



CITY OF TAMPA

Walk-Bike Plan

Phase I - Final Report



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Executive Summary:

Purpose and Applicability: Phase I of the City of Tampa Walk-Bike Plan implements the City's recently updated Comprehensive Plan and the Hillsborough County Metropolitan Planning Organization's (MPO) adopted 2035 Long Range Transportation Plan (LRTP). As part of the "Livable City" vision, the City's Comprehensive Plan seeks to support alternatives to single-occupant vehicle travel and to focus infill and redevelopment along mixed use corridors, within urban villages, and, especially, within the City's three major business centers: Downtown, the University of South Florida, and the Westshore District. As such, Phase I of the Walk-Bike Plan works to establish a grid of bicycle and pedestrian facilities to support these major centers. It is anticipated that subsequent phases of the Plan will establish connections between these centers and generally complete a grid of walking and biking facilities throughout the City.

As a general rule, the Walk-Bike Plan identifies bicycle and pedestrian mobility projects which can be constructed within existing roadway alignments and other public rights-of-way. The nature of the projects recommended in this Plan, provide a basic accommodation for walking and bicycle mobility. However, as the plan is implemented, elements such as landscaping/streetscaping and other enhancements may be considered to improve the quality of the cyclist/pedestrian experience and to incentivize private investment within Walk-Bike Plan project corridors.

Although one function of the Walk-Bike Plan is to focus City, MPO, and FDOT resources to pragmatically complete the City's bicycle and pedestrian grid, opportunistic improvements need not be included within the Walk-Bike Plan as a prerequisite for consideration as part of ongoing transportation, developer, and recreation projects. As a rule, the project development concepts incorporated within the Walk-Bike Plan should be considered whenever an arterial, collector, or neighborhood collector roadway is widened or resurfaced. Likewise, other infrastructure planning documents such as the City's Greenways and Trails Master Plan and the Westshore Pedestrian System Plan should be considered as compliments/supplements to Phase I of the Walk-Bike Plan. This is especially true to the extent that these documents, in some cases, identify projects which are greater in scope/cost than the "low-hanging fruit" contemplated in the Walk-Bike Plan.

Project Development and Implementation Process: Generally, the Walk-Bike Plan focuses on developing mobility projects along the City's collector roadway network. The principal reasons for this approach are that collector roadways:

- are often served by transit,
- often have existing sidewalks and street lighting along at least one side of the street,
- generally provide for controlled (signalized) crossing of arterial roadways,
- typically provide for crossing of limited access roadways (i.e. interstates/expressways),
- generally have lower traffic volumes/speeds than arterial roadways,
- may be under utilized and therefore offer potential as "road diet" candidates.

In some cases, however, parallel local street facilities or off-road trails are incorporated into the project recommendations. In these cases, attention is directed to how travel along these facilities may safely and conveniently cross major intersecting roadways. Project candidates have also been identified along arterial roadways, especially in areas where a break-down in the collector road grid due to manmade (airport, interstate) and natural (river, bay) barriers leaves few options.

Although the candidate projects identified in Phase I of the Walk-Bike Plan primarily focuses on city and county-maintained roadways, the Plan recognizes the importance of key state highways in facilitating bicycle and pedestrian mobility. Several state highway projects are identified conceptually in the Plan and coordination with Florida Department of Transportation (FDOT) District 7 has occurred to help optimize opportunities to include key bicycle and pedestrian mobility projects in upcoming FDOT projects.

Within these general guiding principals, candidate projects identified within the Walk-Bike Plan generally fit within the following categories:

- Install Shared Lane Arrows – Along lower volume roadways with posted speeds 35 MPH or less, shared lane arrow (sharrow) pavement markings and corresponding signs provide guidance for cyclists to use preferred bike routes and alert motorists that cyclists may use the full lane when there is insufficient space to pass safely. If existing pavement conditions are acceptable, shared lane arrows may be installed as a low-cost project with minimal design and construction cost. Generally these projects could be incorporated within a city-wide City Capital Improvement Plan (CIP) program area rather than as individual "line-item" projects.
- Install Bike Lanes – In most circumstances, on-street bike lanes are the preferred means of providing for bicycle mobility along major roadways. In some cases, bike lanes can be created by simply marking the lane along an overly-wide 2-lane roadway. As with the installation of shared lane arrows, this may be done with minimal design and construction cost provided the existing pavement conditions are acceptable. Along multi-lane roadways, it is usually necessary to remove the existing lane line markings and reduce the width of automobile thru lanes/turn lanes in order to "carve-out" adequate space to provide marked bike lanes. Because of the process used to remove existing lane markings, these bike lane projects generally require the pavement to be milled and resurfaced. If this type of bike-lane project is implemented in the course of a planned roadway resurfacing project, the marginal cost to provide marked bike lanes is negligible, however if a roadway is resurfaced for the express purpose of providing bike lanes costs can exceed \$250,000 per mile and would likely require a separate budget item. Along roadways where on-street parking is allowed, it will be necessary, in some cases, to choose between restricting parking and providing marked bike lanes or retaining parking and applying shared lane arrows as an alternative treatment. In these cases, neighborhood outreach is encouraged prior to implementation.
- Install Bike Lanes with Road Diet – A "Road Diet" generally involves removing automobile thru-lanes to provide space for other uses within an existing roadway cross-section. These alternative uses can include any one or a combination of things such as on-street parking, bicycle lanes, wider sidewalks, center turn lanes/medians, and high-occupant vehicle lanes. A very common type of "Road Diet" project which has been implemented on Nebraska Avenue and North Boulevard, is to convert a 4-lane undivided roadway to a 2-lane divided roadway with a center turn lane and bicycle lanes. In the case of the Nebraska Avenue road diet project, additional "complete street" elements including bus bays and textured median islands were incorporated into the project. For the most part, road diet projects recommended as part of the Walk-Bike Plan also consider provision of raised median islands to discourage improper use of the center turn lane and provide refuge for pedestrians who choose to legally cross at un-signalized locations. Because of this consideration and potential need to modify existing traffic signals, it is likely most Road Diet projects will be implemented as separate CIP line-items rather than within the broader resurfacing program.

- Complete Sidewalk Connections – While complete sidewalks along both sides of major roadways are preferred, providing a continuous sidewalk along at least one side of 2-lane collector roadways and along both sides of multilane collector and arterial roadways is a reasonable interim goal. Although most major roadways within the City of Tampa meet this basic standard, several roadways reviewed as part of the Walk-Bike Plan are missing complete sidewalks along at least one side of the road between logical termini. While short sidewalk projects can be implemented as part of ongoing maintenance and “gap” programs, longer segments may require separate budget line-items within the City’s CIP. For the most part, sidewalk projects recommended in the Walk-Bike plan do not include obvious drainage system or right-of-way impacts.
- Install Shared Use Sidepath/Trail – In some cases, traffic conditions proscribe the use of shared lane arrows and marked bike lanes cannot be accommodated within the available roadway cross-section. In these cases, bicycle (and pedestrian) mobility may be provided by installing a shared use path along one side of the road. Care should be given to minimize/manage side-street and driveway conflicts, especially for cyclists who travel along the path against the flow of automobile traffic. Generally the minimum width to provide for two-way bicycle travel is 10 feet. Generally projects of this nature will be implemented as line-items within the City’s CIP.
- Enhance/Mark Crosswalks – the Florida Department of Transportation (FDOT) District 7 has implemented a new, enhanced standard for marked crosswalks at signalized intersections and has been selectively retrofitting intersections along corridors with an elevated pedestrian crash history. Through-out the Walk-Bike Plan technical report, locations, or in some cases, corridors are noted where enhanced crosswalk markings are recommended to increase driver awareness of pedestrians. Because crosswalk enhancements generally do not require existing crosswalk pavement markings to be removed (though in some cases they are refreshed), these projects can be done with minimal design and construction cost through CIP program funding. As with shared lane arrow and simple bike lane marking projects, it may be prudent to mill and resurface pavement in the project area if existing conditions are inadequate.
- Provide Intersection Pedestrian Safety Improvements – The Walk-Bike Plan also notes specific intersection where pedestrian safety enhancements are recommended. At signalized (or 4-way stop-controlled) locations, these generally involve one or more of the following: mark/enhance crosswalks, evaluate/improve crosswalk area lighting, and provide count-down pedestrian signals and push-button actuators. At 2-way stop controlled and mid-block locations, recommendations may include installation of marked crosswalks, lighting, and appropriate actuated warning beacon devices. Most of these projects can be implemented with minimal design and construction cost. Projects which require installation of pedestrian signals and lighting design and construction may need to be grouped and programmed as line-items within the City’s CIP.

Priority Projects: Based on the project implementation processes described above, Walk-Bike Project candidates have been divided into three categories:

1. Low-cost projects with minimal design requirements. – recommended to be implemented through citywide programmatic funding categories
2. Bike lane projects with resurfacing – can be accelerated as a CIP line-item project or applied as an input in the resurfacing program prioritization process.
3. Stand alone capital projects – projects which require more complete design and traffic analysis and/or include elements not included within a typical resurfacing project. In some cases, sub-components for projects included in this category can be implemented either through simple resurfacing or through low cost/design citywide program area projects.

Table E-1 through E-3 show the Phase I Walk-Bike Plan candidate projects within each implementation process category. The highest priority city and county roadway projects are indicated within each table and labeled on the Walk-Bike Plan project map (Figure E-1).

In addition to these priority city and county roadway projects, several needs along state-maintained roadways have also been identified in the Tampa Walk Bike Plan. Of these, two of the most critical are:

- Provision of complete sidewalk facilities along both sides of Hillsborough Avenue from Westshore Boulevard to Himes Avenue
- Provision of complete sidewalk facilities along the south side of Spruce Street/Boy Scout Boulevard/ Columbus Drive and implementation of the City Greenways and Trails Master Plan project and/or the Westshore Pedestrian Strategy project to construct a shared use trail along the north side of this roadway from Dale Mabry Highway to either Trask Street or to O’Brien Street.

Table E-1:

Segment Description			High Priority Walk-Bike Projects	Shared Lane Arrows	Mark Bike Lane	Sidewalk/Sidepath	Road Diet & Complete Street	Corridor Capacity & Complete Street	Intersection Capacity and Safety Enhancement	Intersection Pedestrian Safety Enhancement
1-a	Lake Ave	Florida Ave to 21st/22nd St	X	X						
1-b	Palm Ave	15th St to 21st/22nd St	X	Interim	w/ Resurface					
1-c	Gray St	Westshore Blvd to Willow Ave	X	X						X
1-d	Serena Dr	46th St to 52nd St (City Limits)	X	X						X
1-e	Bougainvillea Ave	Nebraska to 30th St	X	X						
		at 15th St								X
1-f	22nd St	Busch Blvd to Fowler Ave	X	X						
		at 109th Ave								X
		at Linebaugh Ave								X
		at Bougainvillea Ave								X
1-g	Doyle Carlton	Laurel St to Palm Ave		X						
1-h	Central Ave	Scott St to M L King Blvd		X						X
1-j	7th Ave	Tampa St/Florida Ave to Nuccio Pkwy		X						
1-k	Whiteway Dr	52nd St (City Limits) to 46th St		X						X
		at 50th St (4-way Stop)								X
1-l	Linebaugh Ave	52nd St (City Limits) to 40th St		X						X
1-m	Linebaugh Ave	Nebraska Ave to to 30th St		X						
1-n	109th Ave	Nebraska Ave to to 30th St		X						
		at 15th St								X

Table E-2:

Segment Description			High Priority Walk-Bike Projects	Shared Lane Arrows	Mark Bike Lane	Sidewalk/Sidepath	Road Diet & Complete Street	Corridor Capacity & Complete Street	Intersection Capacity and Safety Enhancement	Intersection Pedestrian Safety Enhancement
2-a	North Boulevard	Kennedy Blvd to Cass St	X		X					
2-b	Lois Ave	Kennedy Blvd to Spruce St	X	(Alternative)	X					
		Spruce St to Boy Scout Blvd		(Alternative)	X	X				
2-c	Palm Ave	15th St to 21st/22nd St		Interim	X					
2-d	Laurel St	North Boulevard to Tampa St					X			
2-e	Swann Ave	Howard Ave to Bayshore Blvd		X	X					
2-g	Cypress St	Dale Mabry Hwy to Himes Ave		X						
		Himes Ave to North Boulevard		X	X					

Table E-3:

Segment Description		High Priority Walk-Bike Projects	Shared Lane Arrows	Mark Bike Lane	Sidewalk/Sidepath	Road Diet & Complete Street	Corridor Capacity & Complete Street	Intersection Capacity and Safety Enhancement	Intersection Pedestrian Safety Enhancement
3-a	Palm Ave	N. Boulevard to Nebraska Ave	X			X			
3-b	Willow Ave	Swann to Platt St.	X						X
		Platt St to Cleveland St			X			X	
		Cleveland St to Cypress St.		X					
		Cypress St to I-275 (Green St)		X		X			
		I-275 (Green St) to Main St		X					X
3-c	Bougainvillea Ave	30th St to McKinley Dr	X		X				
		McKinley Dr to 46th St			X				
		at 46th Street							X
3-d	30th St	Busch Boulevard to Fowler Ave	X		X				
		at Bougainvillea Ave							X
		at Annie St							X
3-e	Cypress St Corridor	U-Path to Reo Street	X		X				
		Reo St. to Frontage Road			X				
		Frontage Rd to Westshore Blvd		X					
3-f	MacDill Ave	Kennedy Blvd to I-275	X	Alternative	X				
		I-275 to Columbus Dr			X		Study		
		Columbus Dr to M L King Blvd		X					
3-g	Lois Ave	Tampa Bay Blvd to Hillsborough Ave	X			X			

Table E-3 (continued):

Segment Description		High Priority Walk-Bike Projects	Shared Lane Arrows	Mark Bike Lane	Sidewalk/Sidepath	Road Diet & Complete Street	Corridor Capacity & Complete Street	Intersection Capacity and Safety Enhancement	Intersection Pedestrian Safety Enhancement
3-h	Columbus Dr	Rome Ave to North Boulevard				Study			
		North Boulevard to Florida Ave	X						
		Florida Ave to Nebraska Ave	X						X
		Nebraska Ave to 21st/22nd St		X					
3-i	Floribraska Ave	Florida Ave to Nebraska Ave				X			
3-j	46th St	Busch Blvd to Serena Dr	X						
		Serena Dr to Fowler Ave			X				
3-k	50th St	Serena Dr to Whiteway Dr	X		X				X
		Whiteway Dr to Fowler Ave	X						
3-l	40th St/McKinley Dr	Busch Blvd to Fowler Ave							X
3-m	Rome Ave	Kennedy Blvd to Main St		X	X				X
		Main St to Spruce St		X					
		Spruce St to Columbus Dr	X						
3-n	Azeele St	Westshore Blvd to Lois Ave	X		X				
		Lois Ave to Dale Mabry Hwy	X		X				X
		Dale Mabry Hwy to Himes Ave				X			
		Himes Ave to MacDill Ave				X			X
3-o	Himes Ave	Kennedy Blvd to Columbus Dr		X					
		Columbus Dr to Hillsborough Ave			X				
3-p	Habana Ave	Main St to Columbus Dr							X
		Columbus Dr to Tampa Bay Blvd	X		X				
		M L King Blvd to Hillsborough Ave							X
3-q	M L King Blvd	Cargo Rd to MacDill Ave			Study				
3-r	Tampa Bay Blvd	Westshore Blvd to Himes Ave			Study				

Figure E-1:

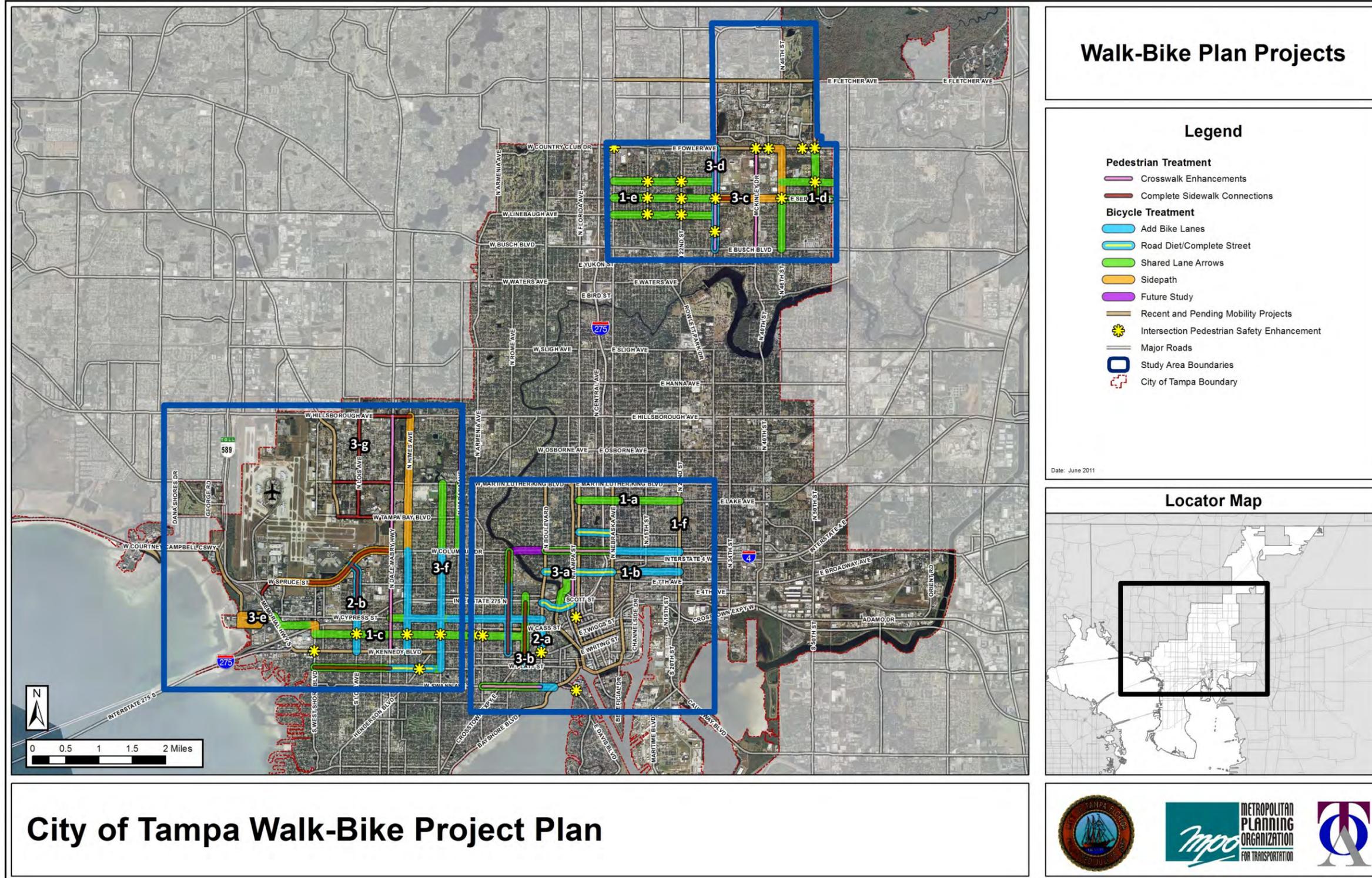


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Introduction

In 2009, the City of Tampa updated its Comprehensive Plan to encourage growth within Tampa's three core "Business Centers" (Downtown, Westshore, University of South Florida-USF), along major transit corridors and within designated "Mixed Use Corridors and Villages." To serve the mobility needs of existing and future residents and businesses in these areas and implement the Hillsborough Metropolitan Planning Organization's (MPO) 2035 Long Range Transportation Plan (LRTP), it is necessary to identify and prioritize feasible bicycle and pedestrian projects and put a business plan in place to get those projects completed. The Comprehensive Plan Land Use Concept Map is shown here for reference as Figure 1.

