Avenue to Dale Mabry Highway    | • Widen sidewalks  
• Sidewalk reconstruction and geometry improvements at intersections                                     | $120,000                     |
| Columbus Drive at Dale Mabry Highway                 | • Intersection enhancements including reducing curb radii, realigning crosswalks, operational analysis, RRFBs, and lighting conditions | $129,000                     |
| Columbus Drive, Dale Mabry Highway to Himes Avenue   | • Monitor redevelopment and identify opportunities to widen sidewalk along the south side                  | NA                           |
| Columbus Drive, Himes Avenue to East of Lincoln Avenue| • Providing marked crosswalks along the side-street crossings  
• Intersection enhancements including high emphasis crosswalks, LED overhead lighting, and pedestrian curb ramps  
• Signalized left turn operational changes and new traffic signal head assemblies | $189,000                     |
| Columbus Drive, East of Lincoln Avenue to East of Habana Avenue | • Evaluating signal timing and phasing, consider new signal head assemblies  
• Intersection enhancements including improved and realigned crosswalks, ADA enhancements, and curb extensions  
• Roadway realignment between St Vincent St and MacDill Ave to accommodate sidewalk along the south side  
• Sidewalk enhancements | $440,000                     |
| Columbus Drive, East of Habana Avenue to West of Rome Avenue | • Intersection enhancements including improved crosswalks, curb ramps  
• Crosswalk along the side-street crossings | $124,000                     |
| Columbus Drive at Rome Avenue                        | • Road diet and intersection signalization  
• Further roundabout feasibility evaluation                                                                 | $504,000                     |
| Columbus Drive, West of Rome Avenue to North Boulevard| • Crosswalk enhancements at intersections and along Columbus Drive                                       | $129,000                     |

**Howard Avenue and Armenia Avenue Complete Street Enhancements**
<table>
<thead>
<tr>
<th>Location</th>
<th>Summary of Suggestions for Consideration</th>
<th>Planning Level Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Howard Avenue, Gray Street to Cypress Street</td>
<td>• Bulb-outs along Howard Avenue&lt;br&gt;• Crossing enhancements at Gray Street including markings and RRFBs&lt;br&gt;• Operations analysis for Cypress Street intersection&lt;br&gt;• Widening sidewalk along Howard Avenue</td>
<td>$136,000</td>
</tr>
<tr>
<td>Howard Avenue, Cypress Street to Spruce Street</td>
<td>• Reconstructing bulb-outs&lt;br&gt;• Shared lane markings&lt;br&gt;• Providing enhanced crossing with RRFBs</td>
<td>$269,000</td>
</tr>
<tr>
<td>Howard Avenue, Spruce Street to Columbus Drive</td>
<td>• Crosswalk enhancements including RRFBs&lt;br&gt;• Shared lane markings&lt;br&gt;• Reducing travel lane widths, providing buffered bicycle lane between Beach Street and St Louis Street</td>
<td>$499,000</td>
</tr>
<tr>
<td>Armenia Avenue, Gray Street to Cypress Street</td>
<td>• Bulb-outs at all intersections along Armenia Avenue&lt;br&gt;• Accommodating buffered bicycle lane&lt;br&gt;• Intersections enhancements including an RRFB</td>
<td>$444,000</td>
</tr>
<tr>
<td>Armenia Avenue, Cypress Street to Spruce Street</td>
<td>• Bulb-outs at all intersections along Armenia&lt;br&gt;• Accommodating buffered bicycle lane&lt;br&gt;• Intersection enhancements including an RRFB</td>
<td>$884,000</td>
</tr>
<tr>
<td>Armenia Avenue, Spruce Street to Columbus Drive</td>
<td>• Bulb-outs at all intersections along Armenia Ave&lt;br&gt;• Accommodating buffered bicycle lane&lt;br&gt;• Intersection enhancements including RRFBs</td>
<td>$1,271,000</td>
</tr>
<tr>
<td><strong>Gray Street Neighborhood Greenway Enhancements</strong></td>
<td></td>
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<tr>
<td>Gray Street, Westshore Boulevard to Lois Avenue</td>
<td>• Shared lane pavement markings with green background box&lt;br&gt;• “Bikes May Use Full Lane” Signs&lt;br&gt;• Wayfinding signage&lt;br&gt;• Installing neighborhood traffic circles&lt;br&gt;• Installation of traffic signal at Lois Avenue</td>
<td>$592,000</td>
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<tr>
<td>Location</td>
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</tbody>
</table>
| Gray Street, Lois Avenue to Dale Mabry Highway | • Shared lane pavement markings with green background box  
• “Bikes May Use Full Lane” Signs  
• Wayfinding signage  
• Installing neighborhood traffic circles  
• Bike boxes and bicycle detection at Dale Mabry Highway | $42,000                                                                                          |
| Gray Street, Dale Mabry Highway to Matanzas Avenue | • Shared lane pavement markings with green background box  
• “Bikes May Use Full Lane” Signs  
• Wayfinding signage  
• Installing neighborhood traffic circles  
• Installing speed cushions | $550,000                                                                                          |
| Gray Street, Matanzas Avenue to Armenia Avenue | • Shared lane pavement markings with green background box  
• “Bikes May Use Full Lane” Signs  
• Wayfinding signage  
• Installing neighborhood traffic circles  
• Installing speed cushions  
• Crossing enhancements at Armenia Avenue including bulb-outs and RRFBs  
• Potential new traffic signal at MacDill Avenue | $672,000                                                                                          |
| Gray Street, Armenia Avenue to Rome Avenue    | • Shared lane pavement markings with green background box  
• “Bikes May Use Full Lane” Signs  
• Wayfinding signage  
• Installing neighborhood traffic circles  
• Installing speed cushions  
• Enhanced crossings at Howard Avenue and Rome Avenue | $228,000                                                                                          |
| Beach Street Neighborhood Greenway Enhancements | • Shared lane pavement markings with green background box  
• “Bikes May Use Full Lane” Signs  
• Wayfinding signage  
• Installing neighborhood traffic circles  
• Installing speed cushions  
• Potential new traffic signal at Himes Avenue | $526,000                                                                                          |
<table>
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<tr>
<th>Location</th>
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</tr>
</thead>
</table>
| Beach Street, MacDill Avenue to Armenia Avenue | - Shared lane pavement markings with green background box  
- “Bikes May Use Full Lane” Signs  
- Wayfinding signage  
- Installing neighborhood traffic circles  
- Installing speed cushions  
- Enhancing existing or installing new crosswalk markings and installing an RRFB  
- Installing traffic signal at MacDill Avenue | $642,000 |
| Beach Street, Armenia Avenue to Rome Avenue | - Shared lane pavement markings with green background box  
- “Bikes May Use Full Lane” Signs  
- Wayfinding signage  
- Installing neighborhood traffic circles  
- Installing speed cushions  
- Enhancing existing crossings with improved crosswalk markings and RRFBs | $238,000 |

**I-275 Greenway and Green Spine Trail Connections**

**Alternative 1**

| Alternative 1, Himes Avenue to MacDill Avenue | - Constructing multi-use path within FDOT right-of-way  
- Signalized crossing at MacDill Avenue | $666,000 |
|--------------------------------------------|------------------------------------------------------|
| Alternative 1, MacDill Avenue to Habana Avenue | - Constructing multi-use path  
- Shared lane markings | $45,000 |
| Alternative 1, Habana Avenue to Albany Avenue | - Constructing multi-use path within FDOT right-of-way  
- Trail crossing  
- Shared Lane markings | $510,000 |
| Alternative 1, Albany Avenue to Rome Avenue | - Shared lane markings | $500 |
| Alternative 1, Rome Avenue to North Boulevard | - RRFB crossing  
- Construct multi-use path within FDOT right-of-way | $204,000 |

**Alternative 2**

| Alternative 2, Himes Avenue to MacDill Avenue | - Constructing multi-use path within FDOT right-of-way  
- Signalized crossing at MacDill Avenue | $666,000 |
<table>
<thead>
<tr>
<th>Location</th>
<th>Summary of Suggestions for Consideration</th>
<th>Planning Level Cost Estimate</th>
</tr>
</thead>
</table>
| Alternative 2, MacDill Avenue to Habana Avenue     | • Construct multi-use path within FDOT right-of-way  
• Install shared lane markings                    | $45,000                      |
| Alternative 2, Habana Avenue to Albany Avenue      | • Construct multi-use path within FDOT right-of-way  
• Install shared lane markings  
• Install trail crossings                         | $510,00                       |
| Alternative 2, Albany Avenue to Rome Avenue        | • Utilize existing trail/maintenance road alignment                                                     | NA                           |
| Alternative 2, Rome Avenue from I-275 Greenway to  | • Utilize planned bike facilities along Rome Avenue  
• Enhanced crossing with RRFBs                    | $20,000                      |
| Cass Street/Green Spine                           |                                                                                                           |                              |
| Alternative 3, Himes Avenue to MacDill Avenue      | • Constructing multi-use path within FDOT right-of-way  
• Signalized crossing at MacDill Avenue             | $666,000                     |
| Alternative 3, MacDill Avenue to Armenia Avenue    | • Construct multi-use path within FDOT right-of-way  
• Install shared lane markings  
• Crossing enhancement at Armenia Avenue            | $66,000                      |
| Alternative 3, Armenia Avenue from I-275 Greenway  | • Construct two-way cycle track along Armenia Ave  
• Intersection enhancements  
• Does not include improvements to Cass Street or right-of-way acquisition costs | $415,000                     |
| to Cass Street/Green Spine                        |                                                                                                           |                              |
| Alternative 4, Himes Avenue to MacDill Avenue      | • Construct multi-use path within FDOT right-of-way                                                  | $216,000                     |
| Alternative 4, MacDill Avenue from I-275 Greenway  | • Signalized crossing at MacDill Avenue  
• New multi-use path along MacDill Avenue              | $600,000                     |
| to Main Street                                    |                                                                                                           |                              |
| Alternative 4, Main Street from MacDill Avenue to  | • Construct two-way cycle track with physical separation in the middle of Main Street; includes resurfacing and intersection enhancements | $1,780,000                   |
| North Boulevard                                   |                                                                                                           |                              |
Appendix C – Columbus Drive at Rome Avenue Intersection Review
Columbus Drive at Rome Avenue Alternatives

Operational Analysis

For the feasibility analysis of the concepts proposed for Columbus Drive at Rome Avenue, isolated intersection, existing scenario and three alternative concepts were analyzed using Synchro9 and the configuration of network for the scenarios and the results are described as follows:

Figure 1 shows the study area and intersection with network setup in Synchro.

Figure 1: Study Area and Intersection

Four Scenarios under Consideration for Analysis:

1. No Build – Existing scenario
2. Alternative 1 – Road diet with change in lane configurations
3. Alternative 2 – Signalized intersection
4. Alternative 4 – Roundabout

Traffic Data

Turning movement count data collected in 2015 was used for the analysis. The operational analysis was performed for the PM peak hours from 5:00 PM to 6:00 PM.

Intersection Operations Analysis and Results

Study intersections were analyzed using the turning movement volume. Detailed operational analyses were conducted for the year 2015.

Unsignalized Intersection

Existing:

- For the existing scenario and the road diet concept, a curb radius of 50 feet is given at the northbound left to incorporate the storage length at the right turn.
- As shown in Table 1, the Columbus Drive at Rome Avenue intersection currently operates at LOS D during the evening peak hour.

Road Diet:

- For the road diet concept with a 2-lane divided lane configuration the suggested lane arrangements are:
  - Southbound – T/R/L
  - Westbound – T/R + L (150 ft)
  - Northbound – T/L + R (100 ft)
  - Eastbound – T/L + R (1,000 ft)
- The intersection in this scenario is anticipated to operate at LOS F for the evening peak hour. In this concept the
northbound and southbound approaches experience high levels of delay.

**Signalized Intersection:**

- The control type adopted for the signal timing is Actuated – coordinated type with a cycle length of 90 seconds.
- The lane configuration is the same as that given for the unsignalized road diet concept.
- The signal cycle length and the split is optimized using Synchro9.
- The results show that the intersection in this scenario operates at **LOS B** during the PM peak hour.

**Roundabout:**

- For the roundabout concept, the intersection fails with only one circulatory lane.
- The eastbound and westbound approaches (major street) experience high delay with a single circulating roundabout lane.
- The analysis results show that the intersection operates at **LOS F** during the PM peak hour for the roundabout concept.