Projects identified and prioritized by this effort generally will fall into two groups:

1. "Complete Streets" projects that reconfigure an existing roadway facility to more fully incorporate bicycle, pedestrian, and transit modes (e.g., converting a four-lane undivided roadway to a two-lane divided roadway with pedestrian refuge islands and bicycle lanes).
2. Stand-alone projects that do not require reallocation of available automobile travel lanes (e.g., constructing sidewalks along a roadway from point A to point B or modifying lane widths to accommodate marked bicycle lanes).

In addition to bicycle and pedestrian mobility projects focused on the three "business centers," the City has undertaken a parallel effort to identify intersection and roadway capacity projects that can enhance safety, alleviate congestion, and make sense from a community context.

The goal of these projects is to identify and evaluate the feasibility/constructability of projects that will enhance mobility/livability and can be prioritized within the City's Capital Improvement Program (CIP) for funding. Implementation/funding strategies may include:

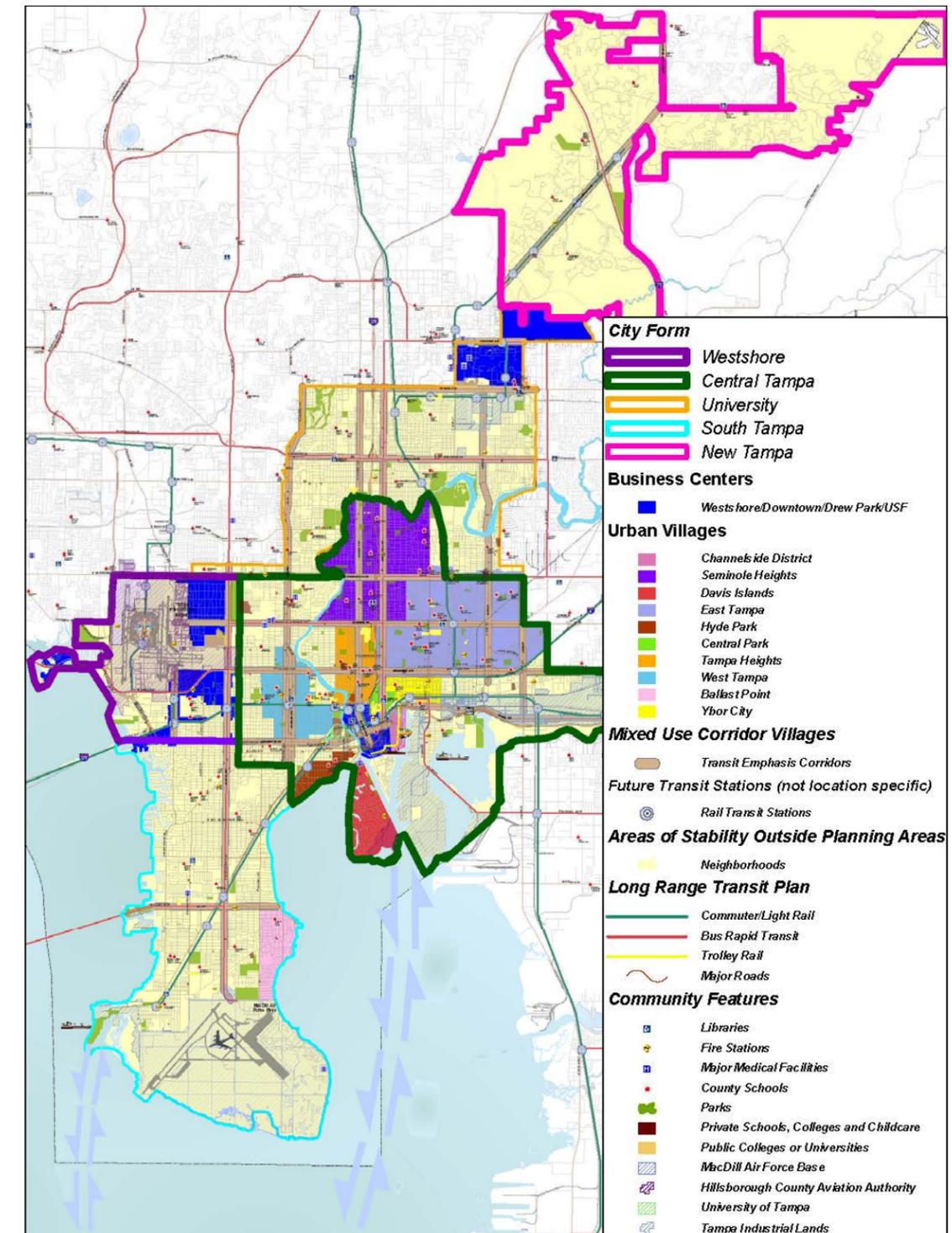
- allocation of City tax revenues (e.g., local option gas tax, capital infrastructure sales tax),
- application of developer contributions (e.g., transportation impact fees, dedications, and proportionate share assessments),
- implementation through opportunities within City, County, and FDOT resurfacing projects and other public works projects, and/or
- funding and implementation of projects eligible for Federal "Enhancement" funds, Federal Highway Safety Program funds, or other Federal dollars allocated by the MPO.

Development of a concrete list of mobility projects also will help determine whether the City requires the additional flexibility of a multimodal mobility fee to further fund non-roadway capacity projects.

This technical memorandum accomplishes the following:

- Defines Walk-Bike travel corridors that support the three business centers.
- Provides an evaluation of existing and planned facilities along these corridors.
- Recommends a list of feasible walking, biking, and roadway capacity, operations, and traffic safety projects for further consideration.

Figure 1: Tampa Comprehensive Plan Urban Form Vision Map



Definition of Walk-Bike Travel Corridors

The first phase of the Tampa Walk-Bike Plan is to identify corridors between the city's business centers, adjacent neighborhoods, mixed use villages, and activity centers where improved walking and biking facilities could enhance mobility and livability. This technical memorandum summarizes the process used to identify corridors for further review. Once corridors are identified, existing and committed (CIP/TIP) facilities will be evaluated to determine whether pedestrian and bicycle connectivity is adequate. If adequate connections are not available, potential enhancements will be identified and evaluated for feasibility.

The methodology for identifying these corridors is as follows:

1. Define study area(s).
2. Interview stakeholders.
3. Review plans and studies.
4. Synthesize walk-bike strategies.

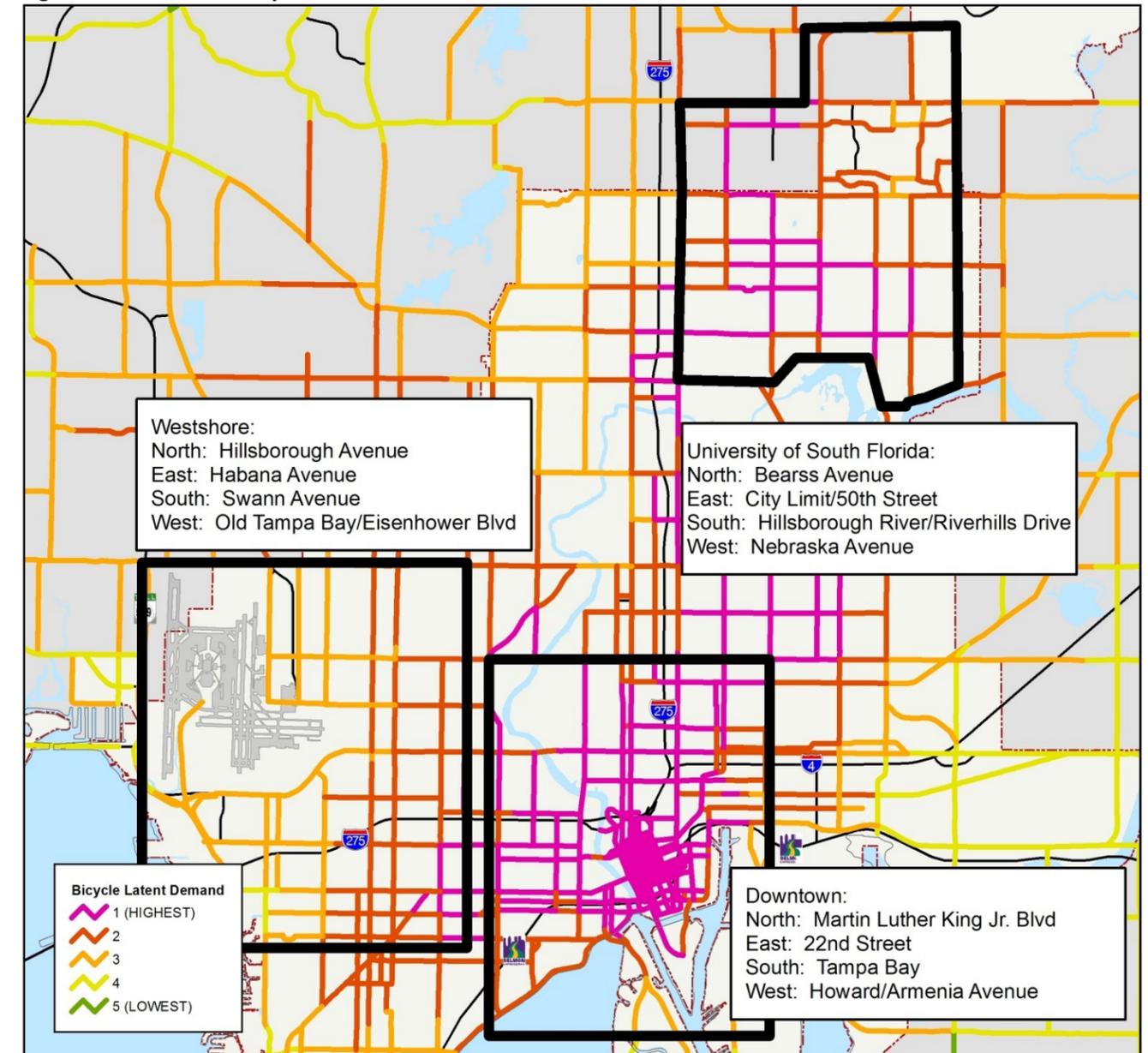
Define Study Areas: Based on discussions with the Project Management Team during project scoping and the project kick-off meeting, study areas were defined around the city's three business centers: Downtown, Westshore, and USF. These study areas are depicted in Figure 2. Each study area generally conforms to a two-mile radius around logical termini for each business center (i.e., major roadways and jurisdictional limits). The two-mile radius was determined through consideration of an acceptable bicycling distance for novice riders. The USF Study Area includes areas outside of the City of Tampa jurisdiction. For these adjacent areas, findings from the MPO/Hillsborough County Multimodal Transportation District Study and the planned FDOT/Hillsborough County Fletcher Avenue enhancement project will be incorporated into this project by reference.

Interview Stakeholders: As part of the project kick-off meeting, several stakeholders were identified and subsequently interviewed. The following stakeholders were interviewed in person or over the phone and were asked to identify known travel patterns within the three business center study areas and barriers to these travel patterns:

- Tampa Homeowners and Association of Neighborhoods (THAN)
- USF
- Downtown Partnership
- The Planning Commission of Hillsborough County
- City of Tampa Economic Development Department
- FDOT District 7
- Central Tampa Greenspace Initiative (Tampa's Green Artery)
- Westshore Alliance

Additionally, a simple questionnaire was provided to the Tampa Homeowners and Association of Neighborhoods (THAN) chair for distribution to members. The questionnaire also was posted on the MPO's website; however, few responses were received. A summary of the stakeholder interviews and questionnaire responses is included in this Technical Memorandum as **Appendix A**.

Figure 2: Walk-Bike Study Areas



Review Plans and Studies: The following inputs have been incorporated within this effort:

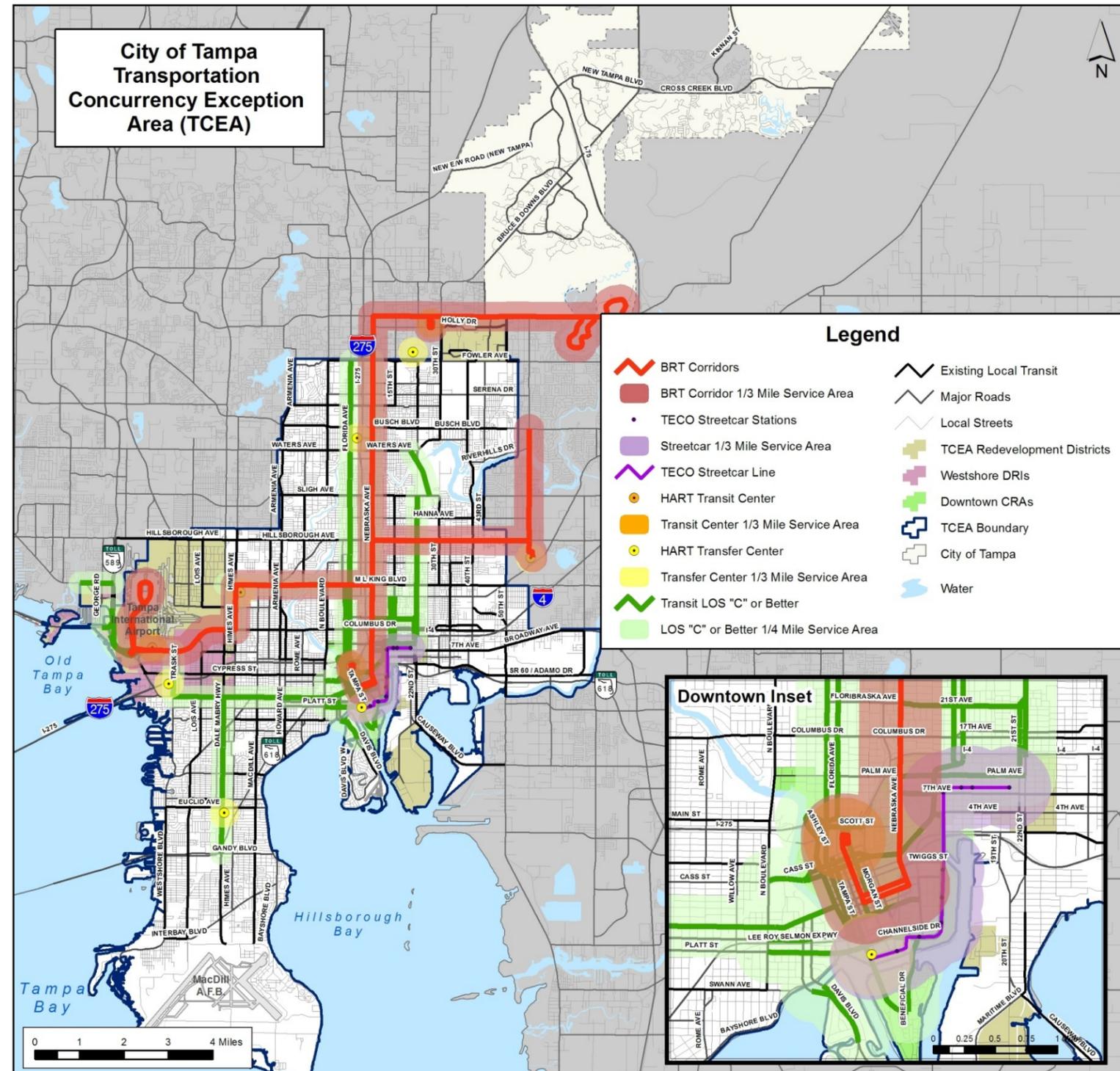
- Review of Comprehensive Plan City Form/Vision Map—The Comprehensive Plan identifies several Mixed Use Corridor Villages and Urban Villages. Many of these are within the two-mile influence area of the city’s three major business centers. For each of the three business centers, adjacent Corridor and Urban Villages are shown in Table 2. These areas are where the City intends to target infill and redevelopment and, therefore, are central elements to determining multimodal travel corridors.
- Review of 2035 MPO Long Range Transportation Plan’s (LRTP) Cost affordable Projects—The LRTP identifies funded and unfunded sidewalk and bicycle facility projects and establishes eligibility for federal funds. Needs identified in the LRTP act as a base for corridor identification.
- Review of primary transit corridors/facilities—Primary Transit Corridors/Facilities, shown in Figure 3, are existing and planned/cost-feasible transit routes that provide level of service (LOS) “C” or better service or transfer centers with at least five interconnecting transit routes. Within each of the business center study areas, the Walk-Bike Plan should leverage these transit facilities to connect neighborhoods and activity centers to each other and to the three business centers.
- Evaluation of City of Tampa Greenways and Trails Master Plan—Existing or planned/feasible trail systems will be evaluated to determine if these facilities provide walking/biking connectivity in target corridors. These facilities also may be considered as destinations for walking-biking trips and therefore factor into the “connectivity” needs discussion. Funding of planned but unfunded off-road trails may, in some circumstances, provide for better connectivity than on-road alternatives, especially when roadway corridors are constrained.
- Interviews (up to three) with the City’s Growth Management/Community Planning and Economic Development staff and Planning Commission staff—This task was expanded to include the stakeholder interviews described above.
- Review of Past MPO Work Products including the 2008 MPO Comprehensive Bicycle Plan and 2004 MPO Comprehensive Pedestrian Plan—these plan documents identify priority bicycle and pedestrian corridors, many of which fall within the three business center study areas (see Figure 2 – latent demand). These studies also summarize existing conditions and planned/funded projects and therefore serve as excellent resources to identify travel corridors and potential candidate projects.
- Review of City of Tampa Planned/Approved Project Spreadsheet—The City of Tampa maintains a database of approved and planned private development projects. This was reviewed in conjunction with City staff and Planning Commission staff interviews to identify development “hot spots” adjacent to the three business centers study areas.
- Use of Longitudinal Employment-Household Dynamics (LEHD) Data—The LEHD mapping tool was considered for use, but because the three subject business centers are, by nature, regional, the significance of home/work pairs with the adjacent neighborhoods was not generally useful, with the exception of the observed pairing of USF and Temple Terrace.

- Other GIS data or Studies Identified by the Project Management Team or the Consultant—Preliminary alignment and station area locations from the HART Transit Alternatives Analysis have been considered. The sites chosen for station locations should have superior bicycle and pedestrian connectivity; however, the alignment and funding availability for rail or Bus Rapid Transit (BRT) is not known at this time. Selection of multimodal “demand” corridors, therefore, will precede independent of potential station areas, but the allocation of project effort to vet individual improvement projects may be influenced by the pending outcomes of the Alternatives Analysis and sales tax referendum. The Drew Park Strategic Action Plan, Westshore Mobility Strategy, Westshore Pedestrian Plan, USF Multimodal District Plan, and Crosstown Greenway study also impact consideration of multimodal travel corridors.

Table 1: Urban Villages, Mixed Use Corridor Villages, and Primary Transit Facilities

	Downtown Study Area	Westshore Study Area	USF Study Area
Urban Villages	Davis Island Hyde Park West Tampa East Tampa Ybor City Channelside District	West Tampa	NONE
Mixed Use Corridor Villages	Florida Avenue Nebraska Avenue Martin Luther King Jr. Blvd. Columbus/Boyscout/Spruce Kennedy Boulevard	Westshore Boulevard Dale Mabry Highway Hillsborough Avenue Martin Luther King Jr. Blvd. Kennedy Boulevard	Nebraska Avenue 40th Street/McKinley Blvd. Fowler Avenue Busch Boulevard
Tampa Primary Transit Corridors	Florida Avenue Nebraska Avenue 14th/15th Street/Nuccio Pkwy 21st/22nd Street Davis Boulevard (TGH area) Martin Luther King Jr. Blvd. Floribraska Avenue 7th Avenue TECOLine Streetcar Cass Street Cleveland/Platt Street	Westshore Boulevard Himes/Columbus/Boyscout/Spruce Kennedy Boulevard	UATC

Figure 3: City of Tampa Primary Transit Corridor/Facility Map



Walk-Bike Plan Strategy Synthesis: Two guiding principles also have been established through the execution of the Multimodal Corridor Definition Task, as discussed below.

Major Network Focus: Generally, this effort will focus on developing mobility projects along the City's collector roadway network. The principal reasons for this approach are that collector roadways:

- often are served by transit,
- often have existing sidewalks and street lighting along at least one side of the street,
- generally provide for controlled (signalized) crossing of arterial roadways,
- typically provide for crossing of limited access roadways (i.e., interstates/expressways),
- generally have lower traffic volumes/speeds than arterial roadways, and
- may be underused and therefore offer potential as "road diet" candidates.

Where necessary, parallel local street facilities or off-road trails will be incorporated into the project recommendations; however, attention must be directed to how travel along these facilities may safely and conveniently cross major roadways. Likewise, potential enhancements along arterial roadways also will be considered, especially when necessary to cross a physical barrier such as the Hillsborough River or a limited access highway.

Candidate Project Type Preferences: The goal of this project is to identify bicycle and pedestrian mobility projects that can be constructed with little or no right-of-way (ROW) acquisition or reconstruction of roadway drainage systems. Ideal candidate projects will include:

- roadways where existing pavement surface can be reallocated to accommodate cyclists and/or provide for pedestrian refuge islands, or
- corridors where existing public ROW can be used to complete sidewalks or construct shared-use trails.

However, some candidates may require limited roadway reconstruction, especially at intersections where the need for auxiliary lanes may constrain available space for bicycle and pedestrian facilities. Potential impacts to brick streets (asphalt bike lane overlays) and grand trees will need to be evaluated on a case-by-case basis.

In addition to these general strategy principles, walk-bike travel corridors/concepts have been defined for each business center/study area as follows:

Downtown: Downtown offers many opportunities to provide for connectivity because of relatively frequent connections across I-275 and I-4 as well as numerous bridges across the Hillsborough River. Downtown also has numerous clearly-defined neighborhoods, Urban Villages, and mass transit corridors that help define necessary multimodal travel corridors/needs.

The general approach to connect these neighborhoods/ activity centers to downtown and to each other is to establish a grid of bicycle and pedestrian facilities spaced no more than 0.5 miles apart. Establishing this grid also will facilitate access to Primary Transit Facilities including the Marion Transit Center, planned intermodal center, and existing, high-frequency HART corridors such as Tampa St/Florida Ave, Nebraska Ave, Kennedy Blvd, and numerous other corridors where route overlays provide superior headways into Downtown.

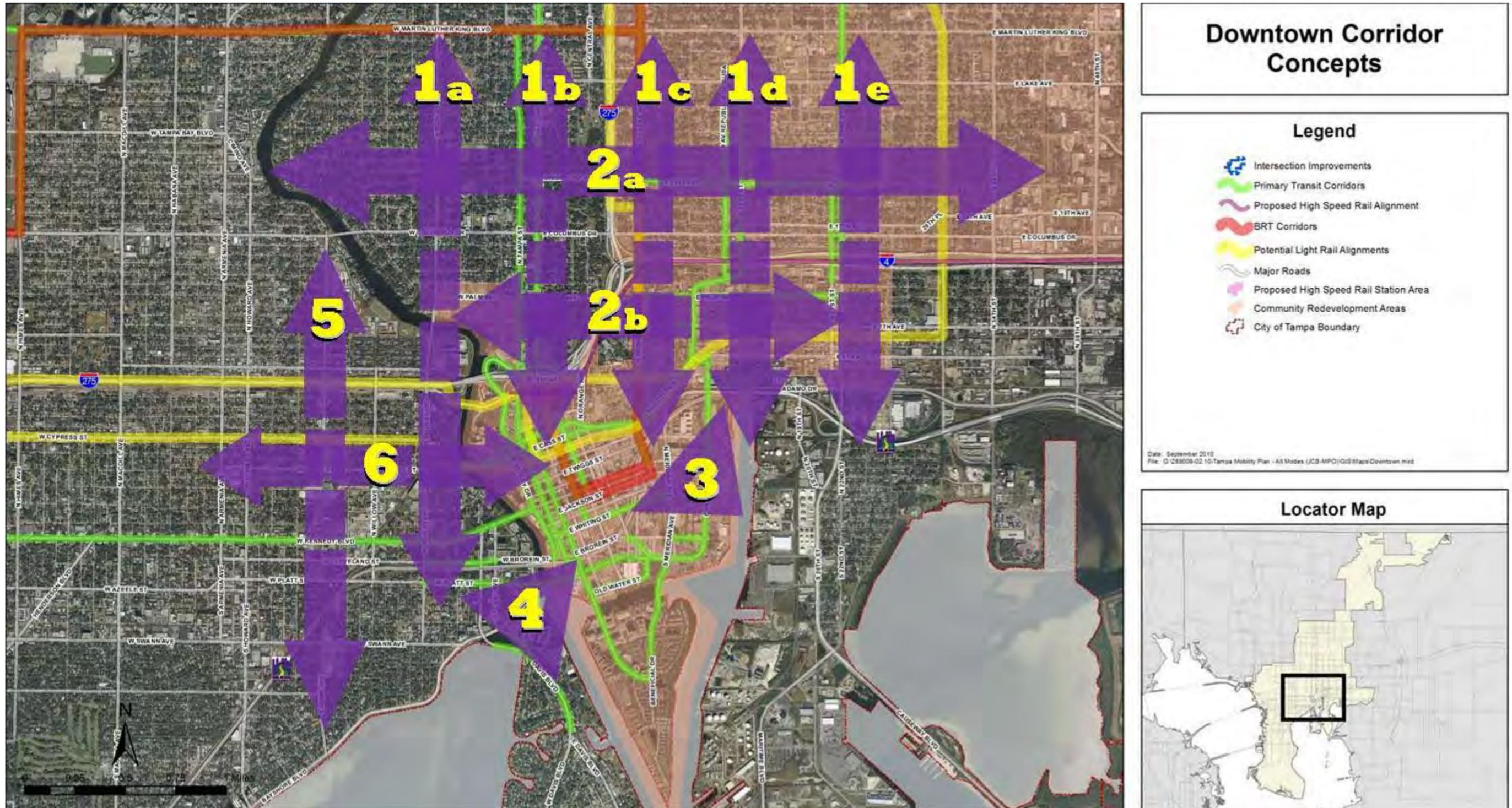
Pedestrian and bicycle connectivity within Downtown proper has been studied extensively by the MPO, City, and Downtown Partnership. Although connectivity issues are noted between the Channelside District and Downtown (especially for bicyclists), the goal of the Downtown strategy is to “get people to the Riverwalk/Meridian Ave trail” and then rely on these facilities and the existing Downtown network to distribute trips within the area. The Crosstown Greenway study and intermodal center development will help to refine mobility options within downtown.

Specific strategies to provide connectivity in the Downtown study area are shown in Table 2 and Figure 4.

Table 2: Downtown Study Area Connectivity Corridors/Concepts

Downtown				
ID Number	Description	Purpose	Challenges	Planned Project
1a	North Boulevard	Connect Riverside Heights and Tampa Heights to Downtown and West Tampa.	North Boulevard Bridge. Status of Tampa Interstate Master Plan North Boulevard Interchange.	Potential City of Tampa road diet/resurfacing project.
1b	Tampa St/Florida Ave Corridor	Connect Tampa Heights and Seminole Heights to the Heights CRA and Downtown.	Currently no north-bound bicycle lanes on Tampa St/Florida Ave. May need to consider parallel local streets.	Pending FDOT 3R project; may include bike lane on Florida Ave.
1c	Nebraska Ave	Connect Ragan Park, Seminole Heights and VM Ybor to the Encore CRA and Downtown.	Bike connections from Nebraska Ave into Downtown core and Channelide District.	
1d	14th/15th St Corridor	Connect Ragan Park and VM Ybor to Ybor City and Downtown.	No bike lanes currently. Sections will replace 21st/22nd St truck route once the Crosstown/ I-4 connector is complete.	
1e	22nd St Corridor	Connect East Tampa to Ybor City.	No bike lanes currently; sidewalk on one side only.	Pending FDOT and City of Tampa Enhancement Projects; will include bike facilities from Adamo Dr to Lake Ave.
2a	Lake Ave/Floribraska Ave/Columbus Dr Corridor	Provide for east-west distribution from Riverside Heights to East Tampa including connections to Downtown via Primary Transit corridors and planned light rail station areas. Potentially provide connections to West Tampa via Columbus Dr Bridge. Potential rail station area along Lake Ave.	No bike facilities currently; limited available cross section on Columbus Dr; high apparent volumes on Columbus Dr bridge. Lake Ave and Floribraska Ave do not cross Hillsborough River.	Columbus Dr bridge replacement.
2b	Palm Ave/7th Ave Corridor	Provide for east-west distribution from Riverside Heights to East Tampa and enable trips to enter downtown at the appropriate east-west juncture.	No bike facilities currently. Limited cross section on 7th Ave. Peak hour demand and TECOline extension plans may limit ability to "road diet" Palm Ave.	Palm Ave from Nebraska Ave to 15th St was recently resurfaced to include bike lanes.
3	Downtown/Channelside/ Ybor Connectivity	Provide supplement to the TECOline Streetcar System, especially for bike trips.	Poor connections, especially for bikes, between Meridian St and Downtown, and across Adamo Dr on Channelside Dr.	Crosstown Greenway Plan may help provide for these connectivity needs.
4	Downtown/TGH-Davis Islands/Hyde Park Connectivity	Provide connections between Tampa General Hospital (TGH) and new TGH facilities along Kennedy Blvd, provide connections from Hyde Park into Downtown via Cleveland/Platt/Swann corridor.	Davis Islands Bridge and Downtown Bridges are not designed for cyclists. No bike lanes on Cleveland/Platt/Swann currently.	Bayshore enhancement project will improve access to Davis Islands bridge.
5	Rome Ave/Willow Ave Corridor	Provide north-south corridor from Bayshore Blvd to Columbus Dr Bridge. Connect potential rail station areas at I-275 at Rome to West Tampa Urban Village.	No bike lanes currently. Brick street ordinance may limit bike lane potential. Sidewalk gaps.	
6	Cypress St/Cass St Corridor	Connect West Tampa Urban Village to Downtown.	No bike lanes currently. Cass St Bridge not designed for cyclists. Sidewalk gaps.	

Figure 4: Downtown Study Area Connectivity Corridors/Concepts Map



USF: Interviews with USF planning staff, Planning Commission staff, and a summary review of USF student/employee residence “dot-density” and LEHD labor shed maps indicates the strong live/work relationship between the University and Temple Terrace. Other priorities include:

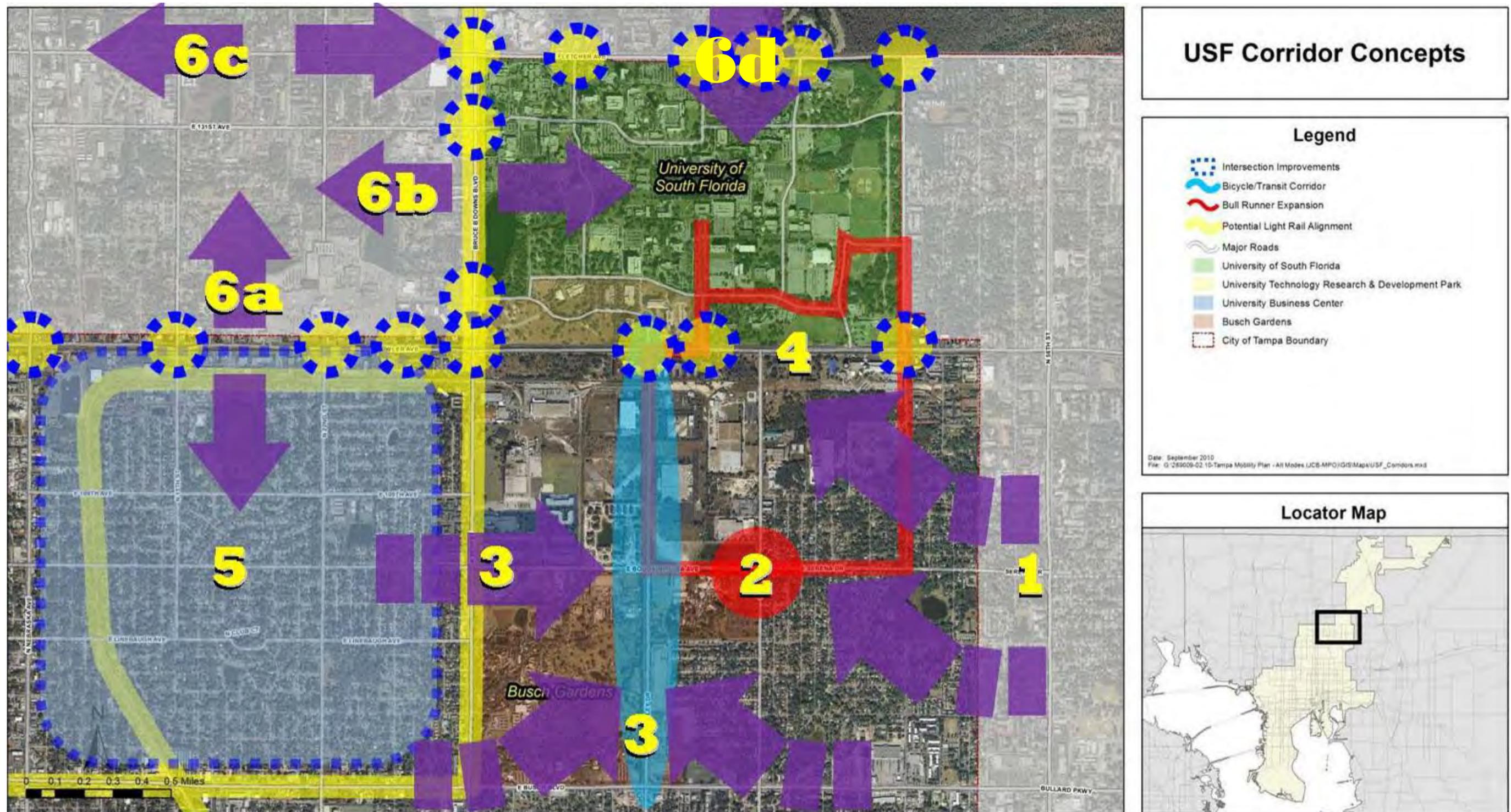
- Provide access to planned Bull Runner service extending south of campus along 50th St, Bougainville Ave/Serena Dr, and 40th St.
- Provide access to existing bike lanes and transit service along 40th St.
- Enhance existing signalized intersections along Fowler Ave to reduce the “barrier” effect of Fowler Ave on bicyclists and pedestrians.
- Incorporate recommendations from the USF Multimodal Transportation District Plan to enhance connectivity between the University and commercial and housing areas to the west and to the north of campus.
- Identify sidewalk and intersection safety improvements in the sub-area west of 30th St.

USF walk-bike mobility strategies are described in Table 3 and illustrated on the map included as Figure 5.