**Summary**

Based on the intersection analysis performed with 2015 turning movement count data for the Columbus Drive at Rome Avenue intersection, the intersection currently operates at an acceptable level per FDOT standards (Standard LOS D). Of the analyzed intersection alternatives it the signalized road diet alternative operates the best with a **LOS B** in the PM peak hour.
Table 1: PM Peak Hour Intersection Operations Analysis Summary

<table>
<thead>
<tr>
<th>Approach</th>
<th>Movement</th>
<th>HCM 2010</th>
<th>Synchro</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Movement</td>
<td>Delay</td>
<td>V/C ratio</td>
</tr>
<tr>
<td></td>
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<tr>
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<tr>
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<td></td>
<td>T</td>
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<tr>
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<td>Overall</td>
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Alt1: Unsignalised; Road Diet

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Alt2: Road Diet; Signalized; Control type: Actuated - Coordinated; Cycle length: 90sec

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<th>Synchro</th>
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Appendix C-3
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</table>

*, - Missing LOS is LOS A.
Roundabout Capacity Analysis

Using the Federal Highway Administration (FHWA) Roundabout Informational Guide and the 2015 turning movement count data a roundabout capacity analysis was conducted for the Columbus Drive at Rome Avenue intersection. According to the FHWA Guide, the maximum traffic flow rate that can be accommodated at a roundabout entry depends on two factors: the circulating flow on the roundabout that conflicts with the entry flow, and the geometric elements of the roundabout.

When circulating flow is low, drivers at the entry are able to enter the roundabout without significant delay. The larger gaps in the circulating flow are more useful to the entering drivers and more than one vehicle may enter each gap. As the circulating flow increases, the size of the gaps in the circulating flow decrease, and the rate at which vehicles can enter also decreased. Note that when computing the capacity of a particular leg, the actual circulating flow to use may be less than demand flows, if the entry capacity of one leg contributing to the circulating flow is less than demand on that leg.

The geometric elements of the roundabout also affect the rate of entry flow. The most important geometric element is the width of the entry and circulatory roadways, or the number of lanes at the entry and on the roundabout. Two entry lanes permit nearly twice the rate of entry flow as one lane. Wider circulatory roadways allow vehicles to travel alongside, or follow, each other in tighter bunches and so provide longer gaps between bunches of vehicles. The fare length also affects the capacity. The inscribed circle diameter and the entry angle have minor effects on capacity.

The following is a summary of the roundabout capacity analysis that was completed for the Columbus Drive at Rome Avenue intersection. For this analysis the AM and PM peak hours were evaluated for both the existing conditions, see Table 2 and Figures X – X, and for a future condition using assumed growth percentages as shown in Table 3 and in Figures 2 – 9.
Table 2: Columbus Drive at Rome Avenue Turning Movement Count (2015)

<table>
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<th>Peak Hour</th>
<th>Southbound</th>
<th>Westbound</th>
<th>Northbound</th>
<th>Eastbound</th>
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</thead>
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<td></td>
<td>Right</td>
<td>Thru</td>
<td>Left</td>
<td>Total</td>
</tr>
<tr>
<td>AM</td>
<td>1</td>
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<td>1</td>
<td>3</td>
</tr>
<tr>
<td>PM</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
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</table>

Figure 2: Existing (2015) AM Peak Hour Flow
Figure 3: Existing (2015) AM Peak Hour Approach Capacity
Figure 4: Existing (2015) PM Peak Hour Flow

- EB Entering: 1169
- 4 Southbound All
  - 88 Westbound Left

- Eastbound All
  - 1077
- Southbound Left
  - 1

- NB Entering: 1303
- 4 SB Entering

- Northbound All
  - 225
- Eastbound Left
  - 0

Max Entering: 1150 WB
Max Circulating: 1183
Max Entering + Circulating: 1375

1150 Westbound All
33 Northbound Left

1187
4 SB Entering

1183
Circulating

92

1077
1078
1150

1183
1375

225

1150
WB Entering
Table 3: Columbus Drive at Rome Avenue Turning Movement Count with Growth Factors

<table>
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<th>Northbound</th>
<th>Eastbound</th>
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</tr>
<tr>
<td>PM</td>
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<td>20%</td>
<td>20%</td>
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</table>

Figure 6: AM Peak Hour with Growth Factors Flow
Figure 7: AM Peak Hour with Growth Factors Approach Capacity
Figure 8: PM Peak Hour with Growth Factors Flow

Max Entering: 1380 WB
Max Circulating: 1430
Max Entering + Circulating: 1718
Figure 9: PM Peak Hour with Growth Factors Approach Capacity
Columbus Drive, Rome Avenue to North Boulevard Crash Diagram
## Crash Report

### CRASH NO. | DATE        | TIME   | CONDITIONS  | COMMENTS
---|-------------|--------|-------------|---------
11 | 05/18/11   | 08:50  | DAY, CLEAR, DRY |         
12 | 05/29/11   | 12:30  | DAY, CLEAR, DRY |         
13 | 06/11/11   | 18:35  | DAY, CLEAR, DRY |         
14 | 06/11/11   | 12:30  | DAY, CLOUDY, DRY |         
15 | 07/07/11   | 18:30  | DAY, RAIN, WET |         
16 | 08/01/11   | 12:05  | DAY, CLEAR, DRY |         
17 | 08/11/11   | 09:25  | DAY, CLOUDY, DRY |         
18 | 09/01/11   | 17:50  | DAY, RAIN, WET |         
19 | 09/06/11   | 09:00  | DAY, RAIN, WET |         
20 | 09/08/11   | 07:45  | DAY, CLEAR, DRY |         
21 | 09/19/11   | 16:50  | DAY, CLEAR, DRY |         
22 | 10/25/11   | 08:26  | DAWN, CLEAR, DRY |         
23 | 10/28/11   | 01:40  | DARK, CLEAR, DRY |         
24 | 10/28/11   | 07:26  | DAWN, RAIN, WET |         
25 | 12/17/11   | 16:57  | DUSK, RAIN, WET |         
26 | 12/15/11   | 13:30  | DAY, CLEAR, DRY |         
27 | 01/11/12   | 15:17  | DAY, CLEAR, DRY |         
28 | 01/18/12   | 16:15  | DAY, RAIN, WET |         
29 | 02/07/12   | 09:05  | DAY, RAIN, WET |         
30 | 07/25/12   | 11:16  | DAY, CLEAR, DRY |         
31 | 10/02/12   | 08:50  | DAY, CLEAR, DRY |         
32 | 12/24/12   | 09:56  | DAY, CLEAR, DRY |         
33 | 01/01/13   | 09:55  | DAY, CLEAR, DRY |         
34 | 01/18/13   | 07:25  | DAY, CLEAR, DRY |         
35 | 01/27/13   | 03:14  | DARK, CLEAR, DRY |         
36 | 02/05/13   | 06:56  | DARK, CLEAR, DRY |         
37 | 02/07/13   | 12:00  | DAY, CLEAR, DRY |         
38 | 04/17/13   | 14:20  | DAY, CLEAR, DRY |         
39 | 04/21/13   | 15:30  | DAY, CLEAR, DRY |         
40 | 05/10/13   | 15:44  | DAY, CLEAR, DRY |         
41 | 05/14/13   | 17:40  | DAY, CLEAR, DRY |         
42 | 05/16/13   | 16:39  | DAY, CLEAR, DRY |         
43 | 06/29/13   | 23:16  | DARK, CLEAR, DRY |         
44 | 07/03/13   | 16:00  | DAY, CLOUDY, DRY |         
45 | 07/03/13   | 15:50  | DARK, RAIN, WET |         
46 | 07/18/13   | 17:06  | DAY, CLOUDY, WET |         
47 | 07/26/13   | 17:38  | DAY, CLEAR, DRY |         
48 | 08/16/13   | 07:56  | DAY, CLEAR, DRY |         
49 | 08/22/13   | 07:55  | DAY, CLEAR, DRY |         
50 | 09/10/13   | 07:42  | DAY, CLEAR, DRY | BICYCLE

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West Columbus Drive between Rome Avenue and North Boulevard  
Collision Diagram (2011 - 2015)  
Sheet 4 of 6
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Board & Committee Agenda Item

**Agenda Item**
South Coast Greenway Connector Study

**Presenter**
Wade Reynolds, MPO Staff

**Summary**
Implementation of the South Coast Greenway Connector Trail will assist in completing a major component of the greenways and trails system in eastern Hillsborough County, and provide additional mobility options for the Palm River, Clair Mel, Progress Village, and Gibsonton areas. The trail is included in the Florida Shared-Use Nonmotorized (SUN) Trail Network and will generally be required to be an off-road multi-use path.

The study has identified possible routes and costs associated with those scoring highest for connections to neighborhoods, parks, schools, and other amenities and based on public input.

**Recommended Action**
Recommend acceptance to MPO Board.

**Prepared By**
Wade Reynolds, MPO Staff

**Attachments**
South Coast Greenway Connector Study (Draft)
South Coast Greenway Connector
Trail Alignment Study

Prepared for:

Hillsborough County Metropolitan Planning Organization
601 East Kennedy Boulevard
Tampa, FL 33602
(813) 272-5940

Prepared by:

ATKINS
Member of the SNC-Lavalin Group

The preparation of this report has been financed in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation. The MPO does not discriminate in any of its programs or services. Public participation is solicited by the MPO without regard to race, color, national origin, sex, age, disability, family or religious status. Learn more about our commitment to nondiscrimination and diversity by contacting our Title VI/Nondiscrimination Coordinator, Johnny Wong at (813) 273-3774 ext. 370 or wongj@plancom.org.
## Table of Contents

1.0 INTRODUCTION .............................................................. 1  
1.1 SUN TRAIL PROGRAM ...................................................... 2  
1.2 SCG TRAIL BACKGROUND ................................................ 3  
1.3 SCG TRAIL SYSTEM CONNECTIONS .................................... 3  
1.4 SOCIOECONOMIC CHARACTERISTICS ................................... 5  
2.0 ALTERNATIVES EVALUATION ............................................. 6  
2.1 SECTOR ALTERNATIVES .................................................. 7  
2.2 SCORING THE ALTERNATIVES .......................................... 10  
3.0 PUBLIC INVOLVEMENT ...................................................... 12  
3.1 APRIL OPEN HOUSE MEETINGS ......................................... 12  
3.2 JUNE OPEN HOUSE MEETING ........................................... 15  
4.0 ALIGNMENT CONCEPTS AND COST ESTIMATES ......................... 17  
4.1 CREEK RENDERING (N2) .................................................... 17  
4.2 CAUSEWAY BOULEVARD CROSSING (ALTERNATIVE N2) ............ 18  
4.3 MADISON AVENUE WEST OF PALM DRIVE (ALTERNATIVE N2) .... 20  
4.4 PALM RIVER ROAD AT 78TH STREET (ALTERNATIVE N3) .......... 21  
4.5 CAUSEWAY BOULEVARD AT 86TH STREET (ALTERNATIVE N3) ...... 22  
4.6 MADISON AVENUE WEST OF 78TH STREET (ALTERNATIVE N3) ... 23  
4.7 RIVERVIEW DRIVE AT US 41 (ALL ALTERNATIVES) ............... 24  
4.8 GIBSONTON DRIVE AT US 41 (ALTERNATIVE S2) .................. 25  
4.9 PRELIMINARY COST ESTIMATES ....................................... 26  
5.0 NEXT STEPS .................................................................. 27  

## List of Figures

- FIGURE 1. PROJECT AREA .......................................................... 1  
- FIGURE 2. FGTS WEST CENTRAL REGION MAP ......................... 2  
- FIGURE 3. SELMON GREENWAY CONNECTOR .......................... 3  
- FIGURE 4. TAMPA BYPASS CANAL TRAIL (SOUTH) ................. 3  
- FIGURE 5. SOUTH COAST GREENWAY MANATEE CONNECTION .... 4  
- FIGURE 6. AOI 0.25 MILE BUFFER AREA .................................. 5  
- FIGURE 7. PROJECT AREA SECTORS ....................................... 6  
- FIGURE 8. SOUTHERN ALTERNATIVES ................................... 7  
- FIGURE 9. CENTRAL SECTOR ALTERNATIVES ......................... 8  
- FIGURE 10. NORTHERN SECTOR ALTERNATIVES ...................... 9  
- FIGURE 11. QUESTION 1 RESULTS ......................................... 13  
- FIGURE 12. QUESTION 2 RESULTS ......................................... 13  
- FIGURE 13. TRAIL AMENITIES VOTES (APRIL) ......................... 14  
- FIGURE 14. TRAIL ENVIRONMENT VOTES (APRIL) .................... 14  
- FIGURE 15. TRAIL ENVIRONMENT VOTES (JUNE) .................... 16  
- FIGURE 16. TRAIL AMENITIES VOTES (JUNE) ......................... 16  
- FIGURE 17. TRAIL ENVIRONMENT COMBINED ......................... 16  
- FIGURE 18. TRAIL AMENITIES COMBINED ............................. 16  
- FIGURE 19. CAUSEWAY PEDESTRIAN OVERPASS ALTERNATIVE .... 18  
- FIGURE 20. CAUSEWAY HAWK ALTERNATIVE ....................... 19  

## List of Tables

- TABLE 1. NORTHERN SECTOR SCORING RESULTS ....................... 10  
- TABLE 2. CENTRAL SECTOR SCORING RESULTS ......................... 11  
- TABLE 3. SOUTHERN SECTOR SCORING RESULTS ....................... 11  
- TABLE 4. PRELIMINARY COST ESTIMATES .................................. 26
1.0 Introduction

Hillsborough County and the Hillsborough Metropolitan Planning Organization (MPO) have prioritized the development of a new shared-use trail connecting the South Coast Greenway Trail with the Tampa Bypass Canal Trail. Once developed, this new shared-use trail (South Coast Greenway Connector Trail) will be a major contribution to the greenways and trails system in eastern Hillsborough County providing additional mobility options for the Palm River, Clair Mel, Progress Village, and Gibsonton areas. Figure 1 displays the project area along with the northern and southern connection points.