Table 3: USF Study Area Connectivity Corridors/Concepts

USF				
ID Number	Description	Purpose	Challenges	Planned Project
1	Temple Terrace to USF Connections	Provide (principally) bike connections from Temple Terrace Jurisdiction to USF via 50th St and/or Lee Roy Collins signalized intersections. Potential opportunity for sidepath on 46th and 50th Streets.	No bike lanes on Serena, 50th St, or 46th St. Open drainage may be impacted by paved shoulder construction or sidepath project. No signal at 46th St and Fowler Ave.	
2	Connections to Bull Runner Extension	Provide connections from neighborhoods to the Bull Runner extension.	Sidewalk gaps on Bougainvillea from 30th St to 40th St. No bike lanes on Bougainvillea/Serena and constrained cross section.	
3	Connection to 40th St/McKinley Dr Corridor	Provide connection from neighborhoods to 40th St/McKinley Blvd to take advantage of existing bike lanes and transit service.	Sidewalk gaps on Bougainvillea from 30th St to 40th St. No bike lanes on Bougainvillea/Serena and constrained cross section.	
4	Fowler Ave Intersection Improvements	Identify and implement pedestrian safety improvements at signalized intersections along Fowler Ave to allow trip from Tampa jurisdiction to safely access USF.	Fowler Ave is a principal arterial with high automobile volumes and speeds.	
5	Areawide Mobility and Safety Improvements	Identify intersection improvements, shared lane project candidates, and sidewalk gaps to improve mobility and safety west of 30th St.	Limited roadway cross sections, few bike lanes, sidewalk gaps.	
6a	Neighborhood/Commercial Access Fowler Ave Intersection Improvements	Provide for existing bicycle and pedestrian traffic between neighborhoods and commercial frontage along Fowler Ave including access to the UATC; integrate recommendations identified in USF	Fowler Ave is a principal arterial with high automobile volumes and speeds.	
6b	Connection across Bruce B. Downs Blvd (North)	Provide connectivity between neighborhoods, businesses, and activity centers west of USF and the USF campus; integrate recommendations identified in USF MMTD Study.	Bruce B Downs Blvd is a principal arterial with high automobile volumes and speeds.	Significant long term opportunity for transformation of this section of Bruce B. Downs Blvd pursuant to HART alternatives analysis.
6c	Fletcher Ave Corridor	Provide for existing bicycle and pedestrian traffic between neighborhoods and commercial frontage along Fletcher Ave and facilitate use of Fletcher Ave as a USF Campus access route; integrate recommendations identified in USF MMTD Study.	Fletcher Ave has a poor bicycle and pedestrian crash history and is a congested, high volume roadway.	Planned bicycle and pedestrian safety/enhancement project. PD&E west of Bruce B. Downs Blvd contemplates a six-lane section.
6d	Bruce B. Downs Blvd to USF Connection	Provide for existing bicycle and pedestrian traffic between Bruce B. Downs Blvd and the north perimeter of the USF campus; integrate recommendations identified in USF MMTD Study.	Bruce B. Downs Blvd and Fletcher Ave are higher-volume, higher-speed facilities with poor bicycle and pedestrian safety track records.	

Figure 5: USF Study Area Connectivity Corridors/Concepts Map



Westshore: Walk-bike mobility strategies for the Westshore District are largely articulated in the Drew Park CRA Strategic Action Plan and the Westshore Mobility Strategy Action Plan. Like the Downtown, the guiding principal for the Westshore District is to establish a grid network to facilitate bicycle and pedestrian trips; however, two key differences make the non-motorized mobility in the Westshore District more challenging:

- The Westshore District has more mobility barriers than Downtown, including the Interstate/Expressway system, Dale Mabry Hwy, and Tampa International Airport.
- The Westshore District is significantly larger than Downtown and has less than one-fifth of the employment density (although more total employees).

Specific connectivity objectives, further illustrated in Table 4 and Figure 6, include:

- Establish north-south corridors including:
 - Westshore Blvd
 - Lois Ave
 - Dale Mabry Hwy/Himes Ave
 - MacDill Ave/Habana Ave
- Establish east-west corridors including:
 - Columbus Blvd/Spruce St
 - Cypress St
 - Gray St
 - Azeele St
- Provide for Drew Park, Hillsborough Ave, St. Josephs Hospital/Medical Corridor interconnectivity.

Table 4: Westshore Study Area Connectivity Corridors/Concepts

Westshore				
ID Number	Description	Purpose	Challenges	Planned Project
1a	Westshore Blvd	Connection under I-275; Primary Transit Corridor.	No bike lanes, constrained corridor.	SR 60/I-275 interchange project will reconstruct the Westshore Blvd interchange and open a parallel connection along Occident.
1b	Lois Ave	Connection under I-275.	No bike lanes, constrained corridor.	I-275 trail will cross I-275 at Lois Ave.
2a	Columbus/Boy Scout/Spruce Corridor	Regional connection from Courtney Campbell trail project to downtown Tampa and beyond.	No sidewalks or bike lanes. High speed, high volume corridor. Few signalized crossings from south side of road to access planned greenway.	Identified as component of West Tampa Greenway (not funded in 5yr plan).
2b	Cypress St Corridor	East-west connection; connection to potential rail station areas at Westshore Blvd and Himes Ave.	No bike lanes, constrained corridor.	Planned I-275 trail from Westshore Blvd to Church Ave.
2c	Gray St Corridor	East-west connection south of I-275; existing signals at Dale Mabry Hwy and Westshore Blvd; traffic calmed local roadway.	No signals at Lois Ave or Himes Ave; apparent 20ft pavement width; apparent narrow right-of-way (limited potential for paved shoulders for bikes).	Planned I-275 trail from Westshore Blvd to Church Ave.
2d	Azeele St Corridor	East-west connection south of Kennedy Blvd; potential connection from Westshore Blvd through SoHo/Hyde Park all the way to downtown. Signals at intersecting major roadways. Potential road diet candidate from Dale Mabry Hwy to Armenia Ave.	Narrow width from Dale Mabry Hwy to Westshore Blvd (~22ft).	
3a	Dale Mabry Hwy/Hime Ave Corridor	Provide a north-south connection from Hillsborough Ave to south of Kennedy Blvd; access to planned BRT route on MLK.	Dale Mabry Hwy is a high volume/high speed roadway; Himes Ave may not have sufficient pavement width to accommodate on-street bike lanes without reducing the center turn lane width. Two-way left turn lane on Himes Ave is not conducive to pedestrian crossing without provision of refuge islands.	
3b	MacDill Ave/Habana Ave Corridor	Provide a north-south connection from Hillsborough Ave to south of Kennedy Blvd - especially to serve St. Joseph's Hospital and ancillary medical uses along the Habana and MLK corridors. Access to planned BRT route on MLK.	No bike lanes currently except on Habana Ave from Hillsborough Ave to MLK Blvd. Habana Ave does not cross I-275.	
4	Hillsborough Ave/Drew Park-HCC/St Joseph's Medical Corridor connectivity	The recent Cargo Rd project includes bike lanes, sidewalks and a sidepath and provides a connection from MLK and Tampa Bay Blvd (HCC) to Hillsborough Ave (major Transit route and commercial corridor). MLK also connects to St. Josephs Hospital and ancillary medical uses and the planned east-west BRT corridor.	MLK Blvd and Tampa Bay Blvd currently do not have bike lanes.	

Figure 6: Westshore Study Area Connectivity Corridors/Concepts Map

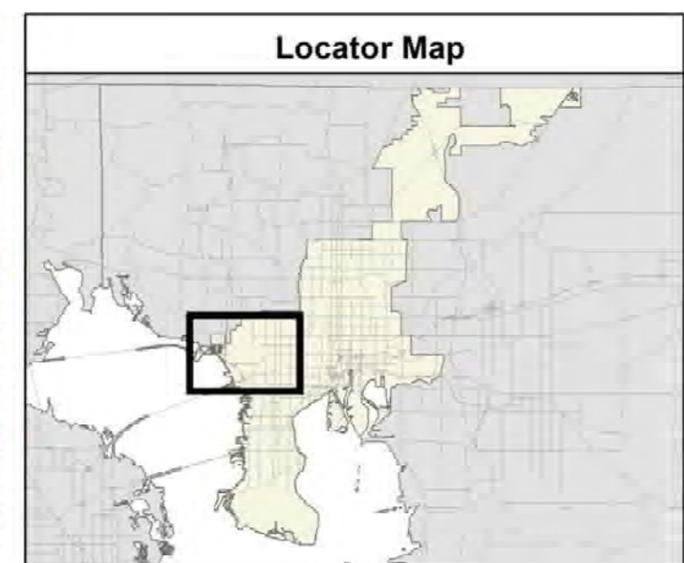


Westshore Corridor Concepts

Legend

- Intersection Improvements
- Potential Light Rail Alignment
- BRT Corridors
- Primary Transit Corridors
- Major Roads
- Community Redevelopment Areas
- Tampa Int'l Airport
- City of Tampa Boundary

Date: September 2010
File: G:\285009-02_10-Tampa Mobility Plan - All Modes (JCS-MPO)\GIS\Maps\Westshore.mxd



Evaluation of Existing and Planned Facilities along Defined Multimodal Corridors

To determine the multimodal connectivity needs within the three study areas, existing and programmed facilities (sidewalks, bike lanes, trails, etc.) and roadway conditions were inventoried and the existing/programmed multimodal connectivity of each corridor was evaluated. To accomplish this, each corridor was broken down into specific roadway segments based on changes in cross section and traffic characteristics.

Inventory of Planned/Programmed Projects: The City of Tampa’s (FY 2011–FY 2015) CIP, the Hillsborough MPO 2010/11–2014/15 TIP, and the Hillsborough MPO 2035 LRTP Cost Affordable Highway, Pedestrian, and Bike and Trail Network projects were reviewed to identify fully-funded as well as partially-funded projects corresponding with the identified multimodal corridors. Additionally, roadway resurfacing and widening projects that could potentially incorporate pedestrian and/or bicycle improvements were considered. Appendix B contains detailed tables of the programmed/planned projects along each mobility corridor.

Inventory of Existing Roadway Conditions: Multimodal LOS data provided by the MPO, inspection of recent aerial imagery, and limited field review were used to develop an inventory for each identified multimodal corridor. Tables 5–7 list the defined multimodal corridors of each study area, broken into individual roadway segments. Along with related programmed/planned improvements, the following attributes were collected for each roadway segment within the identified mobility corridors:

- Average Annual Daily Traffic (AADT)—These data were generally obtained from the City of Tampa Transportation Division Traffic Count spreadsheet.
- Multimodal Level of Service (LOS)—Multimodal LOS data provided by the Hillsborough MPO provides a general assessment of multimodal facilities along major roadways. Automobile LOS is based on the ratio of traffic volume to calculated roadway capacity—generally a function of a roadway’s cross section and number of traffic signals per mile. Bicycle and pedestrian LOS are based on measures related to the speed and volume of automobile and truck traffic, the presence or absence of bicycle and pedestrian facilities (bike lanes/sidewalks), and the lateral separation of these facilities from the automobile travel lanes.
- Lane & Type—The roadway cross section is designated using the following nomenclature:
 - Number of thru travel lanes (generally 2, 4, 6, or 8)
 - Median Type (U = undivided, D = divided, O = one-way)
- Approximate ROW—ROW data were obtained from the City of Tampa Transportation Division Traffic Count Spreadsheet. These data are approximate and may not reflect specific variations along an individual roadway segment. ROW acquisition is a time-consuming and costly process—especially when the required ROW impacts buildings or parking facilities. As such, the multimodal project identification process will favor candidate projects where the need to acquire ROW is limited.
- Median Type—Recent, available aerial imagery was reviewed to establish the typical median type along the subject roadway segments. Where medians exist, they may either be raised concrete or landscaped medians or painted (two-way left turn) medians. Raised medians generally enhance pedestrians’ ability to safely cross a major roadway, but may increase the complexity/cost of fitting bike lanes into an existing roadway since revisions to the median width require elimination/reconstruction of the raised median sections.

- Pavement Width—Recent, available aerial imagery was reviewed to establish the approximate width of pavement along the subject roadway segments. These data are approximate and may not reflect specific variations in pavement width along a segment. Pavement width data provide a general indication of the suitability of roadway sections for the inclusion of bicycle lanes through either narrowing of travel lanes and/or median width or through implementation of a road diet.
- Shoulder Type—Roadway shoulders may either be “Urban,” consisting of concrete curb, gutter, and drainage structures, or “Rural,” consisting of a grass shoulder and, typically, a drainage swale. Some segments were observed to have a mixture of urban and rural shoulder types. Generally, reconstruction (widening) of urban sections is cost-prohibitive and rarely done outside the context of a major roadway lane addition project. The addition of paved shoulders/bike lanes to a rural roadway section can be accomplished without reconstruction of the roadway curb and drainage structures; however, impacts to open drainage systems must be considered.
- Sidewalks—In addition to data provided by the Hillsborough MPO as part of the Multimodal LOS inventory, recent, available aerial imagery was reviewed to establish whether subject roadway segments have complete sidewalk facilities. In Tables 5 – 7, “N/E” refers to either the north or east side of the roadway while “S/W” refers to either the south or west side of the roadway.
- Bicycle Lane— In addition to data provided by the Hillsborough MPO as part of the Multimodal LOS inventory, recent, available aerial imagery was reviewed to establish whether subject roadway segments have marked (designated) or unmarked (striped shoulder) bicycle lane facilities.
- Transit Service—Hillsborough Area Regional Transit (HART) route map GIS layers were reviewed to identify fixed-route services currently operating along the subject roadway segments. The presence of fixed-route transit service generally increases the need for quality bicycle and pedestrian facilities along a corridor and may influence recommendations related to minimum preferred outside travel lane width.
- Truck Route—The 2010 City of Tampa Truck Route map was reviewed to determine whether a subject roadway segment was designated as a Truck Route. This designation allows a roadway to be used for “thru” truck trips. Generally, along routes designated for truck traffic, at least one travel lane is preferred to have a width of at least 12ft.

Generally, most of the segments within the designated multimodal corridors have existing sidewalk facilities and many have fixed-route transit service; however, few have marked bicycle facilities.