Additionally, the trail is included in the Florida Shared-Use Nonmotorized (SUN) Trail Network, authorized under 339.81, Florida Statutes. As part of the SUN Trail program’s Gulf Coast Trail, the South Coast Greenway Trail Connection (SCG Trail) will generally be required to be a 12-foot off-road multi-use path.

The purpose of the SCG Trail Connector Alignment Study was to identify the most feasible alignment for the trail connector and develop a conceptual design for the future layout of the trail.

This report is divided into the following sections:

- **1.0 Introduction**: Provides an overview of the study
- **2.0 Alternatives Evaluation**: Summarizes the process for developing the alignment alternatives
- **3.0 Public Involvement**: Summarizes the public involvement aspect of the study
- **4.0 Conceptual Design**: Presents the conceptual designs and preliminary cost estimates for the finalized alignment alternatives
- **5.0 Next Steps**: Synthesizes key issues to be studied further
1.1 SUN Trail Program

The SUN Trail program was adopted by the Florida Legislature in 2015 with the intention of forming a statewide network of nonmotorized trails known as the Florida Greenways and Trails System (FGTS). The FGTS will allow nonmotorized vehicles and pedestrians to access a variety of origins and destinations with limited exposure to motorized vehicles. The SUN Trail program is managed by the Office of Greenways and Trails (OGT) through the Florida Department of Environmental Protection (FDEP). For purposes of funding and maintaining projects within the network, the department allocates a minimum of $25 million annually.

Trails that are part of the SUN Trail system need to meet the following characteristics:

- Multi-use or shared-use path typically 12 feet wide (but may vary from 10 feet to 14 feet) physically separated from motor vehicle traffic
- Identified as an FGTS priority or opportunity trail (a map of FGTS west central region shown in Figure 2)
- Constructed with asphalt, concrete, or another hard surface
- Provides connections to destinations such as: communities, conservation areas, state parks, beaches, and other natural or cultural attractions for a variety of trip purposes including work, school, shopping, and other personal business, as well as social, recreational, and personal fitness purposes
- Network components do not include sidewalks, nature trails, or loop trails
- May include limited on-road facilities that are no longer than 0.5 mile when connecting two or more nonmotorized trails where off-road facilities are infeasible

Source: Florida Greenways and Trails System Plan and Maps, FDEP OGT
1.2 SCG Trail Background
The SCG Trail has been recognized in the Hillsborough County Greenways Master Plan (1995) and the Greenway and Trails Master Plan Update (2016), where it was also identified as a “key regional and countywide trail concept”. In addition, the SCG Trail is included in the Priority list of trails identified in the Tampa Bay Area Transit Authority’s Long Range Transportation Plan and the Hillsborough MPO’s 2040 Long Range Transportation Plan.

1.3 SCG Trail System Connections
The SCG Trail is identified as a key component in the Hillsborough County trail network and will function to provide a north/south connection to the Selmon Greenway Connector and the proposed Tampa Bypass Canal Trail to the north, and the South County Greenway Connector to the south.

Selmon Greenway Connection
The northern terminus of the SCG Trail is intended to travel over the Maydell Drive Bridge and connect to the Selmon Greenway Connector, which provides networks to the West Tampa neighborhood through Downtown Tampa through Ybor City. The Selmon Greenway Connector is also eligible for SUN Trail funding.

**FIGURE 3. SELMON GREENWAY CONNECTOR**

![SCG Connection](Source: Hillsborough County Greenway and Trails Master Plan Update (2016))

Tampa Bypass Canal Trail
Additionally, the northern terminus of the SCG Trail will connect to the future Tampa Bypass Canal Trail. The Tampa Bypass Canal Trail will be a 17-mile multiuse trail connecting the Flatwoods Park in New Tampa through Wilderness and Trout Creek Parks, and the Selmon Greenway.

The greatest challenge to this project is crossing the major roadways along the trail included: I-75, US 301, I-4, Fletcher Avenue, Fowler Avenue, Harney Road, and Alamo Drive.

The guiding principles of the Tampa Bypass Canal Trail include:
- Safe and comfortable crossings of roadways
- Availability for all non-motorized transportation users
- West side alignment preferred
- Regional amenity, local access
- Phasing

The next steps of the Tampa Bypass Canal Trail include:
- Collaboration and support with the Parks, Recreation, and Conservation Department for implementation
- Identification of trail amenities (water, benches, trees, etc.)
- Partnership with historical societies for marker placement
- Funding and Project Design & Engineering

**FIGURE 4. TAMPA BYPASS CANAL TRAIL (SOUTH)**

![SCG Connection](Source: Tampa Bypass Canal Multi-Use Trail Master Plan and Feasibility Study (2013))
South County Greenway Connection

The southern terminus of the SCG Trail begin at the Tampa Electric Company (TECO) utility tract on Symmes Road. According to the Hillsborough County Greenway and Trails Master Plan Update, there are three elements remaining to complete the trail to Manatee County:

1) Continue the trail down the TECO utility tract and connect to US 301 using 19th Ave.
2) Continue south along US 301 (a portion of this connection is underway along with capacity improvements to US 301)
3) Connect to Manatee County via ELAPP corridor between Willow and Saffold road

The next steps for the South Coast Greenway Connection include:
- Coordination with FDOT for a PD&E regarding a shared-use path along US 41
- Initiating a new PD&E study to determine trail alignment across the Little Manatee River into Manatee County
- Coordination with Manatee County for trail alignments

Figure 5 displays a portion of the South Coast Greenway (western green dotted line) connecting through to Manatee County (yellow line). The project area for this study begins about 4 miles north of the SCG connection shown on the map.

The South Coast Greenway connection to Manatee County is also SUN Trail eligible.
1.4 Socioeconomic Characteristics

An Area of Interest (AOI) study and Socioeconomic Data Report (SDR) was conducted using the Efficient Transportation Decision Making (ETDM) database. The AOI utilized was a 0.25-mile buffer area (shown in Figure 6) from the initial general alignment of the SCG Trail obtained from the Hillsborough MPO. The following summarizes the results of the ETDM report.

Land Use
Residential Low Density (less than 2 dwelling units per acre (du/ac)), Residential Medium Density (2-5 du/ac), Commercial and Services, Open Land, and Hardwood Conifer Mixed were the five major existing land uses.

Households
There are 2,419 total households with a population of 7,092 people within the project area. The median household income is $32,318. Approximately 29% of the households are below the poverty level, with 3.7% of the households receiving public assistance income.

Population Age
Over 26% of the population is under the age of 17, and about 15% of the population is between the ages of 18 and 29. Approximately 10% of the population is aged 65 and older.

Housing
The housing characteristics include: single family units (64%), mobile home units (26%), multi-family units (10%). Of these housing units, 56% are owner occupied, 35% are renter occupied, and 9% are vacant.

The average housing density is 0.98 units per acre.

The median housing value is $83,700, which is significantly less than the median housing value for Hillsborough County ($170,000).

Race and Ethnicity
Approximately 59% of the population identifies as ‘White Alone’, and 25% of population identifies as ‘Black or African American Alone’.

In addition to race identification, around 37% of the population specified having ‘Hispanic or Latino of Any Race’ ethnicity.

Minority Population
Minority calculations are derived from US Census and American Community Survey (ACS) data using both race and ethnicity responses.

The SDR report defined the minority population as those individuals who list a race other than White and/or list their ethnicity as Hispanic/Latino. Approximately 65% of the population is considered minority.

Nearly 10% of the population have Limited English Proficiency. Concentrations of minority populations are in the Progress Village and Palm River-Clair Mel areas.

Educational Attainment
Over 76% of the population aged 25 and over consists of High School Graduates or Higher education, with approximately 16% with a Bachelor’s Degree or Higher.
2.0 Alternatives Evaluation

A major component of the study was to identify potential trail alignment options and evaluate their feasibility. The alignment options (alternatives) were established in coordination with the steering committee and the consultant team. The steering committee was comprised of representatives from the Hillsborough MPO, the City of Tampa, and Hillsborough County.

Due to the length of the corridor (approximately 8 miles), the project area was divided into three sectors: north, central, and south. The sector limits are displayed in Figure 7 and described below.

- **Southern Sector**: Symmes Road to Riverview Drive (shown in green in Figure 7). Includes Gibsonton, Bullfrog Creek, and the Alafia River.
- **Central Sector**: Riverview Drive to Madison Avenue (shown in purple in Figure 7). Includes Progress Village Area and Larry Sanders Sports Complex.
- **Northern Sector**: Madison Avenue to Maydell Drive Bridge (shown in blue in Figure 7). Includes the Palm River and Clair Mel areas. Most developed and densely populated sector.

Additionally, a cursory review of existing conditions was conducted including: transportation infrastructure (sidewalks, bike lanes, roadway conditions, signalized intersections, etc.), potential connections (schools, parks, grocery stores, retail etc.), and trail environment (e.g. adjacent to a roadway, powerline easement, along a creek) to yield segment alternatives for each sector (N1, N2, N3, C1, C2, S1, S2).

The next phase of the alternatives evaluation was to develop a quantitative method for evaluating the segments. A scoring criteria was created where each segment could be scored based on various attributes contributing to the overall feasibility of the segment.
2.1 Sector Alternatives

The trail alignments are described briefly in this section. More details can be found in the CADD renderings in Appendix A.

Southern Sector

The South Sector contains two water crossings (Bullfrog Creek and the Alafia River), which limits alternative flexibility. Two alternatives were developed for this sector, both use US 41 to cross the Alafia River and turn east on Riverview Drive. However, the route variations start at the TECO utility tract on Symmes Road and converge at US 41 and Gibsonton Drive. The two alternatives are displayed in Figure 8.

**S1 (US 41 Alternative, green):** Starting from the TECO utility tract at Symmes Road, the alignment travels west on Symmes Road and turns north on US 41. The route uses the US 41 bridge across Bull Frog Creek, and provides access to the Gardenville Recreation Center and businesses along US 41. FDOT District Seven recently completed a Project Development & Environment (PD&E) Study of the roadway, which recommended widening US 41 to six lanes. Due to limited right of way (ROW) on US 41, the study proposed the trail be routed along Lula Street, which was the vision of the 1995 Greenways and Trails Master Plan. This deviation off US 41 could be explored more in future studies but has challenges including open drainage, limited Right of Way, and environmental constraints.

**S2 (Utility Tract Alternative, purple):** This alignment continues north along the TECO utility tract starting from Symmes Road to Gibsonton Road, adjacent to Gibsonton Elementary School. The trail travels west along Gibsonton Road to connect to US 41. This alternative requires a new pedestrian bridge across Bull Frog Creek.
Central Sector

Two alternatives were developed for the Central Sector. The route through the Central Sector follows the TECO utility line north from Riverview Drive to the vicinity of the Larry Sanders Sports Complex (county owned), just west of South 78th Street. The two alternatives developed either follow the utility line north on the eastern side of the Sports Complex to Madison Avenue, or continue further west to a more centralized tract of the Sports Complex eventually leading up to Madison Avenue. The two alternatives are displayed in Figure 9 and further detailed below.

C1 (East Alternative, purple): Continues north along utility tract connecting to Madison Avenue just east of 78th Street. This alternative travels near the main entrance of the Larry Sanders Sports Complex and is in the vicinity of Lamb Elementary and Progress Village Middle Magnet.

C2 (West Alternative, green): Travels northwest along a cleared tract close to the center of the Larry Sanders Sports Complex property. This alternative connects to Madison Avenue further west than C1, and travels near the Literacy Leadership Tech Academy.

View of utility tract to be used for the trail from South 78th Street (looking west).

Source: Google Maps, 2016

Style by Mapbox, rendered using osm2vectortiles, © OpenStreetMap contributors.
**Northern Sector**

Initially, two alternatives were created for the northern sector (N1 and N2). N1 followed the initial alignment submitted by the Hillsborough MPO along Maydell Drive. N2 was a new alignment following a creek between two neighborhoods west of 78th Street. The steering committee suggested a third northern alternative (N3) be added, which was further east near Frost Elementary and Giunta Middle School. The three alternatives are depicted in Figure 10 and further described below.

**N1 (Maydell Alternative, blue):** Travels the furthest west down Madison Avenue from the Central alternatives. The route turns north along 66th Street up to Bing Elementary, where it jogs west on 36th Avenue. The route then continues north along Maydell Drive to the northern project limits across the Maydell Drive Bridge.

**N2 (Creek Alternative, green):** Travels west along Madison Avenue and turns north on 70th Street to 36th Avenue South. The route then travels north on South 74th Street to meet up with a creek between two neighborhoods. This creek is currently owned and maintained by Hillsborough County. The trail follows the creek north to Dowdell Middle, Clair Mel Elementary, and Winston Park connecting to Palm River Road, where it travels west to Maydell Drive.

**N3 (East Alternative, purple):** Travels north from the TECO utility tract the Central routes travel, eventually turning east on Camden Field Parkway. The route turns north along an easement adjacent to Giunta Middle and Frost Elementary to eventually connect to Palm River Road, traveling west, and meeting up with Maydell Drive.

![Figure 10. Northern Sector Alternatives](image-url)
2.2 Scoring the Alternatives

Once the alternatives for each sector were established, a scoring system was developed based on criteria relating to trail development, trail feasibility, and SUN Trail requirements allowing for a quantitative evaluation and comparison of each alternative. The scoring system is summarized in this section and further detailed in Appendix B.

Scoring Criteria

The scoring criteria used included the following measures:

- **Ownership:** If the land is publicly, utility, or privately owned.

- **Right-of-Way (ROW) Required:** Amount of land required to build a 12’ multi-use path on a low, medium, high scale.

- **Trail Construction Barriers:** If a road crossing, bridge crossing, or roadway realignment needed.

- **Public Transportation:** Proximity to HART stops.

- **Schools:** Proximity to K-12 public schools.

- **Healthy Food:** Proximity to healthy food source.

- **Community Facility:** Proximity to community facilities including libraries, medical facilities, and recreation centers.

- **Parks and Natural Land:** Proximity to greenways or parks.

- **Population Served:** Population density per square mile.

- **Equity:** Proximity to Environmental Justice (EJ) areas.

- **Trail Scenery:** Surrounding area aesthetics including shade or other scenic elements along the route.

- **Trail Comfort:** If the trail is adjacent to a major roadway, local roadway, utility corridor, or through a natural area.

- **Safety:** Proximity to bicycle and pedestrian crash locations.

### Scoring Results: Northern Sector

The Northern Sector scoring results are displayed in Table 1. The N2 (Creek) Alternative scored the highest with a total of 40 points out of 50, and the N1 (Maydell) Alternative scored the lowest with 13 points.

- **N1 (Maydell) Alternative:** Higher scores were in the Safety and ROW categories. Lower scores were in the Ownership, Construction Barriers, Healthy Food, and Comfort categories.

- **N2 (Creek) Alternative:** Higher scores were in the Safety, Environmental Justice, Trail Scenery, Public Transportation, and Community Facilities categories.

- **N3 (East) Alternative:** Scored high in the Public Transportation, Healthy Food, and Community Facilities categories. Scored low in Ownership and ROW categories.

### Table 1. Northern Sector Scoring Results

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Max Score</th>
<th>N1 (Maydell)</th>
<th>N2 (Creek)</th>
<th>N3 (East)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership</td>
<td>5</td>
<td>-2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Right-of-Way (ROW)</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Construction Barriers</td>
<td>-5</td>
<td>-4</td>
<td>-4</td>
<td>-2</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Schools</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Healthy Food</td>
<td>3</td>
<td>-1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Community Facilities</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Parks/Natural Lands</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Trail Scenery</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Comfort</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Safety</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Justice (EJ)</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>3</td>
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<tr>
<td>Population Density</td>
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<td>4</td>
<td>2</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>13</strong></td>
<td><strong>40</strong></td>
<td><strong>32</strong></td>
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</table>
Scoring Results: Central Sector

The scoring results for the Central Sector are displayed in Table 2. The C1 (East) Alternative scored highest with 19 points, and the C2 (West) Alternative scored 9 points. Both alignments had similarly high scores in Comfort and Safety categories, and low scores in the Population Density category and several of the connections categories. However, the C1 Alternative offers fewer ROW and Construction Barriers while providing more connections to schools and healthy food.

- **C1 (East) Alternative:** High scores in the Ownership, Comfort, Safety, and EJ categories. Low scores in the ROW, Public Transportation, Community Facilities, Parks and Natural Lands, and Population Density categories.

- **C2 (West) Alternative:** Low scores in the ROW, Construction Barriers, Public Transportation and Healthy Food categories.

**TABLE 2. CENTRAL SECTOR SCORING RESULTS**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Max Score</th>
<th>C1 (East)</th>
<th>C2 (West)</th>
</tr>
</thead>
<tbody>
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<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Right-of-Way (ROW)</td>
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<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>Construction Barriers</td>
<td>-5</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>5</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>Schools</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Healthy Food</td>
<td>3</td>
<td>2</td>
<td>-1</td>
</tr>
<tr>
<td>Community Facilities</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Parks/Natural Lands</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Trail Scenery</td>
<td>5</td>
<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>Comfort</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Safety</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Population Density</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>19</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

Scoring Results: Southern Sector

The scoring results for the Southern Sector are displayed in Table 3. The S2 (Utility) Alternative scored highest with 23 points, and the S1 (US 41) Alternative scored 14 points. The alternatives scored similarly in the Public Transportation, Trail Scenery, and Environmental Justice categories. However, the S1 Alternative scored lower in the Ownership, Schools, and Comfort categories.

- **S1 (US 41) Alternative:** High scores were in the ROW, Healthy Food, and Parks/Natural Lands categories. Low scores were in the Ownership, Schools, Safety, and Comfort categories.

- **S2 (Utility) Alternative:** High scores in Ownership, Schools, Comfort, and Safety categories. Low scores in the Healthy Food and Parks/Natural Lands categories.

**TABLE 3. SOUTHERN SECTOR SCORING RESULTS**

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<th>Criteria</th>
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<tr>
<td>Right-of-Way (ROW)</td>
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<td>3</td>
</tr>
<tr>
<td>Construction Barriers</td>
<td>-5</td>
<td>-5</td>
<td>-4</td>
</tr>
<tr>
<td>Public Transportation</td>
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<tr>
<td>Schools</td>
<td>4</td>
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<tr>
<td>Healthy Food</td>
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<tr>
<td>Community Facilities</td>
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<tr>
<td>Parks/Natural Lands</td>
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<tr>
<td>Trail Scenery</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Comfort</td>
<td>5</td>
<td>-2</td>
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</tr>
<tr>
<td>Safety</td>
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<td>1</td>
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<tr>
<td>Environmental Justice</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Population Density</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>14</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>
3.0 Public Involvement

Another major component of the SCG Trail Alignment Study was the public involvement element. In addition to reviewing existing conditions, steering committee meetings, and the alternatives analysis, public opinion of future trail alignments is crucial. Therefore, the project team hosted two open house community meetings in April 2018, and held an additional meeting in June 2018 to further fine tune the alternatives and receive supplementary feedback on the Northern Sector alternatives.

3.1 April Open House Meetings

Two community meetings were hosted by the Hillsborough MPO, Hillsborough County Public Works, and the project team on the evenings of Tuesday, April 3, 2018 from 6:00 PM to 7:45 PM and Wednesday, April 4, 2018 from 5:30 PM to 7:30 PM. The Tuesday meeting location was within the Northern Sector at the 78th Street Community Library, and the Wednesday location was held within the Southern Sector at the Gardenville Recreation Center.

To spread the word about the meetings, over 10,000 post cards were mailed to residents before the meeting. As a result, over 50 people attended.

Meeting activities included: aerial maps for comments, “Thought Boards” with questions for participants to respond to, visual preference boards to allow participants to identify what type of trail environments or trail amenities they prefer, and general comment forms. The results are summarized in this section.

Aerial Maps

Two large aerial maps of the study corridor and potential alignments were placed on tables for the participants to write comments on using post-its and markers. The following summarizes the map comments:

- **Northern Sector (N1/N2):** N2 appeared to be more popular than N1 among the attendees. However, another popular opinion was combining N1 + N2 to form a continuous loop. N3 was not yet developed by the steering committee at the time of this meeting.

- **Central Sector (C1/C2):** C1 was trending as the preferred alternative due to the connection to Lamb Elementary and the access to parks.

- **Southern Sector (S1/S2):** A modified S2 crossing the Alafia (and not turning west along Magnolia) appeared to be the favored option for the attendees. The community was interested in finding another way to cross the Alafia River than using US 41.
Thought Boards

Two questions were displayed on a “Thought Board” for the meeting participants to respond to via sticky notes to determine how the participants would use the South Coast Greenway, and where they would like the South Coast Greenway to connect.

Question 1: How would you use the South Coast Greenway?

There were 47 responses to this question over the two meetings. The most frequent response was Biking with 17 responses, accounting for more than 35% of the total votes. The other popular responses were Walking (14 responses, 30%), Other (7 responses, 15%), Recreation (5 responses, 11%), and Transportation (4 votes, 9%). The ‘Other’ category includes running, golf carts, fishing, skating, transit, and bird watching responses. Figure 11 displays the response distribution.

**FIGURE 11. QUESTION 1 RESULTS**

---

Question 2: Where would you like the South Coast Greenway to connect?

There were 41 responses to this question over the two meetings. The most frequent response was Parks, with over 40% of the responses. Three of the Parks responses were specified as a dog park. Other popular responses included Schools (9 responses, 22%), and Shopping (6 responses, 15%). The Other category includes restaurants, transit, doctor/clinic, library, and post office, which all received one vote each. Meeting participants also mentioned Beach/Waterfront and Other Trails as additional desirable connections. Figure 12 displays the response distribution.

**FIGURE 12. QUESTION 2 RESULTS**
Visual Preference Boards (April)

Visual preference boards were provided to poll the meeting participants on their preferred trail environments and trail amenities. One side of the board showed images of four existing trails built along different settings throughout the U.S. (major road, local road, creek, power line) representing the trail alternatives. For example, S1 is along US 41, which is a major road; a picture of an existing trail in Pasco County along US 301 was provided as an example trail environment. The other side of the board showed images of eight potential trail amenities (bike repair station, enhanced crossing, exercise equipment, etc.). The meeting participants were given two dots for the trail environments side and four dots for the trail amenities side.

**Trail Environment:** 80 total dots were placed on the trail environment side of the board. The two most popular environments were Creek (similar to N2) with 39% of the votes, and Local Road (N1) with 36% of the votes. The Major Road (S1) environment received the fewest votes (11%). Figure 14 to the right displays the response distribution.

**Trail Amenities:** 160 total dots were placed on the trail amenities side of the board. The three most popular amenities were Bike/Ped Bridge (30 votes, 19%), Benches (28 votes, 18%), and Water Fountains (24 votes, 15%). The two least popular amenities were Bike Repair Station (7 votes, 14%) and Enhanced Crossing (9 votes, 6%). There was one write-in trail amenity for a ‘doggie waste center’. Figure 13 displays the trail amenities response distribution.