Table 5: Downtown Study Area Facility Inventory

ID No.	Description	Segments	CIP	TIP	L RTP	AADT	AADT Date	Auto LOS	Bike LOS	Ped LOS	Lanes/ Type	Approx. ROW	Median	Pave-ment Width	Curb Type	Sidewalk (N/E)	Sidewalk (S/W)	Bike Lane	Transit Routes	Truck Route	
1a	North Boulevard	1a.1	Kennedy Blvd to Cass St			H1330	13,249	10/11/06	C	D	C	4U	60	PAINTED	40	Urban	YES	YES	NO	14	YES
		1a.2	Cass St to Cypress St			H1330	11,542	10/11/06	A	D	C	4U	60	RAISED	65	Urban	YES	YES	NO	7, 14	YES
		1a.3	Cypress St to I.275			H1330	11,142	10/11/06	C	D	C	4U	80	RAISED	66	Urban	YES	YES	NO	7, 14	YES
		1a.4	I.275 to Palm Ave			H1330	13,233	10/23/06	B	D	C	4U	60	NONE	42	Urban	YES	YES	NO	14	YES
		1a.5	Palm Ave to Columbus Dr			H1330	11,679	11/1/06	A	D	C	4U	50	NONE	40	Urban	YES	YES	NO	14	YES
		1a.6	Columbus Dr to M L King Blvd			H1330	7,240	10/18/06	A	D	C	4U	50	NONE	40	Urban	YES	YES	NO	14	YES
1b	Tampa Street/ Florida Avenue Corridor	1b.1	(Tampa St) Scott St to Palm Ave				10,181	3/31/08	A	C	C	3O	50	NONE	48	Urban	YES	YES	Marked	1, 5, 6, 18	YES
		1b.2	(Tampa St) Palm Ave to Columbus Dr				7,708	3/9/08	A	C	C	3O	50	NONE	48	Urban	YES	YES	Marked	1, 6	YES
		1b.3	(Tampa St) Columbus Dr to Floribraska Ave				10,380	3/2/08	A	C	B	3O	50	NONE	40	Urban	YES	YES	Marked	1, 6	YES
		1b.4	(Tampa St) Floribraska Ave to Lake Ave				7,338	3/9/08	A	D	C	3O	50	NONE	40	Urban	YES	YES	Marked	1	YES
		1b.5	(Tampa St) Lake Ave to M L King Blvd				7,608	3/2/08	A	C	C	3O	50	NONE	40	Urban	YES	YES	Marked	1	YES
		1b.6	(Florida Ave) Scott St to Palm Ave	FPN: 4245591	ORB120/PEC30	9,043	6/22/08	A	C	B	3O	50	NONE	40	Urban	YES	YES	NO	1, 5, 6, 18	YES	
		1b.7	(Florida Ave) Palm Ave to Columbus Dr	FPN: 4245591	ORB120/PEC30	6,058	6/22/08	A	C	C	3O	50	NONE	40	Urban	YES	YES	NO	1, 6	YES	
		1b.8	(Florida Ave) Columbus Dr to Lake Ave	FPN: 4245591	ORB120/PEC30	9,717	6/22/08	A	D	C	3O	50	NONE	40	Urban	YES	YES	NO	1, 6	YES	
		1b.9	(Florida Ave) Lake Ave to M L King Blvd	FPN: 4245591	ORB120	9,892	6/22/08	A	D	C	3O	50	NONE	40	Urban	YES	YES	NO	1	YES	
1c	Nebraska Avenue	1c.1	Jackson St to Kennedy Blvd			PEC480	2,970	8/12/08	A	C	D	3O	70	NONE	54	Urban	NO	YES	NO	31, 46	YES
		1c.2	Kennedy Blvd to Twiggs St				6,895	8/12/08	A	C	D	4U	70	NONE	28	Urban	NO	YES	NO	31, 46	YES
		1c.3	Twiggs St to Cass St/Nuccio Pkwy				8,478	8/12/08	A	C	D	4U	70	NONE	constructio	Urban	YES	YES	NO	-	YES
		1c.4	Cass St/Nuccio Pkwy to Scott St				6,740	8/13/08	A	C	D	4U	60	RAISED	40	Urban	YES	YES	Marked	2, 12	YES
		1c.5	Scott St to Henderson Ave				13,874	8/13/08	B	D	D	4U	50	RAISED	40	Urban	YES	YES	Marked	2, 12	YES
		1c.6	Henderson Ave to 7th Ave				7,046	8/13/08	A	D	D	4U	50	RAISED	40	Urban	YES	YES	Marked	2, 12	YES
		1c.7	7th Ave to Palm Ave				11,359	8/13/08	A	D	D	4U	50	RAISED	36	Urban	YES	YES	Marked	2	YES
		1c.8	Palm Ave to Columbus Dr				13,252	8/13/08	B	D	D	4U	50	RAISED	40	Urban	YES	YES	Marked	2	YES
		1c.9	Columbus Dr to Lake Ave				17,706	2/21/06	B	D	D	4U	50	RAISED	40	Urban	YES	YES	Marked	2	YES
		1c.10	Lake Ave to M L King Blvd				14,742	8/13/08	B	D	D	4U	70	PAINTED	48	Urban	YES	YES	NO	2	YES
1d	14th/15th Street Corridor	1d.1	(14th St) Nuccio Pkwy to Columbus Dr				4,518	5/14/08	A	NA	NA	2O	60	NONE	37	Urban	YES	YES	NO	9, 18	YES
		1d.2	(14th St) Columbus Dr to 21st Ave				3,321	5/14/08	A	NA	NA	2O	60	NONE	34	Urban	YES	YES	NO	9, 18	NO
		1d.3	(14th St) 21st Ave to Lake Ave				3,474	8/16/96	A	NA	NA	2O	60	NONE	35	Urban	YES	YES	NO	9	NO
		1d.4	(15th St) Nuccio Pkwy to Columbus Dr				4,542	2/3/08	A	C	D	2O	60	NONE	36	Urban	YES	Gaps	NO	9, 18	NO
		1d.5	(15th St) Columbus Dr to 21st Ave				4,913	2/3/08	A	C	D	2O	60	NONE	42	Urban	YES	YES	NO	9, 18	NO
		1d.6	(15th St) 21st Ave to Lake Ave				7,650	2/3/08	A	C	D	2O	50	NONE	32	Urban	YES	YES	NO	9	NO
		1d.7	(15th St) Lake Ave to M L King Blvd				8,686	2/3/08	A	C	D	4D	50	NONE	48	Urban	YES	YES	NO	9	NO
1e	22nd Street Corridor	1e.1	(22nd St) Adamo Dr(SR 60) to 7th Ave	FPN: 4186851			19,507	2/17/08	C	D	D	3O	50	NONE	33	Urban	YES	YES	NO	31, 46	YES
		1e.2	(22nd St) 7th Ave to 14th Ave	FPN: 4186851			17,274	2/17/08	C	D	D	3O	50	NONE	33	Urban	YES	YES	NO	5, 12	YES
		1e.3	(22nd St) 14th Ave to Columbus Dr				7,244	2/17/08	A	D	C	3O	50	NONE	30	Urban	YES	YES	NO	5, 12	YES
		1e.4	(22nd St) Columbus Dr to 23rd Ave				6,349	2/17/08	A	C	D	2O	50	NONE	25	Urban	YES	YES	NO	12	YES
		1e.5	(22nd St) 23rd Ave to 26th Ave	FPN: 4167461			9,384	2/17/08	C	C	D	2U	50	NONE	36	Urban	YES	YES	NO	12	YES
		1e.6	(22nd St) 26th Ave to Lake Ave	FPN: 4167461			10,014	2/17/08	C	C	D	2U	50	NONE	36	Urban	YES	YES	NO	12	YES
		1e.7	(22nd St) Lake Ave to M L King Blvd				9,867	2/17/08	D	D	D	2U	50	NONE	36	Urban	Gaps	YES	NO	12	YES
		1e.8	(21st St) Adamo Dr(SR 60) to 7th Ave	FPN: 4186851			18,837	2/5/08	C	D	D	3O	50	NONE	36	Urban	YES	YES	NO	31, 46	YES
		1e.9	(21st St) 7th Ave to Palm Ave	FPN: 4186851			20,538	2/5/08	C	D	C	3O	50	NONE	36	Urban	YES	YES	NO	5, 12	YES
		1e.10	(21st St) Palm Ave to Columbus Dr				7,022	2/5/08	A	D	C	3O	50	NONE	38	Urban	YES	YES	NO	5, 12	YES
		1e.11	(21st St) Columbus Dr to 23rd Ave				9,101	2/5/08	A	C	D	3O	50	NONE	28	Urban	YES	YES	NO	12	YES

Table 5: Downtown Study Area Facility Inventory (continued)

ID No.	Description	Segments	CIP	TIP	L RTP	AADT	AADT Date	Auto LOS	Bike LOS	Ped LOS	Lanes/ Type	Approx. ROW	Median	Pave-ment Width	Curb Type	Sidewalk (N/E)	Sidewalk (S/W)	Bike Lane	Transit Routes	Truck Route
2a	Lake Ave/ Floribraska Ave/ Columbus Dr Corridor	2a.1 (Columbus Dr) Rome Ave to N. Boulevard			ORB460	18,754	3/30/08	B	D	C	4U	50	NONE	37	Urban	YES	YES	NO	15	YES
		2a.2 (Columbus Dr) N. Boulevard to Tampa St			ORB460	14,604	6/30/99	D	D	D	2U	50	NONE	30	Urban	YES	YES	NO	15	YES
		2a.3 (Columbus Dr) Tampa St to Florida Ave			ORB460	13,865	3/30/08	D	D	D	2U	50	NONE	30	Urban	YES	YES	NO	15	YES
		2a.4 (Columbus Dr) Florida Ave to Nebraska Ave			ORB460	10,975	3/30/08	B	D	D	2U	50	NONE	28	Urban	YES	YES	NO	15	YES
		2a.5 (Columbus Dr) Nebraska Ave to 14th St			ORB490	9,802	3/30/08	C	D	D	2U	50	NONE	42	Urban	YES	YES	NO	15	YES
		2a.6 (Columbus Dr) 14th St to 21st/22nd St			ORB490	4,919	3/30/08	A	D	D	2U	50	NONE	28	Urban	YES	YES	NO	15	YES
		2a.7 (Floribraska Ave) Florida Ave to Nebraska Ave				9,681	7/8/08	A	C	D	4U	50	NONE	48	Urban	YES	YES	NO	6	YES
		2a.8 (Floribraska Ave/21st Ave) Nebraska Ave to 15th St				6,014	2/5/08	B	C	D	2U	55	NONE	36	Urban	YES	YES	NO	6	NO
		2a.9 (Floribraska Ave/21st Ave) 15th St to 21st/22nd St				4,916	2/5/08	B	C	D	2U	55	NONE	36	Urban	YES	YES	NO	6, 18	NO
		2a.10 (Lake Ave) Florida Ave to Central Ave				3,373	5/29/08	A	C	D	2U	60	NONE	24	Urban	YES	YES	NO	-	NO
		2a.11 (Lake Ave) Central Ave to Nebraska Ave				4,189	5/29/08	B	C	D	2U	60	NONE	24	Urban	YES	YES	NO	-	NO
		2a.12 (Lake Ave) Nebraska Ave to 15th St				5,265	5/14/08	B	C	D	2U	60	NONE	35	Urban	YES	YES	NO	-	NO
		2a.13 (Lake Ave) 15th St to 21st/22nd St				6,175	5/29/08	B	C	D	2U	60	PAINTED	35	Urban	YES	YES	NO	-	NO
2b	Palm Avenue/ 7th Avenue Corridor	2b.1 (Palm Ave) N. Boulevard to Tampa St				12,893	4/1/08	B	C	D	4U	64	NONE	48	Urban	YES	YES	NO	-	NO
		2b.2 (Palm Ave) Tampa St to Florida Ave				9,621	4/1/08	B	C	D	4U	64	NONE	48	Urban	YES	YES	NO	5, 18	NO
		2b.3 (Palm Ave) Florida Ave to Nebraska Ave			PEC490	14,772	4/1/08	C	C	D	4U	64	NONE	44	Urban	YES	YES	NO	5, 18	NO
		2b.4 (Palm Ave) Nebraska Ave to 15th St			PEC490	9,175	4/1/08	A	C	D	5U	64	RAISED	65	Urban	YES	YES	NO	5, 18	NO
		2b.5 (Palm Ave) 15th St to 21st/22nd St			PEC490	7,540	4/9/08	A	C	D	5U	64	RAISED	65	Urban	YES	YES	NO	5, 12	NO
		2b.6 (7th Ave) Tampa St/Florida Ave to Nebraska Ave				NA	NA	NA	C	D	2U	NA	NONE	26	Urban	YES	YES	NO	-	NO
		2b.7 (7th Ave) Nebraska Ave to Nuccio Pkwy			PEC180	7,304	7/15/08	B	C	D	2D	60	PAINTED	39	Urban	YES	YES	NO	12	NO
		2b.8 (7th Ave) Nuccio Pkwy to 21st St			PEC180	6,289	7/15/08	B	C	D	2D	60	NONE	24	Urban	YES	YES	NO	8	NO
		2b.9 (7th Ave) 21st St to 22nd St			PEC180	13,858	7/15/08	F	C	D	2U	60	NONE	24	Urban	YES	YES	NO	8	NO
3	Downtown/ Channelside/ Ybor Connectivity	3.1 (Channelside Dr) Twiggs St to Adamo Dr			ORB380	28,752	9/7/08	D	D	C	5U	100	PAINTED	60	Urban	YES	YES	NO	8, 31, 46, St. Car	YES
		3.2 (Adamo Dr) 13th St to 19th St				33,940	9/7/08	D	D	E	4U	140	NONE	48	Urban	NO	NO	NO	-	YES
		3.3 (Adamo Dr) 19th St to 22nd St				29,044	9/14/08	C	D	E	4U	200	PAINTED	70	Urban	NO	NO	NO	-	YES
4	Downtown/TGH Davis Islands/Hyde Park Connectivity	4.1 (Cleveland St) Howard Ave to S. Boulevard			ORB250 ORB260	6,322	12/9/07	A	D	D	3O	60	NONE	40	Urban	YES	Gaps	NO	19	YES
		4.2 (Cleveland St) S. Boulevard to Plant Ave				13,090	11/26/07	A	D	D	3O	60	NONE	42	Urban	YES	YES	NO	4, 19	YES
		4.3 (Cleveland St/Brerein St) Plant Ave to Bayshore Blvd				10,129	3/2/08	A	F	F	3O	60	NONE	42	Urban	YES	Gaps	NO	4, 19	NO
		4.4 (Platt St) Armenia Ave to Willow Ave				12,075	4/22/08	A	D	D	3O	60	NONE	36	Urban	YES	Gaps	NO	19	YES
		4.5 (Platt St) Willow Ave to S. Boulevard				13,739	5/13/08	B	D	D	3O	60	NONE	37	Urban	Gaps	YES	NO	19	YES
		4.6 (Platt St) S. Boulevard to Hyde Park Ave				18,614	5/13/08	B	C	D	3O	60	NONE	38	Urban	YES	YES	NO	4, 19	YES
		4.7 (Platt St) Hyde Park Ave to Bayshore Blvd				10,913	5/13/08	B	C	D	3O	60	NONE	40	Urban	YES	YES	NO	4, 19	YES
		4.8 (Swann Ave) Howard Ave to Bayshore Blvd				4,419	6/19/08	B	C	D	2U	60	PAINTED	46	Urban	YES	YES	NO	4	NO
5	Rome Avenue/ Willow Avenue Corridor	5.1 (Rome Ave) Kennedy Blvd to Main St			PEC570	NA	NA	NA	C	D	2U	NA	NONE	40	Mixed	Gaps	Gaps	NO	-	NO
		5.2 (Rome Ave) Main St to Spruce St			PEC570	NA	NA	NA	C	D	2U	NA	PAINTED	60	Urban	YES	Gaps	NO	-	NO
		5.3 (Rome Ave) Spruce St to Columbus Dr			PEC570	NA	NA	NA	C	D	2U	NA	NONE	25	Urban	Gaps	YES	NO	-	NO
		5.4 (Willow Ave) Platt St to Kennedy Blvd				9,864	6/18/08	D	C	D	2U	60	NONE	30-65	Urban	YES	YES	NO	-	NO
		5.5 (Willow Ave) Kennedy Blvd to Cass St				3,576	6/18/08	A	C	D	2U	60	NONE	40	Urban	YES	YES	NO	-	NO
		5.6 (Willow Ave) Cass St to Cypress St				3,116	6/18/08	A	C	D	2U	60	NONE	40	Mixed	NO	YES	NO	-	NO
		5.7 (Willow Ave) Cypress St to I-275 (Green St)				4,301	6/18/08	B	C	D	2U	60	NONE	40	Mixed	YES	Gaps	NO	-	NO
		5.8 (Willow Ave) I-275 (Green St) to Main St				6,778	6/18/08	C	C	D	2U	60	NONE	40	Mixed	YES	YES	NO	-	NO
6	Cypress Street/ Cass Street Corridor	6.1 (Cass St) Howard Ave to Willow Ave				3,478	12/18/07	A	C	D	2U	60	NONE	40	Urban	YES	YES	NO	-	YES
		6.2 (Cass St) Willow Ave to N Boulevard				4,813	12/18/07	A	C	D	4U	60	NONE	55	Mixed	Gaps	YES	NO	-	YES
		6.3 (Cass St) N Boulevard to Cass St Bridge				8,448	12/18/07	A	C	D	4U	60	NONE	60	Urban	YES	YES	NO	7, 10	YES
		6.4 (Cypress St) Howard Ave to Willow Ave				8,161	3/4/08	C	C	D	2U	60	NONE	40	Mixed	NO	YES	NO	10	YES
		6.5 (Cypress St) Willow Ave to N. Boulevard				3,755	3/4/08	A	C	D	2U	60	NONE	38	Mixed	Gaps	YES	NO	10	YES
		6.6 (Laurel St) Hillsborough River to Tampa St				2,584	5/4/08	A	NA	NA	4U	80	NONE	47	Urban	YES	YES	NO	-	YES

Table 6: USF Study Area Facility Inventory

ID No.	Description	Segments	CIP	TIP	L RTP	AADT	AADT Date	Auto LOS	Bike LOS	Ped LOS	Lanes/ Type	Approx. ROW	Median	Pave-ment Width	Curb Type	Sidewalk (N/E)	Sidewalk (S/W)	Bike Lane	Transit Routes	Truck Route	
1	Temple Terrace to USF Connections	1.1 (46th St) Busch Blvd to Fowler Ave				4,113	7/20/08	A	D	D	2U	80	NONE	22	Rural	Gaps	Gaps	NO	-	NO	
		1.2 (50th St) Serena Dr to Fowler Ave				NA	NA	NA	NA	NA	2U	NA	NONE	21	Rural	NO	Gaps	NO	-	NO	
		1.3 (Serena Dr) 46th St to 50th St				5,855	1/22/08	A	C	D	2U	70	NONE	23	Rural	YES	NO	NO	-	NO	
		1.4 (Serena Dr) 50th St to 52nd St (City Limits)				2,868	1/22/08	A	C	D	2U	70	NONE	22	Rural	YES	NO	NO	-	NO	
		1.5 (Whiteway Dr) 52nd St (City Limits) to 50th St				NA	NA	NA	NA	NA	2U	NA	NONE	21	Rural	NO	YES	NO	-	NO	
		1.6 (Whiteway Dr) 50th St to 46th St				NA	NA	NA	NA	NA	2U	NA	NONE	20	Rural	NO	YES	NO	-	NO	
2	Connections to Bull Runner Extension	2.1 (Bougainvillea Ave) 22nd St to 30th St				3,615	8/7/08	A	D	D	2U	60	NONE	22	Rural	YES	YES	NO	-	NO	
		2.2 (Bougainvillea Ave) 30th St to McKinley Dr				6,333	8/7/08	B	D	E	2U	70	NONE	27	Rural	Gaps	NO	NO	-	YES	
		2.3 (Bougainvillea Ave) McKinley Dr to 46th St				7,875	8/7/08	C	C	D	2U	70	NONE	26	Rural	NO	YES	NO	-	NO	
3	Connection to 40th Street/McKinley Dr Corridor	3.1 (McKinley Dr) Busch Blvd to Busch Gardens Entrance				14,806	1/20/08	A	D	D	4D	150	RAISED	77	Urban	YES	YES	Marked	5	YES	
		3.2 (McKinley Dr) Busch Gardens Ent to Bougainvillea Ave				12,646	1/28/08	A	D	D	4D	150	RAISED	77	Urban	YES	YES	Marked	5	YES	
		3.3 (McKinley Dr) Bougainvillea Ave to Fowler Ave				11,842	1/20/08	A	D	D	4D	150	RAISED	77	Urban	YES	YES	Marked	5	YES	
		3.4 (30th St) Busch Blvd to Linebaugh Ave				24,722	1/27/08	B	D	E	4D	100	PAINTED	67	Urban	YES	YES	NO	18	YES	
		3.5 (30th St) Linebaugh Ave to Bougainvillea Ave				25,189	1/27/08	A	D	E	4D	100	PAINTED	67	Urban	YES	YES	NO	18	YES	
		3.6 (30th St) Bougainvillea Ave to 109th Ave				28,161	1/27/08	B	D	E	4D	100	PAINTED	67	Urban	YES	YES	NO	18	YES	
		3.7 (30th St) 109th Ave to Fowler Ave				28,290	1/27/08	C	D	E	4D	100	PAINTED	67	Urban	YES	YES	NO	18	YES	
		3.8 (Linebaugh Ave) 22nd to to 30th St				2,488	11/5/06	A	C	D	2U	50	NONE	24	Rural	YES	NO	NO	-	NO	
		3.9 (109th Ave) 22nd to to 30th St				1,877	1/27/08	A	C	D	2U	60	NONE	22	Urban	YES	YES	NO	-	NO	
4	Fowler Avenue Intersection Improvements	4.5 Fowler Ave at 30th St/Bruce B Downs Blvd			PEC40														18		
		4.6 Fowler Ave at McKinley Dr/Spectrum Blvd			PEC40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	YES
		4.7 Fowler Ave at LeRoy Collins Blvd			PEC40															5	
		4.8 Fowler Ave at 50th St	TR-11-012		PEC40															6	
5	Areawide Mobility and Safety Improvements	5.1 15th St at 109th Ave																		9	NO
		5.2 15th St at Bougainvillea Ave																		9	NO
		5.3 22nd St at 109th Ave																		12	NO
		5.4 22nd St at Bougainvillea Ave																		12	NO
		5.5 22nd St at Linebaugh Ave				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	NO
		5.6 30th St at Bougainvillea Ave																		18	YES
		5.7 30th St at Annie St																		18	YES
		5.8 46th St at Bougainvillea Ave/Serena Dr																		-	NO
		5.9 50th St at Whiteway Dr (4-way Stop)																		-	NO
6a	Neighborhood/ Commercial Access Fowler Ave. Intersection Improvements	6a.1 Fowler Ave at Nebraska Ave																		2, 45	
		6a.2 Fowler Ave at 15th St				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9, 45	YES
		6a.3 Fowler Ave at 22nd St																		12	
		6a.4 Fowler Ave at University Collection Shopping Center																		-	
6b	Connect across Bruce B. Downs Boulevard	6b.1 Bruce B Downs Blvd at Skipper Rd				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	57	YES	
		6b.2 Bruce B Downs Blvd at 42nd St																		-	YES
6c	Fletcher Avenue Corridor	6c.1 Bruce B Downs Blvd to Magnolia Dr				40,196	9/1/08	F	D	E	4D	NA	RAISED	81	Rural	YES	NO	Marked	6, 18	YES	
		6c.2 Magnolia Dr to 46th St				40,196	9/1/08	F	D	E	4D	NA	RAISED	80	Rural	YES	NO	Marked	6, 57	YES	
		6c.3 46th St to 50th St				33,408	7/20/08	B	D	E	4D	132	RAISED	74	Rural	NO	NO	Marked	57	YES	
6d	Bruce B. Downs to USF Connection	6d.1 Fowler to Pine Dr/University Square Dr				42,791	9/1/08	D	D	C	6D	NA	RAISED	113	Rural	NO	YES	Marked	18	YES	
		6d.2 Pine Dr/University Square Dr to 131st Ave				42,791	9/1/08	D	D	C	6D	NA	RAISED	102	Rural	NO	YES	Marked	18	YES	
		6d.3 131st Ave to Fletcher Ave				42,791	9/1/08	D	D	E	6D	NA	RAISED	120	Mixed	NO	YES	Marked	57	YES	
		6d.4 Fletcher Ave to 138th Ave				47,050	9/1/08	F	D	E	6D	NA	RAISED	112	Rural	YES	YES	Unmarked	18, 57	YES	