Comment Forms (April)

Three comment forms were received at the meetings, and one was emailed to the project team the day after the meetings. Comments received regarding the trail were distributed among the following: safety (2), roadway maintenance/debris (1), adding a dog park and/or other dog friendly amenities, and using trails through Golden Aster Preserve (1).
3.2 June Open House Meeting

After the April meetings, it was determined by the steering committee that the public outreach effort should be enhanced, with a focus on the northern alignments. Therefore, an additional meeting was held on June 11, 2018 from 4:00 PM to 6:00 PM at the 78th Street Library and a survey/comment form was mailed to residents requesting feedback on which of the three routes they preferred.

To spread awareness for the meeting, approximately 720 mailings were sent to those directly along each of the three northern routes. Included with the mailing were stamped, self-addressed envelopes with space to comment to provide residents an additional avenue to send feedback other than physically attending the meeting.

As a result, approximately 8 members of the public attended the meeting. The format of the meeting was similar to the April meetings. Materials at the meeting included the aerial plot to write comments on and maps of the regional and county trail systems for context.

In addition to meeting attendance, 30 comment forms were received via mail and email responding to the trail alignments. The most favored alternative was Alternative B, which is also known as N2 or the Creek alignment.

Mailing Results

Nine comment forms were received in response to the mailing. The results were distributed as follows:

- **Option A (N1, Maydell):** 9 votes
- **Option B (N2, Creek):** 12 votes
- **Option C (N3, Powerline):** 6 votes
- **Opposed:** 3 votes

In addition to selecting options, some respondents included comments regarding the three alternatives:

- **Option A (N1, Maydell):** Supporters of this option mentioned reasons such as: ‘beautiful area’, would serve Palm River Elementary, and the shade will be nice for the summer heat. The respondents that were against this option cited safety concerns by having a trail so close to the road due to the volume and speed of cars.

- **Option B (N2, Creek):** The respondents supporting this option included reasons such as: safety, that it would benefit the neighborhood, and that lots of people would be very close. The respondents not supporting this option indicated visibility and safety concerns (crime).

- **Option C (N3, Powerline):** Supporters of this option mentioned: it was the ‘cheapest and easiest’ option, no cars, and convenience. The respondents not supporting this option indicated visibility and safety concerns (crime), concern about ‘exposure to electric power lines’.

- **Opposed:** The respondents that were against building the trail or were against all three alternatives indicated that they felt resources should be spent elsewhere (specifically to focus on motor vehicle roadway improvements).
Visual Preference Board (June)
The same visual preference boards provided in the April meetings were also provided in the June meeting. The meeting participants were also given two dots for the trail environment side and four dots for the trail amenities side. Sixteen total votes were cast on the visual preference board during the June meeting.

Trail Environment: Four total votes were cast on the trail environments side of the board. Three of the votes were for the Creek (N2) alternative, and one vote was for the local road (N1) alternative. No votes were cast for the Major Road (S1) or Power Line (S2) alternatives.

Trail Amenities: Twelve total votes were cast on the trail amenities side of the board. The two most popular amenities were Lighting (4 votes) and Water Fountains (3 votes). Bike Repair Stations, Exercise Equipment, and Wayfinding Signage did not receive any votes.

Visual Preference Board Combined Totals
The combined results of the visual preference boards from the April and June meeting are summarized below. 256 total votes were cast between both meetings, with 84 votes for the trail environments and 172 votes for the trail amenities.

Trail Environment: The two most popular trail environments were Creek (N2) with 40% of the total votes, and Local Road (N1) with 36% of the votes. The least popular trail environment was Major Road (S1), with only 11% of the votes.

Trail Amenities: The top four trail amenities were fairly close in votes. Benches and a Bike/Ped Bridge had 30 (19%) and 31 (19%) votes, respectively. Water Fountains and Lighting both had 17 votes (17%). The two least popular amenities were Bike Repair Stations (7 votes, 4%), and Enhanced Crossings (11 votes, 7%).
4.0 Alignment Concepts and Cost Estimates

The final concepts for the SCG Trail Study were developed based on the results of the alternatives evaluation, the public involvement responses, and guidance from the steering committee. In order to better illustrate the creek alignment (N2), before and after concept renderings were developed prior to the June community meeting.

4.1 Creek Rendering (N2)

In addition, concept renderings were developed for areas where the SCG Trail would cross major roadways. Regardless of the alignment chosen, there are several locations where enhanced crossings of major roadways would be desirable. These locations, at a minimum, include Causeway Boulevard, Madison Avenue, Riverview Drive and Gibsonton Drive.
4.2 Causeway Boulevard Crossing (Alternative N2)

Two options were conceptualized for crossing Causeway Boulevard in the creek alignment. The first option features a 17-foot high pedestrian overpass displayed in Figure 19. The second option is a Pedestrian Hybrid Beacon Crossing (HAWK) displayed in Figure 20. Included with both figures is a 70-foot pedestrian bridge crossing the canal north of Causeway Boulevard.

**Option 1: Pedestrian Overpass Alternative**

The pedestrian overpass alternative includes a continuous 245-foot long ramp (or longer, depending on design needs) with 5-foot wide landings placed every 30 feet to the overpass structure. The slope of the ramp would be approximately 8.3%. The pedestrian overpass will be approximately 100 feet long across Causeway Boulevard with a minimum of 17 feet in height to the bottom of the structure. With this option, a portion of the trail could be located above the canal/creek, thereby minimizing the need for ROW acquisition.
Option 2: Pedestrian Hybrid Beacon Crossing (HAWK)

The HAWK crossing includes replacing the existing light pole at the crossing with a pedestrian hybrid beacon. Additional lighting can be added to the top of the beacon pole. HAWK midblock crossings would be installed with appropriate ADA ramps and high visibility crosswalk markings. This alternative also includes the reconstruction of the northern sidewalk and bike lane to accommodate combined use for bicyclists and pedestrians. There would be challenges to getting a 12-foot wide trail on the north side of Causeway Boulevard, and ROW acquisition of several parcels south of Causeway Boulevard may be needed.

FIGURE 20. CAUSEWAY HAWK ALTERNATIVE
4.3 Madison Avenue west of Palm Drive (Alternative N2)

The concept below depicts a mid-block crossing with rapid rectangular flashing beacons (RRFB). Note that Hillsborough County plans to widen Madison Avenue to four lanes. Depending on the roadway configuration and traffic volumes, a HAWK intersection may be desirable.
4.4 Palm River Road at 78th Street (Alternative N3)

The intersection depicted below is an area of concern with Alternative N3. 78th Street is a relatively well travelled corridor, and has an interchange connecting to the Selmon Expressway approximately 1/2 mile north of the intersection. Moreover, there is minimal ROW along Palm River Road, as the roadway widens out at the intersection to accommodate turn lanes. Additional analysis would be required, but it appears that ROW acquisition would be necessary to get a 12-foot wide trail through the area.
4.5 Causeway Boulevard at 86th Street (Alternative N3)

In Alternative N3, the utility easement crosses Causeway Boulevard just west of 86th Street. The proposed SCG Trail alignment would move to the eastern edge of the utility easement, such that crossing would occur at the intersection. This is currently an unsignalized intersection, and a pedestrian hybrid beacon (HAWK) is recommended.
4.6 Madison Avenue west of 78th Street (Alternative N3)

As noted in Section 4.3, Madison Avenue is expected to be widened to four lanes in the future. Because the current roadway widens to four lanes just east of the proposed SCG Trail crossing, a pedestrian hybrid beacon (HAWK) is illustrated below. More detailed analysis of the road configuration and traffic volumes may show that installing rapid rectangular flashing beacons (RRFB) is sufficient.
4.7 Riverview Drive at US 41 (all alternatives)

The trail alignment along Riverview Drive applies to all of the alternatives evaluated in this study. The proposed concept depicted below allows the SCG Trail crossing to be separated from the rail crossing and US 41 intersection. Moreover, crossing east of the rail line affords the opportunity for the trail to be integrated into the park on the south side of Riverview Drive. Additional analysis would be necessary to evaluate any impacts of installing a mid-block crossing less than 400 feet from the US 41 signalized intersection.
4.8 Gibsonton Drive at US 41 (Alternative S2)

As shown below, special attention should be given to the SCG Trail alignment at the US 41 / Gibsonton Drive intersection. It is recommended that the curb radii be tightened and that the trail be constructed perpendicular to the rail line.
4.9 Preliminary Cost Estimates

Preliminary cost estimates were developed for three different options, based on the CADD conceptual design files. FDOT Long Range Estimates (LRE) were calculated for the trail and bridge components, along with Maintenance of Traffic (MOT), mobilization, and initial contingency. All three options are based on implementing Alternative S2 and Alternative C1. As shown on Table 4, the first option includes Alternative N2 with the Causeway Boulevard overpass. Option 2 also includes Alternative N2, but with an at-grade crossing of Causeway Boulevard. The third option is based on Alternative N3, again with an at-grade crossing of Causeway Boulevard. In addition to the LRE information, general FDOT cost estimates for enhanced crossings were obtained, and both are detailed in Appendix C. Additional costs were identified for drainage and trail enhancements, and ROW acquisition/easements. The ROW costs vary for each option, based on the amount of properties that may be impacted. Finally, a 20% contingency of calculated construction costs was included, and 15% additional costs for design and construction engineering inspection (CEI) were applied.

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Option 1 Alignment N2 Overpass</th>
<th>Option 2 Alignment N2 At Grade</th>
<th>Option 3 Alignment N3 At Grade</th>
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<tr>
<td>LRE Trail Component</td>
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<td>$3,712,900</td>
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<td>LRE Bridges Component</td>
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<td>LRE MOT / Mobilization</td>
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<td>LRE Initial Contingency (1%)</td>
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<td>Enhanced Crossings</td>
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<td>Drainage &amp; Trail Enhancements</td>
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</tr>
<tr>
<td>TOTAL Cost</td>
<td><strong>$13,493,800</strong></td>
<td><strong>$11,464,700</strong></td>
<td><strong>$11,336,500</strong></td>
</tr>
</tbody>
</table>
5.0 Next Steps

This study evaluated a series of potential alignments for the South Coast Greenway Connector Trail (SCG Trail). Further analysis of these alignments, and others, should be conducted to more fully understand the opportunities, challenges, impacts, and costs of completing the trail. Key issues for further study include the following:

- Availability of the TECO utility corridor, as well as potential costs or mitigation offsets for utilizing the corridor
- Potential bridging of Bull Frog Creek along the TECO utility corridor, or providing a trail across the Bull Frog Creek Bridge on US 41
- Providing a trail as part of a new Alafia River Bridge, and addressing minimal ROW south of the Alafia River on US 41
- Constructing a trail in the maintenance easement of the Hillsborough County drainage canal west of 78th Street
- Connecting the SCG Trail to the planned Tampa Bypass Canal trail, and possibly to an extended Selmon Greenway trail

These issues, and others, would likely be evaluated in a PD&E Study, which would also include more detailed environmental and engineering analyses, as well as additional public involvement. The PD&E Study would be followed by design, ROW acquisition (if needed), and construction. Finally, as discussed at the beginning of this report, the SCG Trail is part of the larger SUN Trail network. Hillsborough County and its community partners should continue working with state agencies, including FDOT and FDEP, to potentially secure SUN Trail funding for portions of the corridor.
Plan Purpose:

The Westshore Transportation Action Plan is to serve as a blueprint for implementing strategies and specific projects by mode (vehicle, transit, bicycle, and pedestrian) that will improve transportation options and address mobility needs of residents, employees, and visitors during the concurrent construction of major transportation actions planned within the District (e.g., I-275 and SR 60 Interchange Reconstruction, Tampa Bay Next, Veterans Expressway toll/express lanes, and Westshore Regional Multimodal Center). Due to the large scale and scope of these planned transportation actions and their potential to affect the local area transportation network, the Action Plan will be critical in maintaining the economic viability of the Westshore District.

The Action Plan has accounted for recent events influencing the area, such as: the growing residential community, the established Westshore District Public Realm Master Plan, Tampa International Airport Master Plan Update, and new and expanding transportation choices and technologies (e.g., rideshare, on demand services, autonomous vehicles, electric shuttles, express bus, park and ride lots, etc.). The Action Plan has also explored modifications to existing and/or new transportation services, connections, infrastructure, and technologies to accommodate current travel demand and account for changes in travel demand within the District.

The Action Plan strategies and projects specifically focus on mobility needs of the area before, during, and after construction of the identified major transportation actions; therefore, they are categorized into three phases:

• Phase I: Existing Conditions/Prior to Construction [2018 – 2020]
• Phase II: During Construction [2021 – 2026]
• Phase III: After Construction [2027 – 2040]
Plan Partners:
The Westshore Alliance is working with partner agencies (including Florida Department of Transportation District Seven, Hillsborough Area Regional Transit Authority, Tampa Bay Area Regional Transit Authority, Hillsborough County Metropolitan Planning Organization, City of Tampa, Hillsborough County, and Pinellas Suncoast Transit Authority) and the Westshore Residential Neighborhood Improvement Committee to seek input on the proposed strategies and projects of the plan.

Recommended Action
Approve Resolution of Support for the Westshore Transportation Action Plan

Prepared By
Allison Yeh, MPO Staff

Attachments
(1) Resolution of Support for the Westshore Transportation Action Plan
(2) Westshore Transportation Action Plan Presentation Slides
MPO RESOLUTION #2018-3
Support for the Westshore Transportation Action Plan
to improve mobility options in the Westshore Business District

WHEREAS, the Hillsborough County Metropolitan Planning Organization (MPO) is the designated and constituted body responsible for the urban transportation planning process for the Tampa Bay Transportation Management Area within Hillsborough County, and is also the designated official Planning agency in coordinating transportation for the transportation disadvantaged.

WHEREAS, the Goals and Objectives of the Imagine 2040 Long Range Transportation (LRTP) includes the enhancing safety and security of the transportation system; supporting the economic vitality of the business community; and promoting accessibility and mobility by increasing and improving multi-modal transportation choices is generally consistent with the Westshore Transportation Action Plan; and

WHEREAS, Additional MPO studies including the Dale Mabry Pedestrian Overpass Technical Feasibility Analysis, Spruce Street Pedestrian and Bicycle Improvement Technical Memorandum; Walk-Bike Plan, Kennedy Boulevard Multimodal Safety Review, Hillsborough County Water Ferry Feasibility Study, Vision Zero, and SUN Trail concepts are generally consistent with the Westshore Transportation Action Plan; and

WHEREAS, the Westshore Alliance, Inc. (“Alliance”) is recognized by the City of Tampa, Hillsborough County, and the State of Florida as the agency within Westshore responsible for developing and implementing Transportation Demand Management strategies, can provide certain improvements and enhanced services for the Westshore Business District; including transportation planning, public realm and overlay district standards, implementation of capital projects; and

WHEREAS, the improvements described in the Westshore Transportation Action Plan have been presented to the Westshore Residential Neighborhood Improvement Committee, elected officials, business owners, business executives, and public authorities charged with building, operating, and maintaining transportation options in Westshore; and

WHEREAS, the Alliance is willing and able to provide specific transportation planning, as demonstrated in the Westshore Transportation Action Plan, to facilitate the efforts of the MPO; and

WHEREAS, the Hillsborough County Metropolitan Planning Organization (MPO) is the designated and constituted body responsible for the transportation planning and programming process for Hillsborough County; and

WHEREAS, the MPO believes the Westshore Transportation Action Plan identifies projects that will reduce congestion, increase capacity of the transportation network, increase consumer choices, promote safer streets, support economic growth, improve the quality of life for commuters and Westshore residents; and

WHEREAS, the Westshore Transportation Action Plan will advance an important public purpose by establishing priority projects for the Westshore Business District and neighborhoods contained within;
NOW, THEREFORE BE IT RESOLVED by the Hillsborough Metropolitan Planning Organization that:

1. The Hillsborough County MPO supports the projects contained in the Westshore Transportation Action Plan and those that may be identified in the future, which are consistent with the adopted long range transportation plan (LRTP) and encourages the public authorities charged with the responsibility of those projects to consider the projects as priorities for the Westshore Business District when they are prioritized as a part of the overall LRTP process.

2. The Hillsborough County MPO encourages the Florida Department of Transportation and City of Tampa to accelerate the construction of the Reo, Occident, and Trask Street connections during the reconstruction of the SR-60 / Interstate 275 interchange, which will restore the Westshore neighborhood street grid, and facilitate transit and pedestrian circulation in Westshore.

3. The Hillsborough County MPO will work with local and regional partners to facilitate transit options into and within the Westshore Business District, in addition to service to Tampa International Airport, and the Westshore Intermodal Center.

4. The Hillsborough County MPO directs staff to work with the Westshore Alliance, and the public authorities responsible for transportation projects to facilitate designs and construction of Complete Streets and pedestrian facilities in the District, including, but not limited to; West Shore Boulevard, Spruce Street, and Lois Avenue.

5. The Hillsborough County MPO encourages collaboration between the State of Florida, City of Tampa, and Hillsborough County agencies to address storm water features and unimproved right-of-way that are barriers for drivers and pedestrians, and consider options that promote safety, improved mobility, and economic development.

Passed and Adopted at a regular meeting of the Hillsborough County MPO Board this ____day of May 2018

________________________________________
Commissioner Lesley “Les” Miller, Jr.
MPO Chair

________________________________________
Wanda West
MPO Secretary

________________________________________
Cameron Clark
MPO Attorney
Westshore Transportation Action Plan

Hillsborough County Metropolitan Planning Organization
Bicycle/Pedestrian Advisory Committee

August 8, 2018

Purpose of Action Plan

• Provide strategies to **address mobility needs & maintain economic vitality** of the Westshore Area before, during, & after construction of major transportation actions (i.e., SR 60/I-275 Interchange Reconstruction)

• **Phase I: Existing Conditions/Prior to Construction** [2018-2020]
• **Phase II: During Construction** [2021-2026]
• **Phase III: After Construction** [2027-2040]
Tasks of Action Plan

• Task 1 - Existing Conditions & Needs Assessment
• Task 2 - Plan Coordination
  ▶ 1st round of meetings
  ▶ 2nd round of meetings
• Task 3 - Action Plan Development
  ▶ Preliminary strategies – identify area needs per mode
  ▶ Final strategies

StreetLight Data Analysis
Modes

• Roadway
• Transit
• Bicycle
• Pedestrian

Roadway

Phase I [2018-2020]
Roadway

Phase II [2021-2026]

Phase III [2027-2040]
Transit

Phase II [2021-2026]

Transit Phase II [2021-2026] without punch through streets
Transit

Phase III [2027-2040]

Transit Hub

Cypress Point Park [Before]
Transit Hub

Cypress Point Park [After]

Bicycle

Phase I [2018-2020]
Bicycle

Phase II [2021-2026]

Bicycle

Phase III [2027-2040]
Bicycle Boulevard  Gray Street [After]

Pedestrian  Phase I [2018-2020]
Pedestrian

Phase II [2021-2026]
Pedestrian

Ultimate

Neighborhood Trail
Grady Avenue [Before]
Neighborhood Trail

Grady Avenue [After]

Transportation Demand Management

- Phase I:
  - Presentations at employers and residential buildings
  - Raise awareness of schedule and options

- Phase II:
  - Promote new circulator and express bus options
  - Promote vanpool and carpool options
  - Partner with employers for ride share discounts/vouchers
Next Steps of Action Plan

• Vet strategies and projects with stakeholders (initiated)
• Present plan to committees/boards/councils for adoption
• Submit final plan & supporting documents to the Westshore Alliance
Board & Committee Agenda Item

**Agenda Item**
Complete Streets Crash Modification Factors

**Presenter**
Margaret Kubilins, PE, Traffic Engineering Manager VHB

**Summary**
The support for complete streets around the country and locally continues to grow as elected officials, professionals, businesses and residents intuitively understand the benefit of roadways that serve everyone using them. It makes sense that providing sidewalks, bikeways, on-street parking, midblock crossings, leading pedestrian intervals, and even gateways and will positively benefit safety and maybe lead to economic development and an enhanced quality of place.

Wouldn't it be helpful to know what the benefit to safety can be expected by building the different components of complete streets before making the investment? Especially when funds only allow for select design options. Crash modification factors can help with that decision making. They can be applied to compute the expected number of crashes after implementing a particular countermeasure.

The committee will hear about the crash modification factors and the results of case studies with before and after crash data.

**Recommended Action**
None. For information only.

**Prepared By**
Gena Torres, MPO staff

**Attachments**
FHWA factsheet – Introduction to Crash Modification Factors
**INTRODUCTION TO CRASH MODIFICATION FACTORS**

**DEFINITION** A crash modification factor (CMF) is a measure of the safety effectiveness of a particular treatment or design element.

**APPLICATION** CMFs are applied to the estimated crashes without treatment to compute the estimated crashes with treatment, as shown by Equation 1.

\[
\text{Estimated Crashes WITH Treatment} = \text{CMF} \times \text{Estimated Crashes WITHOUT Treatment} \quad \{1\}
\]

A CMF less than 1.0 indicates that a treatment has the potential to reduce crashes.

Example: A CMF for total crashes for installing centerline rumble strips on rural major collector roads has been estimated to be 0.86 (1). This CMF indicates that the frequency of total crashes with the treatment is estimated to be 86 percent of the estimated crash frequency without the treatment. In other words, the CMF indicates that there will be a 14 percent reduction in total estimated crash frequency.

A CMF greater than 1.0 indicates that a treatment has the potential to increase crashes.

Example: A CMF for total crashes for converting an urban four-lane cross-section to a five-lane cross-section has been estimated to be 1.11 (2). This CMF indicates that there will be an 11 percent increase in the estimated total crash frequency.

The application of an appropriate CMF can influence the decision to implement a particular project, and the misapplication of CMFs can lead to misinformed decisions. Key factors to consider when applying CMFs include: 1) selection of an appropriate CMF, 2) estimation of crashes without treatment, 3) application of CMFs by type and severity, and 4) estimation of the combined effect for multiple treatments.

**Selecting an Appropriate CMF**

The CMF selection process involves several considerations, including the availability of related CMFs, the applicability of available CMFs, and the quality of applicable CMFs. The key to selecting an appropriate CMF is to identify the CMF that best matches the scenario at hand.

**Availability:** The Highway Safety Manual (HSM) (3) and CMF Clearinghouse (4) are the two primary sources of CMFs.

**Applicability:** Several variables can be used to match a CMF to a given scenario including treatment type, roadway type, area type, segment or intersection geometry, segment or intersection traffic control, traffic volume, and state from which the CMF was developed. The HSM and CMF Clearinghouse provide information to help users identify applicable situations.

**Quality:** If multiple applicable CMFs exist for a given treatment, then the quality or standard error can be used to differentiate the results. The CMF Clearinghouse provides quality ratings for CMFs which may be used for this purpose. In the absence of a quality rating, CMFs may be compared by their
standard error where a smaller standard error indicates a greater level of certainty for a CMF estimate.

Ultimately, CMFs should be applied to situations that closely match those from which the CMF was developed. However, it is critical for practitioners to use engineering judgment when a CMF is not available for the situations encountered as there are some cases for which a CMF that was developed for different conditions might be the best available.

**Estimating Crashes without Treatment**
The CMF is applied to the estimated crashes without treatment to estimate crashes with treatment (assuming the countermeasure of interest is implemented). Hence, the safety performance without treatment has to be estimated before applying CMFs. The HSM presents several methods for estimating the safety performance of a roadway or intersection. The most simplistic method to estimate crashes without treatment is to compute the long-term (i.e., 5+ years) average crash frequency before treatment. In this method, it is assumed that the crash history before treatment will represent the future safety performance in the absence of changes. The Empirical Bayes method, described in the HSM, is a more rigorous method for estimating crashes without treatment as it combines information from the site of interest with information from other similar sites.

**Applying CMFs by Type and Severity**
CMFs may apply to total crashes or to target crash types and severities. It is often useful to estimate the change in crashes by type and severity, but this should only be done when there are CMFs available for the specific crash types and severities in question. The crash type associated with a CMF defines the crashes for which the related CMF is applicable. Crash severity is defined by the most severe outcome of those involved in the crash. It is not appropriate to apply a CMF for a specific crash type or severity to other crash types and severities because a countermeasure may reduce certain crash types or severities while increasing other crash types and severities.