Table 7: Westshore Study Area Facility Inventory

ID No.	Description	Segments	CIP	TIP	L RTP	AADT	AADT Date	Auto LOS	Bike LOS	Ped LOS	Lanes/ Type	Approx. ROW	Median	Pave-ment Width	Curb Type	Sidewalk (N/E)	Sidewalk (S/W)	Bike Lane	Transit Routes	Truck Route		
1a	Westshore Boulevard	1a.1	Kennedy Blvd to I.275			H2020/ORB250	42,133	2/10/08	D	D	D	6D	100	RAISED	85	Urban	YES	YES	NO	15, 30, 45, 89	YES	
		1a.2	I.275 to Cypress St			H2020/ORB250	40,605	2/10/08	F	D	C	4D	90	RAISED	66	Urban	YES	YES	NO	15, 30, 45, 59, 89	YES	
		1a.3	Cypress St to Boy Scout Blvd	TR-11-050			H2020/ORB250	31,737	2/10/08	D	D	D	4D	90	RAISED	66	Urban	YES	YES	NO	10, 15, 30, 59	YES
1b	Lois Avenue	1b.1	Kennedy Blvd to I.275			H1070	22,920	6/24/08	B	D	C	4U	60	NONE	49	Urban	YES	YES	NO	-	YES	
		1b.2	I.275 to Cypress St			H1070	31,511	6/24/08	C	D	E	4U	60	PAINTED	66	Urban	YES	YES	NO	-	YES	
		1b.3	Cypress St to Spruce St			H1070	17,785	6/24/08	C	D	D	4U	60	PAINTED	48	Urban	YES	YES	NO	45	YES	
		1b.4	Spruce St to Boy Scout Blvd			H1070	15,534	6/24/08	B	D	D	4U	84	PAINTED	60	Urban	Gaps	YES	NO	-	YES	
2a	Columbus/Boy Scout/Spruce Corridor	2a.1	(Spruce St) Memorial Hwy to Westshore Blvd			ORT300	45,647	6/14/07	D	D	E	6D	200	RAISED	130	Rural	NO	Gaps	NO	30, 59	YES	
		2a.2	(Boy Scout Blvd) Westshore Blvd to Lois Ave			ORT300	37,004	3/30/08	B	D	C	6D	200	RAISED	120	Rural	NO	NO	NO	15	YES	
		2a.3	(Boy Scout Blvd) Lois Ave to Columbus Dr			ORT300	33,573	3/30/08	C	D	E	6D	200	RAISED	137	Rural	NO	NO	NO	15	YES	
		2a.4	(Columbus Dr) Boy Scout Blvd to Dale Mabry Hwy			ORT300	41,316	3/30/08	C	D	E	6D	100	RAISED	106	Urban	NO	YES	NO	15	YES	
		2a.5	(Spruce St) Lois Ave to Dale Mabry Hwy	TR-11-024			H1650	7,750	6/3/08	B	D	D	2D	80	PAINTED	37	Mixed	NO	YES	NO	45	NO
		2a.6	(Spruce St) Dale Mabry Hwy to Himes Ave	TR-11-024			H1650	9,019	6/3/08	D	E	F	2U	60	NONE	20	Rural	NO	YES	NO	45	NO
		2a.7	(Spruce St) Himes Ave to MacDill Ave					3,648	6/3/08	A	C	D	2U	60	NONE	18	Rural	Gaps	Gaps	NO	45	NO
2b	Cypress Street Corridor	2b.1	Frontage Rd to Westshore Blvd				16,235	3/4/08	C	D	D	5U	80	RAISED	65	Urban	YES	YES	NO	10, 89	YES	
		2b.2	Westshore Blvd to Lois Ave				22,245	3/4/08	D	D	D	5U	70	RAISED	66	Urban	Gaps	YES	NO	10, 45	YES	
		2b.3	Lois Ave to I.275				14,033	3/4/08	B	C	D	5U	70	RAISED	50	Urban	Gaps	YES	NO	10	YES	
		2b.4	I.275 to Dale Mabry Hwy				14,117	4/24/07	B	C	D	5U	70	NONE	64	Urban	YES	YES	NO	10	YES	
		2b.5	Dale Mabry Hwy to Himes Ave	TR-11-023				14,029	3/4/08	C	C	D	3U	80	NONE	40	Urban	Gaps	YES	NO	10	YES
		2b.6	Himes Ave to MacDill Ave					7,298	3/12/08	A	C	D	2U	60	NONE	30	Urban	NO	YES	NO	10	YES
2c	Gray Street Corridor	2c.1	Westshore Blvd to Lois Ave				NA	NA	NA	NA	2U	NA	NONE	20	Urban	Gaps	NO	NO	-	NO		
		2c.2	Lois Ave to Dale Mabry Hwy				NA	NA	NA	NA	2U	NA	NONE	20	Urban	NO	YES	NO	-	NO		
		2c.3	Dale Mabry Hwy to Himes Ave				NA	NA	NA	NA	2U	NA	NONE	20	Urban	NO	YES	NO	-	NO		
2d	Azelee Street Corridor	2d.1	Westshore Blvd to Lois Ave				3,253	11/2/06	A	C	D	2U	60	NONE	20	Urban	NO	Gaps	NO	-	NO	
		2d.2	Lois Ave to Dale Mabry Hwy				5,694	11/2/06	B	D	D	2U	60	NONE	20	Urban	Gaps	Gaps	NO	-	NO	
		2d.3	Dale Mabry Hwy to Himes Ave				9,061	11/2/06	B	C	D	4U	60	NONE	40	Urban	YES	YES	NO	-	NO	
		2d.4	Himes Ave to MacDill Ave				12,512	11/2/06	B	D	D	4U	60	NONE	42	Urban	YES	NO	NO	-	NO	
3a	Dale Mabry/Hime Avenue Corridor	3a.1	(Dale Mabry Hwy) Kennedy Blvd to Cypress St			ORB30/PEC20	44,393	6/1/08	D	D	C	6D	120	RAISED	93	Urban	YES	YES	NO	36	YES	
		3a.2	(Dale Mabry Hwy) Cypress St to I-275			ORB30/PEC20	58,052	6/1/08	D	D	C	6D	200	RAISED	110	Urban	YES	YES	NO	36	YES	
		3a.3	(Dale Mabry Hwy) I-275 to Spruce St	TR-11-051			ORB30/PEC20	67,690	6/1/08	E	D	E	6D	200	RAISED	116	Mixed	YES	YES	NO	36	YES
		3a.4	(Dale Mabry Hwy) Spruce St to Columbus Dr	TR-11-050			ORB30/PEC20	55,553	6/1/08	D	D	E	6D	200	RAISED	95	Mixed	YES	YES	NO	36	YES
		3a.5	(Dale Mabry Hwy) Columbus Dr to Tampa Bay Blvd	TR-11-050			ORB30	63,048	6/1/08	D	D	E	6D	200	RAISED	109	Rural	YES	YES	NO	-	YES
		3a.6	(Dale Mabry Hwy) Tampa Bay Blvd to M L King Blvd	TR-11-029			ORB30	37,100	6/8/08	C	D	E	6D	200	RAISED	118	Rural	YES	YES	NO	-	YES
		3a.7	(Dale Mabry Hwy) M L King Blvd to Hillsborough Ave	TR-11-029			ORB30	53,760	7/6/08	D	D	E	6D	275	RAISED	110	Rural	YES	YES	NO	-	YES
		3a.8	(Himes Ave) Kennedy Blvd to Cypress St					14,924	12/2/07	A	D	D	5U	86	NONE	62	Urban	YES	YES	NO	-	NO
		3a.9	(Himes Ave) Cypress St to I-275					26,782	12/2/07	C	D	D	5U	86	NONE	62	Urban	YES	YES	NO	-	YES
		3a.10	(Himes Ave) I-275 to Columbus Dr					22,671	12/2/07	C	D	D	5U	86	NONE	63	Urban	YES	YES	NO	45	YES
		3a.11	(Himes Ave) Columbus Dr to Tampa Bay Blvd					24,706	12/10/07	C	D	E	4D	120	RAISED	63	Urban	YES	YES	NO	36, 45	YES
		3a.12	(Himes Ave) Tampa Bay Blvd to M L King Blvd					24,107	12/2/07	C	D	E	4D	115	RAISED	63	Urban	YES	YES	NO	7, 32, 36, 41, 45	YES
		3a.13	(Himes Ave) M L King Blvd to Hillsborough Ave					15,064	12/2/07	B	D	D	4D	125	RAISED	63	Urban	YES	YES	NO	36	YES

Table 7: Westshore Study Area Facility Inventory (continued)

ID No.	Description	Segments	CIP	TIP	L RTP	AADT	AADT Date	Auto LOS	Bike LOS	Ped LOS	Lanes/ Type	Approx. ROW	Median	Pave-ment Width	Curb Type	Sidewalk (N/E)	Sidewalk (S/W)	Bike Lane	Transit Routes	Truck Route
3b	MacDill Avenue/Habana Avenue Corridor	3b.1 (MacDill Ave) Kennedy Blvd to I.275	TR-11-054		H1164	22,853	3/9/08	E	D	D	4U	60	NONE	48	Urban	YES	YES	NO	-	YES
		3b.2 (MacDill Ave) I.275 to Spruce St			H1164	15,102	3/9/08	D	D	D	4U	60	NONE	50	Urban	YES	YES	NO	-	YES
		3b.3 (MacDill Ave) Spruce St to Columbus Dr			H1164	14,583	3/9/08	C	D	D	4U	60	NONE	48	Urban	YES	YES	NO	-	YES
		3b.4 (MacDill Ave) Columbus Dr to Tampa Bay Blvd			H1167	5,250	3/9/08	B	D	D	2U	60	NONE	22	Mixed	NO	YES	NO	-	NO
		3b.6 (MacDill Ave) Tamapa Bay Blvd to M L King Blvd	TR-11-012		H1167	4,714	3/9/08	B	D	D	2U	90	NONE	22	Rural	Gaps	YES	NO	-	NO
		3b.7 (Habana Ave) Main St to Columbus Dr				1,156	12/6/06	A	C	D	2U	60	NONE	30	Rural	NO	YES	NO	-	NO
		3b.8 (Habana Ave) Columbus Dr to Tampa Bay Blvd			PEC330	5,918	12/6/06	B	D	D	2U	60	NONE	30	Mixed	NO	NO	NO	-	NO
		3b.9 (Habana Ave) Tampa Bay Blvd to M L King Blvd			PEC330	8,228	12/6/06	C	D	D	2U	60	NONE	21	Rural	YES	NO	NO	-	NO
		3b.10 (Habana Ave) M L King Blvd to Hillsborough Ave			PEC330	18,829	12/6/06	C	D	D	5U	87	NONE	60	Urban	YES	YES	NO	41	NO
		4	Hillsborough Avenue/Drew Park.HCC/St Joseph's Medical Corridor connectivity	4.1 (Hillsborough Ave) Westshore Blvd to Lois Ave			PEC60	64,025	9/9/07	D	D	C	6D	180	RAISED	110	Rural	NO	NO	Unmarked
4.2 (Hillsborough Ave) Lois Ave to Dale Mabry Hwy					PEC60	70,875	7/30/06	D	D	C	6D	170	RAISED	114	Mixed	Gaps	NO	Unmarked	34	YES
4.3 (Hillsborough Ave) Dale Mabry Hwy to Himes Ave					PEC60	72,615	9/9/07	E	D	C	6D	190	RAISED	124	Mixed	YES	NO	Unmarked	34	YES
4.4 (Lois Ave) Tampa Bay Blvd to M L King Blvd	TR-11-054				H1060	3,711	6/24/08	A	D	D	2U	85	NONE	24	Rural	NO	NO	NO	7	YES
4.5 (Lois Ave) M L King Blvd to Hillsborough Ave	TR-11-054				H1060	12,827	6/24/08	E	D	D	2U	95	NONE	22	Rural	NO	NO	NO	7	YES
4.6 (M L King Blvd) Lois Ave to Dale Mabry Hwy	TR-11-029				ORB340	7,457	8/6/08	C	D	D	2U	108	NONE	26	Rural	Gaps	NO	NO	-	YES
4.7 (M L King Blvd) Dale Mabry Hwy to Himes Ave	TR-11-029				ORB340	25,307	8/27/08	C	D	D	6D	108	RAISED	86	Urban	YES	YES	NO	-	YES
4.8 (M L King Blvd) Himes Ave to MacDill Ave					ORB340	32,452	7/27/08	F	D	E	5U	80	RAISED	63	Urban	YES	YES	NO	7, 32, 41, 45	YES
4.9 (M L King Blvd) MacDill Ave to Habana Ave					ORB340	31,349	7/27/08	E	D	E	5U	80	RAISED	61	Urban	Gaps	YES	NO	7, 32, 41, 45	YES
4.1 (Tampa Bay Blvd) Westshore Blvd to Lois Ave					H1790	2,543	6/19/08	A	D	E	4U	190	NONE	152	Mixed	Gaps	YES	NO	-	YES
4.11 (Tampa Bay Blvd) Lois Ave to Dale Mabry Hwy						8,261	6/4/08	C	D	C	2D	115	NONE	25	Urban	YES	YES	NO	7	YES
4.12 (Tampa Bay Blvd) Dale Mabry Hwy to Himes Ave						7,128	6/4/08	A	C	D	4D	110	NONE	68	Urban	YES	YES	NO	7	NO
4.13 (Tampa Bay Blvd) Himes Ave to MacDill Ave	TR-11-007				H1800	6,527	6/4/08	C	D	D	2U	55	NONE	25	Mixed	YES	YES	NO	-	NO

Recommended Walk-Bike Plan Projects and Implementation Strategies

Walking and Biking Mobility and Safety Enhancements: Based on an evaluation of the Business Center Study Area Connectivity Concepts, review of planned/programmed projects, and field review and traffic data analysis, multiple opportunities to enhance mobility for pedestrians and cyclists have been identified. These opportunities are summarized in Figures 10–12 and Tables 8–10 at the end of this section. Generally, the recommendations are categorized as follows:

- *Walk-Bike Tech Memo:* Field data collection and traffic analysis have been performed as part of this study, and a technical memorandum discussing recommendations related to the mobility improvement concept in Tables 8 – 10 is included in Appendix C of this report.
- *General Recommendation:* Based on a review of aerial imagery, cursory field review, and basic traffic data analysis, further study is recommended to implement mobility enhancements. No detailed technical analysis was completed as part of this report
- *Memorandum for FDOT Consideration:* Appendix D of this report includes potential mobility enhancements along elements of the State Highway System for consideration by FDOT District 7. These potential enhancements will be reviewed with District planning, design, and operations staff for follow-up at the District’s discretion.
- *NA/Complete, Pending, or Staff Direction:* Mobility corridor concepts may not be actionable because the needs have been addressed by ongoing/planned projects, because of physical constraints that limit the ability to make cost effective improvements, or because prior analysis by City staff has deemed the proposed enhancement infeasible.

As discussed in the Executive Summary, these recommendations should not preclude the implementation of other bicycle and pedestrian mobility project as opportunities arise through transportation, developer, and parks projects.

The recommendations in Tables 8–10 refer to specific improvements at intersections and along roadway segments within the three Business Center study areas. Generally, these recommendations consist of the following elements, some of which could be applied systemically through the development of City capital improvement program policies and processes:

Intersection and Corridor Pedestrian Safety Improvements: Where possible, pedestrians should be encouraged to cross at signalized intersections or stop controlled roadway approaches. Means of improving the safety and attractiveness of these intersections include:

- Installation of high-emphasis crosswalk markings at signalized intersections and side-street approaches along major arterials (Figure 7)
- Evaluation and improvement of crosswalk area street lighting (consider mounting street lights on existing signal infrastructure)
- Installation of pedestrian “countdown” signal heads (Figure 8)
- In addition to these systemic improvements (applicable to most major road intersections regardless of specific pedestrian crash history) consideration of signal operating characteristics such as right-turn-on-red prohibition, protected-only left turn phasing, and leading pedestrian intervals may be considered on a case-by-case basis.



Figure 7: Enhanced Crosswalk Markings



Figure 8: Countdown Pedestrian Signal

In addition to these intersection improvements, the Federal Highway Administration (FHWA) includes pedestrian islands as one of “9 Proven Countermeasures” for consideration as a best practice. Median islands can provide refuge and simplify major roadway crossings for pedestrians and when correctly designed, right-turn channelization islands serve to focus drivers’ attention on crosswalk areas and likewise can simplify pedestrian crossings at major intersections. The provision of median islands and/or marked pedestrian crosswalks should be considered whenever significant pedestrian attractors (including higher-volume transit stops) are located more than 660ft from a signalized intersection. On roadways with multiple travel lanes or with a divided median, a crosswalk with a median refuge island is preferred to crosswalks without median refuge. Right turn islands should be designed consistent with current FHWA guidance with the long end facing traffic and a compound (long then short) curb radii. This design focuses drivers’ attention on pedestrians and approaching cross-street traffic better than the older, symmetrical designs.

Depending on traffic speeds and volumes, crosswalks should be supplemented by advance warning signs, marked stop or yield lines (especially on multi-lane roads), and pedestrian activated warning devices. In St. Petersburg, FL and elsewhere in the nation, the Rectangular Rapid Flashing Beacon (RRFB) device has been deployed with considerable success. This device, shown in Figure 9, is pedestrian actuated and has been shown to produce driver yield rates in excess of 85%, even on roadways with over 30,000 AADT and travel speeds over 40 MPH.

On roads with more than 4 lanes or along higher speed, higher volume roadways, marked crosswalks may not be feasible without the concurrent installation of a pedestrian signal or Pedestrian Hybrid Beacon (HAWK). Installation of a pedestrian signal or use of a Pedestrian Hybrid Beacon must comply with the warrant process established in the MUTCD.

Sidewalks: Although most pedestrian crashes occur when pedestrians attempt to cross multi-lane roadways, provision of sidewalks is critical to pedestrian mobility, significantly reduces the risk of crashes involving pedestrians walking along a roadway, and increases the chance that pedestrians will cross at appropriate locations. Although most arterial roadways within the City include complete sidewalks along both sides of the road and most Collector roadways include sidewalks along at least one side of the road, this report makes several recommendations to complete sidewalks along collector roadways to establish continuous paths between major roadway segments. This is especially important when transit service operates along such a facility.

Although this study does not explicitly consider neighborhood streets, consistent with the Comprehensive Plan (Objectives 42.2, 42.3, and 44.1), the City should use traffic speed/volume data, collected through neighborhood traffic calming studies and other opportunities, to systematically prioritize neighborhood streets for sidewalks and other enhancements. Higher volumes may be indicated by signal controlled access to a major roadway facility, full-median access to a major roadway facility with a raised median, or by consideration of 2-way stop controlled intersection orientation (roadways that allow free-flow in neighborhoods may have higher volumes).

Bicycle Lanes: Where feasible the City should provide on-street bicycle lanes. Bicycle lanes, in most circumstances, reduce the instance of bicycle crashes involving overtaking vehicles and also encourage cyclists to ride in the same direction as traffic, which can reduce wrong-way-riding crashes. In addition to installation as part of most roadway widening projects, the installation of bike lanes along collector or arterial roads should be considered as part of all resurfacing projects. There are three principal ways to accommodate a marked bicycle lane along an existing roadway:

- On rural roadway sections, it may be possible to construct a paved shoulder that can be marked as a bicycle lane. Paved shoulders on higher-speed rural sections have the added benefit of reducing the incidence of lane-departure automobile crashes.
- On an urban (curb-and-gutter) section, a bicycle lane may be constructed by reducing the width of the median (if present) and of vehicle travel lanes. Many roadways are constructed with 12ft- to 16ft-wide medians and 12ft travel lanes. The American Association of State Highway and Transportation Officials (AASHTO) recommends thru travel lanes be 10ft–12ft wide. On roadways with less than five percent truck traffic and travel speeds less than 45 MPH, the use of 10ft travel lanes does not have a significant negative impact on traffic safety or capacity. Reducing lane widths can, in some cases, provide adequate cross section to allow for marked bicycle lanes. Even when a full bicycle lane (4ft from edge of pavement, 5ft from curb face) cannot be established a wide outside lane (greater than 12ft in width) is preferable to a standard width lane in most circumstances.
- Road Diets involve a reduction in thru travel lanes to accommodate other operational and mobility needs. A common road diet is to convert a four-lane undivided roadway section to a two-lane roadway with a center turn lane and bicycle lanes. Although this approach may negatively impact the generalized capacity of the roadway, it can provide for superior bicycle mobility and may have a significant overall safety benefit. Other road diet approaches may allow for on-street parking or wider sidewalks.

Bicycle Road Sharing: When a designated bike lane (or striped shoulder) cannot be accommodated along a collector roadway facility, bicycle travel may be facilitated through signage and pavement markings.

- Signage: Consider the use of “Bicycles May Use the Full Lane Sign” along the city’s collector road system where there are no bicycle lanes or usable adjacent shoulders and where the travel lanes are too narrow for bicyclist and motorist to operate side by side (less than 14ft). According to the *Manual on Uniform Traffic Control Devices, 2009 Edition* (MUTCD) Section 9B.06, the Bicycles May Use Full Lane sign may be used in locations where it is important to inform road users that bicyclist might occupy the travel lane.
- Shared Lane Pavement Markings: Shared Lane Arrows, also known as “sharrows,” are pavement markings that, according to the MUTCD, Section 9C.07, may be used to:
 - assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane,
 - alert road users of the lateral location bicyclists are likely to occupy within the traveled way,
 - encourage safe passing of bicyclists by motorists, and
 - reduce the incidence of wrong-way bicycling.

Shared Lane Markings should not be placed on roadways that have a speed limit of above 35 mph. If used on streets without on-street parking where the outside lane width is less than 14ft, it is recommended the markings be placed near the center of the lane to reduce wear and clarify that the cyclist may use the entire lane. If used on a street with on-street parking, the markings should be placed at least 11ft from the edge of pavement/curb to help cyclists avoid the “door zone” of parked cars. Otherwise, Shared Lane Markings should be at least 4ft from the face of the curb or from the edge of the pavement where there is no curb. Also, Shared Lane Markings should not be used on shoulders or in designated bicycle lanes.



Figure 9: RRFB Device in St. Petersburg, FL on US 92 (4th Street)

Figure 10: Downtown Study Area Project Map

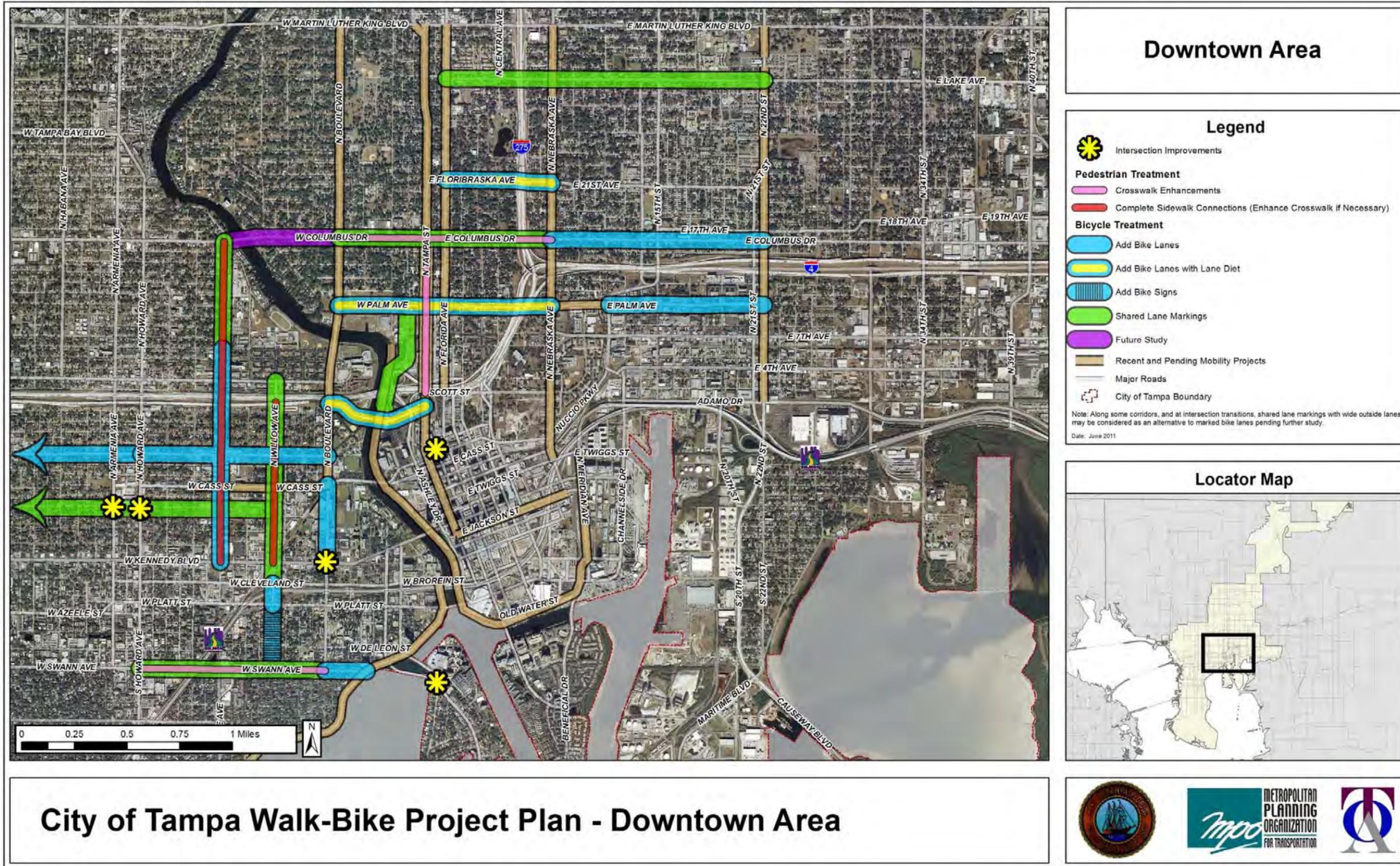


Table 8: Downtown Study Area Assessment/Strategies

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	North Boulevard	Kennedy Blvd to Cass St	Restripe 2000' along North Boulevard to provide bike lanes. Update pedestrian signage at Kennedy Boulevard.	Walk-Bike Tech Memo
Y			Install a dedicated southbound to eastbound right turn lane at Kennedy Boulevard.	Corridor and Intersection Tech Memo
N		Cass Street to Main Street	Ongoing City resurfacing and bike lane project.	NA/Pending
N		Main Street to Columbus Drive	Ongoing City resurfacing, road diet, and bike lane project.	
N		Columbus Drive to M L King Boulevard	Ongoing City resurfacing, road diet, and shared lane arrow project.	
N		M L King Boulevard to Osborne Avenue	Ongoing City resurfacing and shared lane arrow project.	
N	Tampa Street	Scott Street to M L King Boulevard	Request FDOT install high-emphasis crosswalk marking across side street intersections along Tampa street.	Memorandum for FDOT Consideration
N	Florida Avenue	Scott Street to M L King Boulevard	The installation of a marked bike lane is planned as part of a pending FDOT resurfacing project. Consider high-emphasis crosswalk markings across side streets.	NA/Pending
Y	Doyle Carlton	Laurel Street to Palm Avenue	Provide 4,500' of shared lane markings for north-south bicycle connectivity from Palm Avenue to Riverwalk.	General Recommendation
N	Nebraska Avenue	Jackson St to Kennedy Blvd	With a future utility project, relocate the utilities on the east side and install sidewalk.	General Recommendation
N		Kennedy Blvd to Twiggs St	With future construction, complete the sidewalk gaps on the west side of Nebraska Avenue	
N		Twiggs St to M L King Blvd	This section of Nebraska Avenue was converted from a 4-lane undivided roadway to a 2-lane roadway with center turn lanes, marked bicycle lanes, and bus bays as part of a recent 3R project.	NA/Complete
N	14th Street	Nuccio Pkwy to Lake Avenue	No recommendation at this time - recently resurfaced.	General Recommendation
N	15th Street	Nuccio Pkwy to Lake Avenue		
N	15th Street	Lake Ave to M L King Blvd		
N	21st/22nd Street	(22nd St) Adamo Dr(SR 60) to 7th Ave	Projects Pending, No further recommendation at this time.	NA/Pending
N		(22nd St) 7th Ave to 14th Ave		
N		(22nd St) 14th Ave to Lake Avenue		
N		(22nd St) Columbus Dr to 23rd Ave		
N		(22nd St) 23rd Ave to 26th Ave		
N		(22nd St) 26th Ave to Lake Ave		
N		(22nd St) Lake Ave to M L King Blvd		
N		(21st St) Adamo Dr(SR 60) to Columbus Drive		
N		(21st St) Columbus Dr to 23rd Ave		
Y	Central Avenue	Scott Street to M L King Boulevard	Provide shared lane arrows and enhance signalized intersection crosswalks.	General Recommendation

Table 8: Downtown Study Area Assessment/Strategies (continued)

New Project Segment Description			Final Recommendation	Technical Support Document
Y	Columbus Drive	Rome Ave to N. Boulevard	Consider a speed limit reduction. Undertake a detailed analysis of a lane diet from Howard Avenue to North Boulevard.	Walk-Bike Tech Memo
N		N. Boulevard to Florida Ave	Consider installation of shared lane arrows.	
Y		Florida Ave to Nebraska Ave	Update sidestreets and midblock crossings to HEC and install shared lane arrows.	Walk-Bike Tech Memo
Y		Nebraska Ave to 14th St	Reconfigure this roadway to provide bike lanes and a marked parking aisle (8/4/10/10/4/8 or 10/5/12/12/5).	
Y		14th St to 21st/22nd St	Configure Columbus and 17th Avenue to provide a bicycle lane and prohibit on street parking.	
Y	Floribraska Avenue	Florida Ave to Nebraska Ave	Convert from 4-lane undivided to 2-lane divided section, install bike lanes.	Walk-Bike Tech Memo
N		Nebraska Ave to 21st/22nd St	No recommendations at this time.	General Recommendation
N	Lake Avenue	Florida Ave to 21st/22nd St	Install bike lanes from 15th St to 22nd Street.	General Recommendation
Y	Palm Avenue	N. Boulevard to Nebraska Avenue	Convert from 4-lane undivided to 2-lane divided section, install bike lanes.	Walk-Bike Tech Memo
N		Nebraska Ave to 15th St	Marked bike lanes have recently been installed as part of a City of Tampa resurfacing project.	NA/Complete
N		15th St to 21st/22nd St	Add 4' bike lanes.	Walk-Bike Tech Memo
Y	7th Avenue	Tampa St/Florida Ave to Nuccio Pkwy	Consider installation of Shared Lane Arrows.	General Recommendation
N		Nuccio Pkwy to 22nd St	No recommendations at this time.	General Recommendation
N	Channelside Drive	Twiggs St to Adamo Dr	Connectivity in this corridor shall generally be provided by the Selmon Crosstown Trail plan/project.	NA/Pending
N	Adamo Drive	13th St to 22nd St		
N	Cleveland Street	Howard Ave to Bayshore Blvd	Monitor for a future lane reduction project. Complete Sidewalk Gaps	NA/Staff Direction
N	Platt Street	Armenia Ave to Bayshore Blvd.	Monitor for a future lane reduction project. Complete sidewalk gaps	NA/Staff Direction
Y	Davis Boulevard	Davis Island Bridge Access/Safety	Enhance Crosswalk and way Finding.	Walk-Bike Tech Memo
Y	Swann Avenue	Howard Ave to Bayshore Blvd	Consider combination of Shared Lane Arrows and Bike Lanes.	Walk-Bike Tech Memo

Table 8: Downtown Study Area Assessment/Strategies (continued)

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	Rome Avenue	Kennedy Blvd to Main St	Prohibit parking on one side of Rome Avenue. Provide a marked bike lane Complete 2000' of sidewalk gaps along Rome. At east/west sidewalk transitions, provide marked midblock crossings Provide wayfinding to transition between Rome Avenue and Willow Avenue	Walk-Bike Tech Memo
Y		Main St to Spruce St	Reconfigure the striping and "buffer" area to provide bike lanes.	
Y		Spruce St to Columbus Dr	Install shared lane arrows.	
Y	Willow Avenue	Swann to Platt St.	Provide wayfinding signage for transition between Willow Avenue and Rome Avenue. Provide/Enhance Willow Ave crosswalk markings and midblock at DeLeon Street. Provide unsignalized crossing across Swann at Willow.	Walk-Bike Tech Memo
Y		Platt St to Cleveland St	Modify the striping for additional left turn capacity and bike lanes under the bridge.	
Y		Cleveland St to Cypress St.	Install shared lane arrows.	
Y		Cypress St to I-275 (Green St)	Install shared lane arrows and construct sidewalk from LaSalle to north of I-275 and from Nassau Street to Arch Street.	
Y		I-275 (Green St) to Main St	Install shared lane arrows and a signalized ped crossing for Willow.	
N	Cass Street	Howard Ave to Riverwalk	Recently resurfaced with bike lanes added from Hillsborough River to Willow. Provide wayfinding to direct cyclists to Cypress Street or Gray Street to access Westshore District.	Walk-Bike Tech Memo
Y	Cypress Street	MacDill Ave to N. Boulevard	Modify/install striping for on-street parking and install bike lanes.	Walk-Bike Tech Memo
Y	Laurel Street	North Boulevard to Tampa St	Reduce to 2 lanes and provide bicycle lanes.	General Recommendation