**Estimating the Effects of Multiple Treatments**
There are relatively few studies that estimate CMFs for combinations of countermeasures. It is far more common for studies to estimate CMFs for individual countermeasures. Consequently, it is difficult to accurately estimate the effects of combinations of countermeasures. Methods have been proposed for combining the CMFs developed from individual countermeasures to approximate the effect of multiple countermeasures, but there has been little research to support any specific method. The current practice for many agencies is to assume that CMFs are multiplicative; this is the current method presented in the HSM (3) and posted on the CMF Clearinghouse (4). In brief, this proposed approach (and many of the alternatives) is problematic in the sense that applying the combined CMF may overestimate or underestimate the true crash effects, particularly if the countermeasures target similar crash types. More information regarding the application of multiple CMFs is available in recent articles (5, 6).

Readers can refer to the CMF Clearinghouse for more information (www.cmfclearinghouse.org). The CMF Clearinghouse includes a web-based database of CMFs along with supporting documentation to help users identify the most appropriate countermeasure for their safety needs.

**REFERENCES**
June 27, 2018

Mayor Bob Buckhorn
City of Tampa
306 East Jackson Street
Tampa, Florida 33602

Dear Mayor Buckhorn,

I am aware that the City’s proposed resurfacing and restriping improvements to Bay-to-Bay Blvd. have generated a significant response by City of Tampa residents. As you know, the Interlocal Agreement that we mutually rely on to address County roads within the City of Tampa provides the legal basis governing the responsibility for the design of traffic improvements on Bay to Bay Blvd. Our County Attorney has opined on this issue and I am attaching her legal opinion. In addition, Bay to Bay Boulevard was included in the City of Tampa’s 2012 Walk-Bike Plan update. As a result, the City initiated a traffic study in 2016 and the County agreed to program the funding of the project in its FY18 Budget as a part of the Master Resurfacing Program.

The Agreement has served us well over the years by creating a collaborative working relationship between our two jurisdictions. In the past, the County has relied on the City’s design to restripe Bayshore Blvd., Westshore Blvd., Columbus Dr., and Armenia Avenue. While these are all County roads, they predominantly serve the residents of the City, much like Bay to Bay does. We respect the City’s desire to ensure that these county roads are functioning as a part of the City’s street network.

In an effort to facilitate the City of Tampa’s desire to undertake the proposed improvements for the roadway, and if you agree, I will prepare an agreement for the County Commission’s consideration which will allow for the transfer of the appropriate funds for the City’s implementation of the project.

Best Regards,

Michael S. Merrill
County Administrator

Cc: Board of County Commissioners
    Christine Beck, County Attorney
    Peggy Caskey, Internal Auditor
    Lucia Garsys, Chief Development and Infrastructure Services Administrator
    John Lyons, Director, Public Works
MEMORANDUM

TO: Michael Merrill, County Administrator
FROM: Marva Taylor, Senior Assistant County Attorney
SUBJECT: City of Tampa Interlocal Agreement
DATE: June 27, 2018

Recently, there has been a number of issues raised about County roads located within the City of Tampa and the way the existing Interlocal Agreement (the “Agreement”) governs the relationship between the City and the County. There have also been specific questions raised regarding the resurfacing of Bay to Bay Boulevard and this memo is designed to address those questions.

Issue: Who has the responsibility for the design of capital improvement projects on Bay to Bay Boulevard?

Answer: The City. The Agreement provides that City is responsible for operations and maintenance of County roads within the City limits. Section 11 of the Agreement stipulates that “the City shall provide all necessary engineering, design, and supporting services required for performing the City’s responsibilities as described in the Agreement.” Accordingly, the City is responsible for all design projects on County roads within the City limits including the design of capital projects relating to Bay to Bay Boulevard. The Agreement also provides that the City shall perform traffic markings (lane markings, stop bars/crosswalks) on all County roads within the City limits that are south of Kennedy Boulevard (SR60) as specified in Section 1 of Exhibit D of the Agreement as well as all traffic studies and road safety studies on all County roads within the City limits as specified in section 2 of Exhibit D of the Agreement.

c: Christine M. Beck, County Attorney
    Hank Ennis, Chief Administrative Counsel
    Mary Helen Farris, General Counsel
    John Lyons, Director, Public Works
CALL TO ORDER, PLEDGE OF ALLEGIANCE & INVOCATION

Chairman Les Miller called the meeting to order at 6:00 p.m. Commissioner Stacy White led the pledge of allegiance and gave the invocation. The meeting was convened on the 2nd floor of the County Center.

Commissioner Miller read, for the record, a memo from Commissioner Ken Hagan informing the Board that he was unable to attend.

APPROVAL OF MINUTES – May 1, 2018

A motion was made by Commissioner Pat Kemp to approve the May minutes as presented. The motion was seconded by Councilman Guido Maniscalco and carried unanimously.

PUBLIC COMMENTS ON NON-HEARING ITEMS

Mr. Raymond Clark, with Five Star Entertainment Revolution, provided board members information regarding his business endeavors and informed other speakers not to be afraid to stick up for what they believe in.

COMMITTEE REPORTS, ONLINE COMMENTS

Ms. Gena Torres, MPO Staff, presented the committee reports. Committees recommended approval of the items on the June 12 Consent agenda, including the Public Participation Plan Amendments, which included a suggestion to coordinate with the Autism-Friendly Community Initiative. They also approved the School Safety Study and Top 10 Report.

The Citizens Advisory Committee recommended approval of the Transportation Improvement Program (TIP) priorities for FY 20-24, but passed a motion regarding priority #32 to recommend deleting the funding request to reconstruct the SR60 and Downtown interchanges on I-275, pending re-evaluation of the environmental impact study.

The Bicycle/Pedestrian Advisory Committee members expressed concern about the level of funding in the TIP for single occupant vehicles and related infrastructure, in comparison with transit, pedestrian and cycling infrastructure. It was suggested that more details about resurfacing and intersection projects would help members to better understand the investment levels in those modes.

The Policy Committee forwarded for the Board's approval the Tampa Bay Regional Council Interlocal Agreement. The committee directed staff to identify, as a priority, improvements needed at HART’s Transit Operations and Maintenance Facility. It also directed staff to schedule presentations for the board on: the I-95 Express Bus service in South Florida, including FDOT's perspective and how the service is working in the managed toll lanes; public-private partnerships for joint development of Bus Rapid Transit stations a possible name change from Hillsborough Metropolitan Planning Organization for Transportation to Hillsborough Transportation Planning Organization, which will be taken up later in the year.
At the Tampa Bay Transportation Management Area meeting, they talked at length about the Regional Transit Feasibility Plan. A placeholder will remain on the TMA priority list for the catalyst transit project (or projects) pending the outcome of the peer review process.

Ms. Torres provided a summary of the TIP Hotline and online comments that were received, and Board members were provided all comments in full in their meeting folders.

There were no questions following the committee reports and online comments provided by Ms. Torres.

**CONSENT AGENDA**

A. Committee Appointments  
B. Public Participation Plan Amendments  
C. Safe Routes to School Education Support Letter  
D. Tampa Bay Regional Planning Council Interlocal Agreement

A motion was made by Commissioner Kemp to approve the Consent Agenda. The motion was seconded by Councilman Cohen and carried unanimously.

**PUBLIC HEARING TO ADOPT THE TIP FOR OCTOBER 1, 2018 – SEPTEMBER 30, 2023**

A. Transportation Improvement Program (TIP) Update

Ms. Sarah McKinley, MPO Staff, presented information on the TIP for Fiscal Years 18/19 - 22/23 and the Priorities for Fiscal Years 19/20 – 23/24.

The TIP is a five-year work program that lists funding and source, fiscal year, and project location and phase for projects funded with state and federal dollars in Hillsborough County. The TIP is coordinated and consistent with FDOT’s Work Program.

There were no questions following Ms. McKinley's update.

B. Public Comments

Each person commenting had three minutes, unless they received donated time from another citizen.

1. Zhenya Nichols, voiced concerns regarding Bayshore Blvd Safety.
2. Kent Bailey, Chair of Tampa Bay Sierra Club, voiced concerns regarding public transportation problems.
3. Rick Fernandez, President of the Tampa Heights Civic Association and Vice Chair of CAC, spoke on behalf of the Civic Association, but did not speak to represent the CAC. He received donated time from Debi Johnson, Thomas Bivens, and Connie Rose. Mr. Fernandez voiced concerns on transportation options, the Tampa Bay Next Project, and suggested removal of Priority 32 from the TIP List of Priority Projects.
4. Matthew Suarez commented on documentation over the last three years, information in FDOT Studies, and agreed with Mr. Fernandez on removal of the TIP Priority.
5. Nick Friedman voiced concerns regarding Bayshore Blvd Safety.
6. Michelle Cookson received donated time from Jim Shirk, Mary Hill, and Ann Thomas. She voiced concerns regarding BRT, HART funding, and transit solutions.
7. Mauricio Rosas represented Seminole Heights Dog Park and voiced concerns regarding road safety.
8. Lisa Montelione begged for an increase in funding for HART, public transportation options, reliable transportation for the disadvantaged trying to get to work, and funding priorities.
9. Leslie Mattern voiced concerns regarding making crosswalks available in the urban core, increasing HART funding, and removal of items from Tampa Bay Next that previous speakers referenced.
10. Jaime Rubscha, member of the Bicycle/Pedestrian Advisory Committee, described herself as a Bayshore Statistic, and presented in her individual capacity voicing concerns regarding the dangerous design issues of Tampa roads and pedestrian/bicyclist safety.
11. Sam Gibbons echoed Rick Fernandez’s comments regarding removal of items from the TIP.
12. Kim Overman, member of the CAC, spoke in an individual capacity. Ms. Overman received donated time from Margaret Shepherd and Adam Metz. She commented on investing in the infrastructure to take care of the citizens of Hillsborough County, Heights Mobility Project, and making transit a priority.
13. Ray Clark supported previous speakers and commented on utilizing some of the transportation funds to help homeless, veterans, and single mothers.
14. Rochelle Reback voiced concerns about safe streets, the need for efficient, reliable public transit in Tampa and the need for a transit spine within the County.
15. Chris Vela received donated time from Robert Miley, Ingrid Smith, and Jordan Miller. He voiced concerns regarding road safety, lack of equity in Hillsborough County’s transportation plans, focus on different transportation modes, and suggested the MPO strike the word modernization from the TIP priority list.
16. Connie GeeAbate represented Davis Island residents and voiced concerns about unsafe streets and dangerous crosswalks on Davis Island.
17. Amanda Brown agreed with previous speakers on safety, Bayshore, deadly streets in the area, and Tampa Bay Next. She disagrees with the BRT Proposal and expansion of the interstate and the bridge.
18. Doug Jesseph spoke regarding funding for transit, sprawl, and traffic on I-275.
19. Annie Hipson spoke regarding mass transit.
20. Bill Roberts was not present when called to speak; therefore, did not address the Board.
21. Wanda Janiszewski voiced concerns for accident victims who have perished in traffic fatalities and the need for enforcement of speed limits.
22. Kathy Yates, Secretary for Palma Ceia Neighborhood Association and a member of The Moms of South Tampa, voiced concerns about the need for more sidewalks, traffic calming measures, and more funding towards keeping pedestrians and bicyclists safe.
23. Leslie Forrester, business owner in South Shore, board member of the Greater Riverview Chamber of Commerce, and Mosaic Community Advisory Panel member spoke as a private citizen and expressed concerns about the existing deficiencies in the Big Bend Road area.
24. Bryanna Fox was not present when called to speak; therefore, did not address the Board.
25. Mike Barulic was not present when called to speak; therefore, did not address the Board.
26. Megan Hemmick voiced concerns regarding pedestrian and bicyclist safety.
27. Kevin Thurman was not present when called to speak; therefore, did not address the Board.
28. Topher Morrison, candidate for Mayor of Tampa, recommended when adopting Vision Zero to be sensitive to the community’s needs, not in favor of new roads or widening. He would like to see walkability and advanced public transit solutions. He suggested consideration of Josh Frank’s proposal.
29. Lena Young-Green received donated time from Kareem Young. She commented on gentrification, plans not focusing on the urban core, equitable transportation, encouraged walkability, biking and means of being able to get around without a car, encouraged economic development, focus on safe streets, traffic calming, look at the Boulevard concept, continued support of Vision Zero, and the Green Artery.
30. Dayna Lazarus was not present when called to speak; therefore, did not address the Board.
31. Christopher Gleason, member of Tampa Bay Sierra Club, would like to see prioritized, increased transit, improved transit, safer streets, and long-term transportation solutions for the County.
32. Karen Michalski agreed with items previous speakers mentioned about BRT and highway expansion. She suggested looking at how many fatalities are not reported, the need for solutions to transportation options, investing in urban service area, and getting cars off the roads.
33. Kevin O’Hare spoke against the approval of the TIP and spoke for valuing people first.
34. Nicole Rice, CAC Member, commented on the need for a system that allows for walkability and a transit system that arrives frequently and is consistent. She recommended reevaluation of the transportation priorities, BRT, and FDOT Studies.
35. Nina Tatlock made remarks about sprawl in the area of 19th Avenue in Ruskin, public transportation that is timely and environmentally sustainable now and for the future, electric buses, CSX tracks, safety that puts people first, and reducing cars on the road.
36. Mariella Smith, longtime activist for growth management and transportation and candidate for Hillsborough County Commission, spoke regarding the need for a robust, multi-modal, mass transit system with everything from buses and ferries to trolleys and rail. She also expressed concerns about the problem of granting developers variances or design exceptions without providing safety features for pedestrians and bicyclists.
37. Tracy Crocker received donated time from Cory Crocker. Ms. Crocker usually advocates for the homeless, and for those who have no voice. With her daughter's fatal accident, she requested a traffic signal at the intersection of McIntosh and Hwy 301 in Thonotosassa, so that no one else experiences what she and her family have.
38. Kepra Young, college engineering student, commented on the growth of Hillsborough County and prioritizing more mass transit and walkable options that will lead to a safer, healthier, and more efficient County.
39. Kurt Young received donated time from Sky White and commented on the African American perspective in the transportation discussion and organization in the community for upcoming elections to get the needed results at local, state, and federal levels.

Public Comment concluded at 8:51 p.m. and board discussion and action took place on the TIP.

Councilman Cohen addressed the public comments regarding Bayshore Boulevard. On June 28th the Tampa City Council will have a robust discussion and report about Bayshore. There will be an opportunity for public comment during the meeting. Jean Duncan, P.E., Director of Transportation and Stormwater Services has been working on a multi-faceted analysis of the condition of Bayshore and is looking at a lot of the options that have been publicly mentioned about making Bayshore safer. Prior to the most recent tragedy, the City was already in the process of narrowing the lanes south of Bay to Bay, finishing the bike lane that was started years ago and was in the process of lowering the speed limit to 35 miles per hour. There are three mid-block crossings being planned for the portion of Bayshore north of Howard Avenue, and they are also looking at the possibility of adding additional marked crosswalks south of Howard Avenue to Gandy. They are going to look at lights and a lot of different options for slowing down the traffic. There have been suggestions made about speed cameras, but they are not permitted by law to use them for enforcement purposes. The enforcement situation is robust; however, people are continuing to speed. 5% of the tickets issued in the City of Tampa for speeding are issued on Bayshore Boulevard.

Councilman Cohen also pointed out that the pedestrian and bicycle fatality issues are not just on Bayshore, but it throughout the community. Commissioner Miller agreed with Councilman Cohen and stated that the issue is across the City and the County.

Commissioner Miller asked MPO’s Executive Director, Beth Alden, what is currently in the TIP concerning Tampa Bay Next that can be taken out? Ms. Alden stated there are a number of pending projects (environmental reviews, supplemental environmental impact statement, PD&E Studies) on the priority list. Last month, FDOT offered to remove the express toll lanes on I-275 north of Downtown Tampa from further consideration in these studies. Ms. Alden stated if it was the Board’s direction, that that could be reflected on the priority list. The list currently states only, “pending the outcome of the PD&E Study.”
Chairman, Commissioner Miller passed the gavel to Vice Chairman, Councilman Cohen and made a motion to remove toll lane language from the TIP as described by the Director. The motion was seconded by Commissioner Kemp. There was no discussion on the motion, the motion passed unanimously, and the gavel was returned to Chairman Miller.

Commissioner Kemp thanked Commissioner Miller for making the motion and thanked the citizens for attending the meeting. She would like to see a forum for citizens to have an opportunity to come in the evening to a meeting of the MPO with representatives of the City, County and other transportation agencies to share transit concerns. She thanked Councilman Cohen for his remarks and commented on various transportation projects and tragedies on Bayshore, 40th Street, and all over Hillsborough County. Commissioner Miller reminded Commissioner Kemp that the 41-mile BRT project is not in the TIP.

Mayor Lott thanked everyone in the audience for coming to speak. A lot of the requests are things that the MPO cannot help with; he suggested citizens take their passion and information and present it at their City and County meetings and assure their voice is being heard.

Commissioner Murman made a motion to approve the TIP for October 1, 2018 – September 30, 2023. The motion was seconded by Mr. Lopano. There was no discussion following the motion. Following a roll-call vote, the motion passed with a vote of 14-1, with Councilman Maniscalco voting no.

EXECUTIVE DIRECTOR’S REPORT

Beth Alden provided the Executive Director’s report. The Tampa Bay Regional Planning Council recognized the Gulf Coast Safe Streets Summit, which was organized by the Hillsborough MPO, with a Future of the Region Award. The summit drew attention to the challenges that we have in the region with traffic safety, and what is being done to address those challenges. The next Board meeting will be held on Tuesday, July 31 on the 26th Floor at 9:00 a.m. The annual meeting of the MPO Chairs will be held Friday, July 13 at the Hillsborough Community College Campus in Plant City, and the theme for the meeting is Connecting the Markets. There will be a guest speaker to talk about new and emerging innovative technology from the Hyperloop Transportation Systems. On Friday, July 20, there will be a Regional Transit Forum at the Tampa International Airport. Ms. Alden thanked the airport for hosting the event. The next workshop on the Regional MPO Planning Best Practices study looking at a scenario merger for the three MPO’s has been rescheduled for Monday, August 27 at St. Petersburg College Collaborative Labs.

OLD BUSINESS & NEW BUSINESS

There was no old or new business.

ADJOURNMENT

A quorum was maintained for the duration of the meeting. There being no further business, the meeting adjourned at 9:14 9.m.
We need your Input!
August 27, 2018 – 10:00 am to 4pm

How we plan for and deliver transportation projects now will define how our region will grow…….

- Metropolitan Planning Organizations (MPOs) influence every state and federal transportation project and dollar in your community
- The Tampa Region MPOs are examining ways that they can improve the delivery of their transportation services and products right now

Register by August 8, 2018
Event Registration:
https://mporegionalworkshop2018.eventbrite.com

Collaborative Labs @ St. Petersburg College
13805 58th Street North
Clearwater, FL 33760
Doors open 9:00 am
Workshop 10:00 am – 4:00 pm
Make plans to join us & the MPO School Transportation Working Group for lunch and a presentation on

PASCO SAFETY TOWN

Tell me, and I will forget... Show me, and I may remember... Involve me, and I will understand.

Wednesday noon - 1p

08.29.18

County Center, Conference Rooms A&B 26th floor, 601 E Kennedy Blvd, Tampa

Under the direction of Cpl. Tim Bullock, Safety Town is a realistic, child-sized town designed to provide complete hands-on safety education for children ages 5 - 8 in grades K-2 on topics including:

• Pedestrian, Bicycle & Seat Belt safety
• Water & Boat safety
• Fire, Smoke & Electrical safety
• The right way to call 911
• Safety around animals
• Stranger Danger
• Severe Weather safety
• Internet & general Household safety
• Drug safety

Truly a community project, Pasco Safety Town has been created through the support and cooperation of many businesses, public and private agencies, and civic organizations.

No need to bring your bag lunch to this FREE event. Thank you to S&ME for graciously providing lunch!

Space is limited, so please RSVP to Sharon: snyders@plancom.org or 813/273-3774 x316 RSVP no later than 10a on Tuesday, August 28!
HEALTH

A Frightening New Reason to Worry About Air Pollution

A massive study solidifies the link between particulates from cars and diabetes.

OLGA KHAZAN  JUL 5, 2018

People watch the sunset in Singapore, where the Pollutant Standards Index reached a high of 186 in October 2015 (EDGAR SU / REUTERS)

It’s fairly well known that a bad diet, a lack of exercise, and genetics can all contribute to type 2 diabetes. But a new global study points to an additional, surprising culprit: the air pollution emitted by cars and trucks.

Though other research has shown a link between diabetes and air pollution in the past, this study is one of the largest of its kind, and it’s unique because it both is longitudinal and includes several types of
controls. What’s more, it also quantifies exactly how many diabetes cases in the world are attributable to air pollution: 14 percent in 2016 alone. In the United States, it found, air pollution is responsible for 150,000 cases of diabetes.

The study, published in *The Lancet Planetary Health*, linked data from 1.7 million American veterans who had been followed for a median of 8.5 years with air data from the EPA and NASA. It also aggregated past international research on diabetes and air pollution to devise a model to estimate diabetes risk based on the level of pollution, and it used the Global Burden of Disease study to estimate how many years of healthy life were lost due to this air-pollution-induced diabetes. Globally, 8.2 million years of healthy life were lost in 2016 to pollution-linked diabetes, it showed.

The study authors controlled for things like obesity and BMI, so it wasn’t the case that heavier people simply lived in more polluted neighborhoods and were also more likely to get diabetes.

The particles examined in this study are known as PM$_{2.5}$, or particulate matter that’s 2.5 micrometers big—30 times smaller than a human hair. They are emitted by various types of industry and fuel burning, but in the United States, the biggest source of PM$_{2.5}$ is cars, says Ziyad Al-Aly, the study’s senior author and an assistant professor of medicine at Washington University at St. Louis. When there’s lots of PM$_{2.5}$ in the air, the air might look smoggy or hazy. In lighter concentrations, the particles are invisible.

Scientists are just beginning to understand what exactly makes PM$_{2.5}$ so harmful, but a major reason is that it’s so small and contains toxic metals. Its size allows it to penetrate the lungs and enter the bloodstream. There, it can circulate to different organs and cause inflammation. The inflammation increases insulin resistance. Eventually, this insulin
How Air Pollution Causes Diabetes - The Atlantic

resistance can become so severe the pancreas becomes unable to pump out enough insulin to compensate, and diabetes can set in.

Previous research has found that Latino children living in areas with more air pollution had a greater risk of developing type 2 diabetes. But other studies on the association between the two have generated mixed results.

This new study makes an even stronger case, suggesting that the current limits on air pollution in the United States might be too high. The EPA’s pollution threshold on particulate matter is 12 µg/m³, or micrograms per cubic meter of air, but this study says the risk of diabetes starts at about 2.4 µg/m³. Among people exposed to between five and 10 µg/m³ of particulate matter, about 21 percent developed diabetes. At the threshold of current “safe” levels, 24 percent do. For each 10 µg/m³ increase in particulate matter, the risk of developing diabetes goes up by 15 percent. This risk is present regardless of whether the individual becomes obese or not.

But this study and others might not lead to a tightening of the PM$_{2.5}$ standards because, under a rule proposed by the Trump administration in April, all studies used by the EPA to make air and water regulations must make their underlying data publicly available. As my colleague Robinson Meyer reported, studies like this and others, which show the detrimental health impacts of pollution, are based on health data that is confidential and cannot be de-anonymized.

That will greatly undermine regulations that have made for cleaner air, says Sanjay Rajagopalan, a cardiologist at University Hospitals Cleveland Medical Center, about the proposed rule. “Documents that have gone into EPA regulations go through rigorous peer review,” he says. “We have some of the cleanest air in the world, and there’s scientific data that this has protected millions of lives and contributed to the longevity of American citizens.”
The consequences of PM$_{2.5}$ are more severe for developing countries that do not have strict limits on air pollution. For example, the study says countries like Afghanistan and Papua New Guinea face a higher risk of lots of air-pollution-related cases of diabetes, while the United States has a moderate risk.

Still, experts told me the connection between PM$_{2.5}$ and various health risks is now so clear that people should try to avoid large amounts of particulates, if they can. “Live away from the major sources of emission. Don’t live right near the 405,” Al-Aly told me, referring to a notoriously congested freeway in Los Angeles. “Short of that, anywhere that’s high in pollution, like some cities in China or India, many people wear masks.”

Tanya Alderete, who studies the connection between air pollution and disease at the University of Colorado at Boulder, says people might rethink biking in heavy traffic, for example. “We shouldn’t be engaging in strenuous physical activity during rush hour or near major roadways,” she says.

But everyone I spoke with said the real answer lies with public policy — stricter limits on fossil-fuel emissions and a move to cleaner energy sources. After all, globally, pollution of all kinds kills three times more people than AIDS, tuberculosis, and malaria combined.

_We want to hear what you think. Submit a letter to the editor or write to letters@theatlantic.com._