Figure 11: USF Study Area Project Map

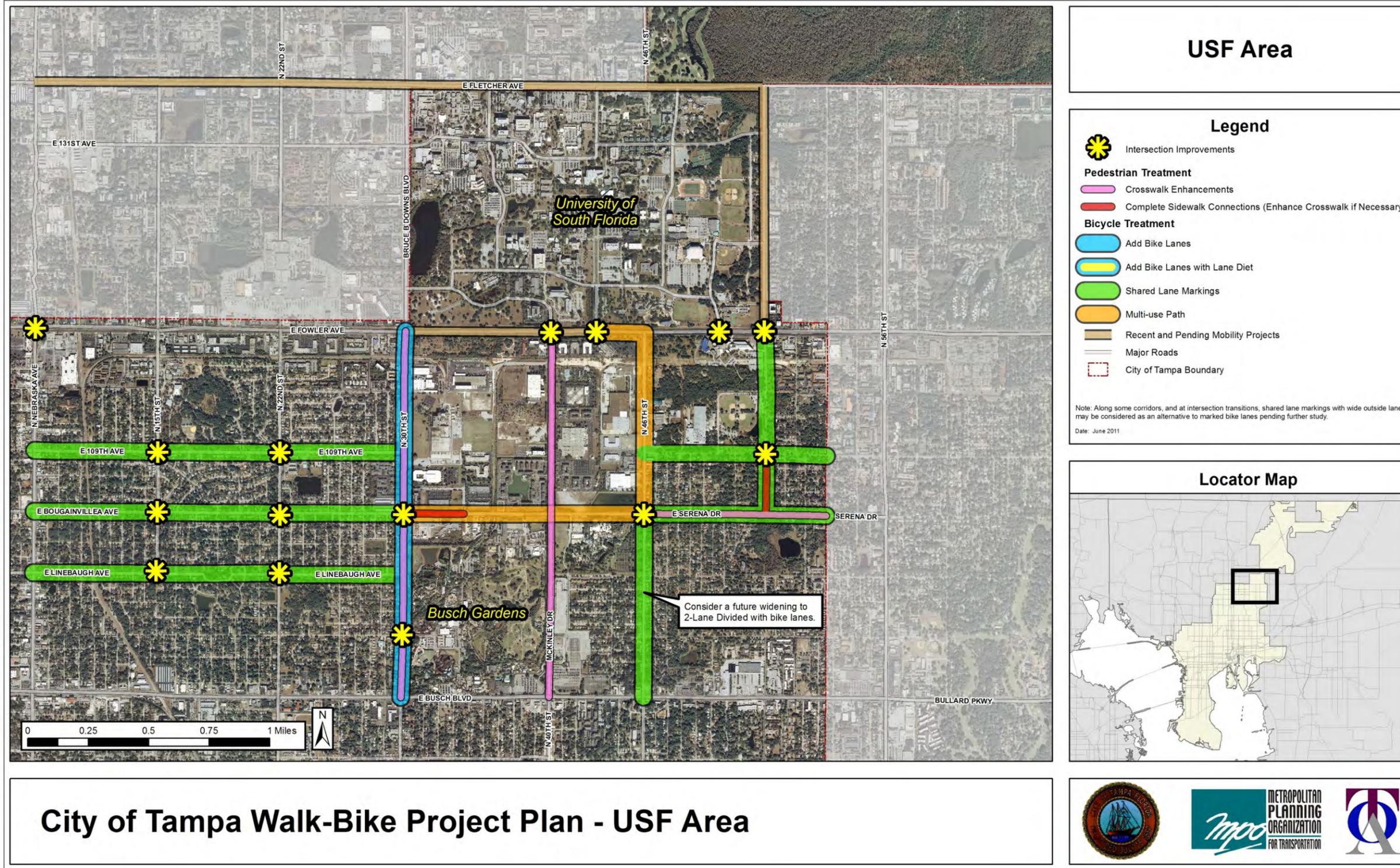


Table 9: USF Study Area Study Area Assessment/Strategies

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	46th Street	Busch Blvd to Serena Drive	Install shared lane markings.	Walk-Bike Tech Memo
Y		Serena Drive to Fowler Avenue	Widen the sidewalk on the west to a shared use path to Fowler Avenue. Ultimately widen 46th Street to a 3-lane section with bike lanes.	
N		Fowler Avenue	46th Street to Lee Roy Collins	
Y	50th Street	Serena Dr to Whiteway	Install shared lane arrows. Install sidewalk on the east side of 50th Street from Serena Drive to Whiteway Drive. Upgrade the pedestrian features at Whiteway Drive and at 50th Street to high emphasis crossings with signage.	Walk-Bike Tech Memo
Y		Whiteway to Fowler Avenue	Install shared lane arrows.	
Y	Serena Drive	46th St to 52nd St (City Limits)	Install shared lane markings and unsignalized crossings at major intersections. Provide wayfinding to Whiteway Drive to cross 56th Street at a signalized intersection.	Walk-Bike Tech Memo
Y	Whiteway Drive	52nd St (City Limits) to 46th St	Install shared lane markings. Midblock crossing at Connechussett Road. At Whiteway Drive and 50th Street, upgrade the crossings to high emphasis	Walk-Bike Tech Memo
Y	Linebaugh Avenue	52nd St (City Limits) to 40th St	Install shared lane markings. Provide unsignalized crossing at 46th Street. Upgrade/install other crosswalks	Walk-Bike Tech Memo
Y	Bougainvillea Ave	Nebraska to 30th St	Install shared lane arrows.	Walk-Bike Tech Memo
Y		30th St to McKinley Dr	Provide sidepath along south side of the roadway.	
Y		McKinley Dr to 46th St	Provide sidepath along south side of the roadway.	
Y	30th Street	Busch Boulevard to Fowler Avenue	Reallocate the section for 11' travel lanes and 5' bike lanes. Consider mid-block crossing treatments	Walk-Bike Tech Memo
Y	40th Street/McKinley Drive	Busch Boulevard to Fowler Avenue	Consider for Bus Stop Mid-Block Safety Improvements.	Walk-Bike Tech Memo
Y	22nd Street	Busch Boulevard to Fowler Avenue	Consider installation of shared lane arrows.	General Recommendation

Table 9: USF Study Area Study Area Assessment/Strategies (continued)

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	Linebaugh Avenue	Nebraska Ave to to 30th St	Install shared lane markings.	General Recommendation
Y	109th Avenue	Nebraska Ave to to 30th St	Install shared lane markings.	General Recommendation
N	Fowler Avenue	at 30th St/Bruce B Downs Blvd	Request FDOT consider installation of raised islands and other pedestrian safety enancements.	Concept Drawings and Memorandum for FDOT Consideration
N		at Nebraska Ave		
N		at McKinley Dr/Spectrum Blvd		
N		at LeRoy Collins Blvd		
N		at Bull Run		
N		at 50th St		
Y	15th St at 109th Ave	Provide crosswalk and intersection lighting enhancements and pedestrian signal features as necessary.	Walk-Bike Tech Memo	
Y	22nd St at 109th Ave			
Y	22nd St at Linrbaugh Ave			
Y	22nd St at Bougainvillea Ave			
Y	15th St at Bougainvillea Ave			
Y	30th St at Bougainvillea Ave			
Y	30th St at Annie St			
Y	46th St at Bougainvillea Ave/Serena Dr			
Y	50th St at Whiteway Dr (4-way Stop)			
N	Bruce B Downs Blvd at Skipper Rd	Cross Reference USF MMTD Study		
N	Bruce B Downs Blvd at 42nd St			
N	Bruce B Downs Blvd to Magnolia Dr			
N	Magnolia Dr to 46th St			
N	46th St to 50th St			
N	Fowler to Pine Dr/University Square Dr			
N	Pine Dr/University Square Dr to 131st Ave			
N	131st Ave to Fletcher Ave			
N	Fletcher Ave to 138th Ave			

Figure 12: Westshore Study Area Project Map

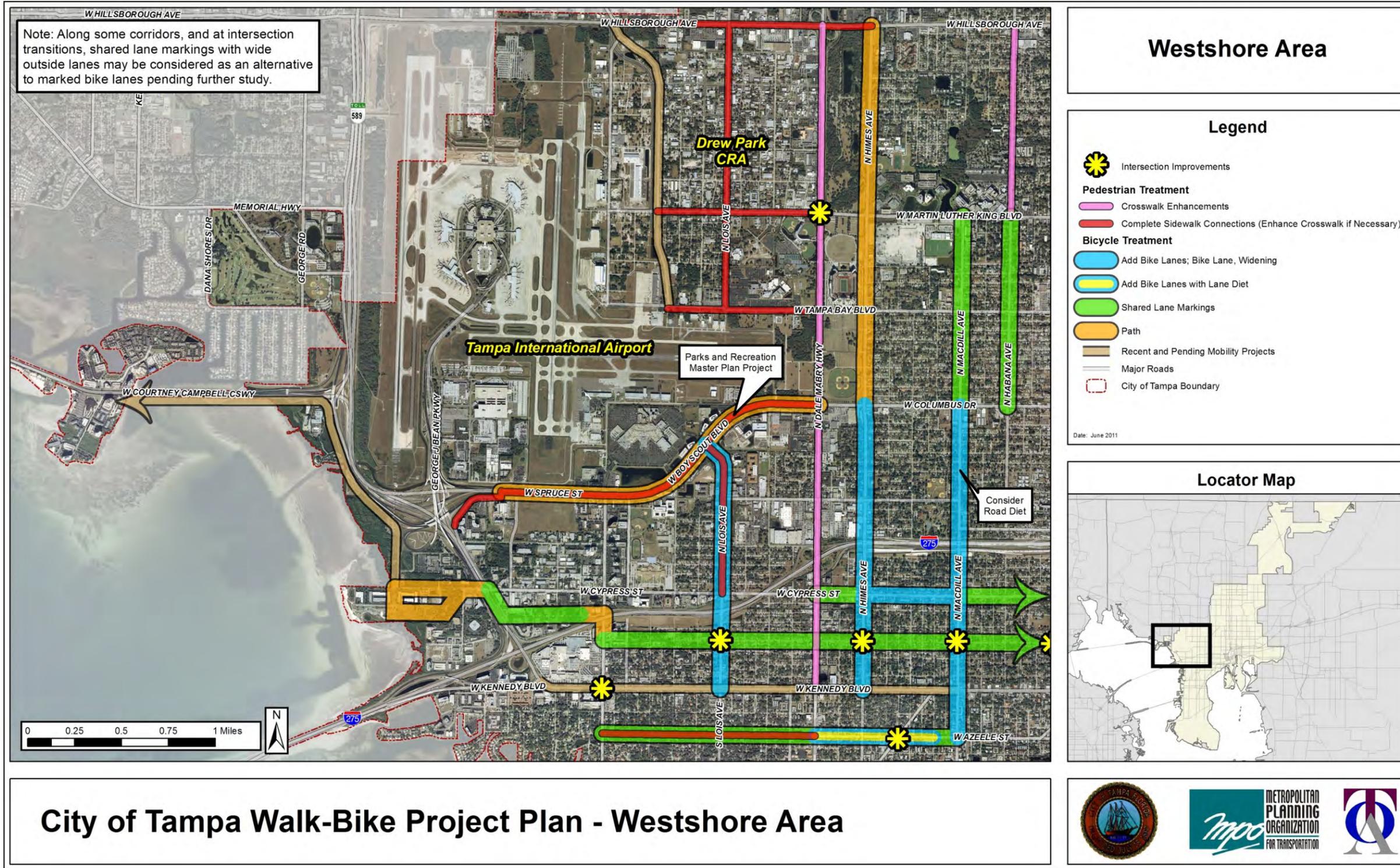


Table 10: Westshore Study Area Assessment/Strategy

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	Westshore Boulevard	Kennedy Blvd to Boy Scout Boulevard	See 15b - else no recommendations at this time.	See Cypress St Corridor
N		at Boy Scout Blvd	See 15a - else no recommendations at this time.	Concept Drawings and Memorandum for FDOT Consideration
Y	Lois Avenue	Kennedy Blvd to Spruce Street	Install bike lanes (4' bike lanes, 10' travel lanes).	Walk-Bike Tech Memo
Y		Spruce St to Boy Scout Blvd	Install bike lanes(4' bike lanes, 10' travel lanes). Undertake engineering design to complete the sidewalk from Spruce to International.	
N	Spruce Street/ Boy Scout Blvd/ Columbus Drive	Memorial Highway to Dale Mabry Hwy	Request FDOT consider installation of raised islands and other pedestrian safety enhancements at the intersections of Westshore, Lois, and Jim Walter Blvd and provide other pedestrian safety enhancements and install sidewalk along the south side of Spruce/Boy Scout/Columbus.	Concept Drawings and Memorandum for FDOT Consideration
Y		Memorial Highway to Dale Mabry Hwy	Implement Park & Recreation Department Greenways and Trail master plan project to construct a multi-use trail along the north side of the roadway.	General Recommendation
N	Spruce Street	Dale Mabry Hwy to Mac Dill Avenue		
Y	Cypress Corridor	U-Path to Reo Street	Upgrade 2,000 to 4,000 feet of sidewalk or existing path through Cypress Point Park.	Walk-Bike Tech Memo
Y		Reo St. to Frontage Road	Widen the existing sidewalk to 10'.	
Y		Frontage Rd to Westshore Blvd	Using shared lane arrows guide bicycles down Frontage, across Lemon Street. At Occident there is a one way access road from Westshore, for eastbound bicyclists, widen the path to 10' shared use path. The bikes will then route down Westshore to Gray Street.	
N		Westshore Blvd to Dale Mabry Highway	No recommendations at this time.	
Y		Cypress Street	Dale Mabry Hwy to Himes Ave	
Y	Himes Ave to MacDill Ave		Install Bike Lanes.	
Y	Gray Street	Westshore Blvd to Lois Ave	Install Shared Lane Arrows and an RRFB at Lois Ave.	General Recommendation
Y		Lois Ave to Dale Mabry Hwy	Install Shared Lane Arrows.	
Y		Dale Mabry Hwy to Willow Avenue	Install Shared Lane Arrows and an RRFB at Himes Ave and MacDill Ave.	

Table 10 (Continued): Westshore Study Area Assessment/Strategy

New Project		Segment Description	Final Recommendation	Technical Support Document
Y	Azeele Street	Westshore Blvd to Lois Ave	Install shared lane arrows throughout. Install 400' of sidewalk west of Hubert Avenue.	Walk-Bike Tech Memo
Y		Lois Ave to Dale Mabry Hwy	Install shared lane arrows (or wayfinding signage) throughout. Install a high emphasis crosswalk at Hale Avenue. Construct 150' of sidewalk west of Dale Mabry Highway on the north side.	
Y		Dale Mabry Hwy to Himes Ave	Lane diet candidate with bike lanes. Return to existing west of MacDill. Install a signalized crossing at Henderson Boulevard and a midblock at Lincoln Ave	
Y		Himes Ave to MacDill Ave	Lane diet candidate with bike lanes. Return to existing west of MacDill. Install a signalized crossing at Henderson Boulevard and a midblock at Lincoln Ave.	
N	Dale Mabry Highway	Kennedy Blvd to Hillsborough Ave	Coordinate with FDOT FM# 421524-1 for high emphasis crosswalks.	General Recommendation
Y	Himes Avenue	Kennedy Blvd to Columbus Drive	Restripe Himes Avenue to reallocate lane widths and accommodate dedicated bike lanes.	Walk-Bike Tech Memo
Y		Columbus Dr to M L King Blvd	Coordinate with Tampa Aviation Authority, Sports Authority, and Parks Dept. for a shared use path/boardwalk on the west side.	General Recommendation
Y		M L King Blvd to Hillsborough Ave	Coordinate with Parks Dept for a shared use path/boardwalk on the west side.	
Y	MacDill Avenue	Kennedy Blvd to I.275	Reallocate the section for 10' travel lanes and 4' bike lanes (Another option is wide outside lanes, but speeds are too high for shared lane markings).	Walk-Bike Tech Memo
Y		I.275 to Columbus Drive	Reallocate the section for 10' travel lanes and 4' bike lanes. Consider a detailed study for a road diet.	
Y		Columbus Drive to M L King Blvd	Consider installation of shared lane markings.	General Recommendation
Y	Habana Avenue	Main St to Columbus Dr	Because of on street parking, install bike lane signage only. High emphasis mid block crossings where appropriate.	Walk-Bike Tech Memo
Y		Columbus Dr to Tampa Bay Blvd	Install Shared Lane Arrows, construct sidewalk at gaps, install midblock crossings at major crossings.	
Y		M L King Blvd to Hillsborough Ave	Install 3-5 midblock crossings.	

Table 10 (Continued): Westshore Study Area Assessment/Strategy

New Project		Segment Description	Final Recommendation	Technical Support Document
N	Hillsborough Avenue	Westshore Blvd to Himes Ave	Request FDOT construct a sidewalk (or boardwalk if necessary) along the south side of Hillsborough Avenue from Cargo Road to Himes Avenue. Complete sidewalk segments along the north side of Hillsborough Avenue from SB Dale Mabry Hwy to Church Ave and from west of Lois Avenue to Hoover Blvd. Consider installation of high emphasis crosswalks across Hillsborough Avenue from the right turn channelization islands at the Dale Mabry Hwy off ramps.	Concept Drawings and Memorandum for FDOT Consideration
Y	Lois Avenue	Tampa Bay Blvd to Hillsborough Avenue	Evaluate constructibility of sidewalks.	General Recommendation
Y	M L King Blvd	Cargo Road to Dale Mabry Hwy	Evaluate feasibility of completing sidewalk from Cargo Road to Lois Avenue. Will require extensive coordination with businesses occupying City ROW. Consider installation of shared lane arrows.	General Recommendation
Y		Dale Mabry Hwy to Himes Ave	Evaluate feasibility of coordinating with Tampa Sports Authority and Parks Department (Al Lopez area) to provide a 10 - 12 ft. sidepath along both sides of the roadway.	General Recommendation
Y		Himes Ave to MacDill Ave	Evaluate feasibility of providing a 10ft sidepath along both sides of the roadway.	General Recommendation
N		MacDill Ave to Habana Ave	No substantive recommendations.	
N	Tampa Bay Blvd	Westshore Blvd to Himes Avenue	Evaluate 10 foot sidewalk from Cargo Rd (via Lauber Way) to Himes Ave; incorporate bike lanes into unfunded CIP project; fill-in sidewalk gaps; evaluate lighting, enhance as necessary.	General Recommendation
N		Himes Ave to MacDill Ave		