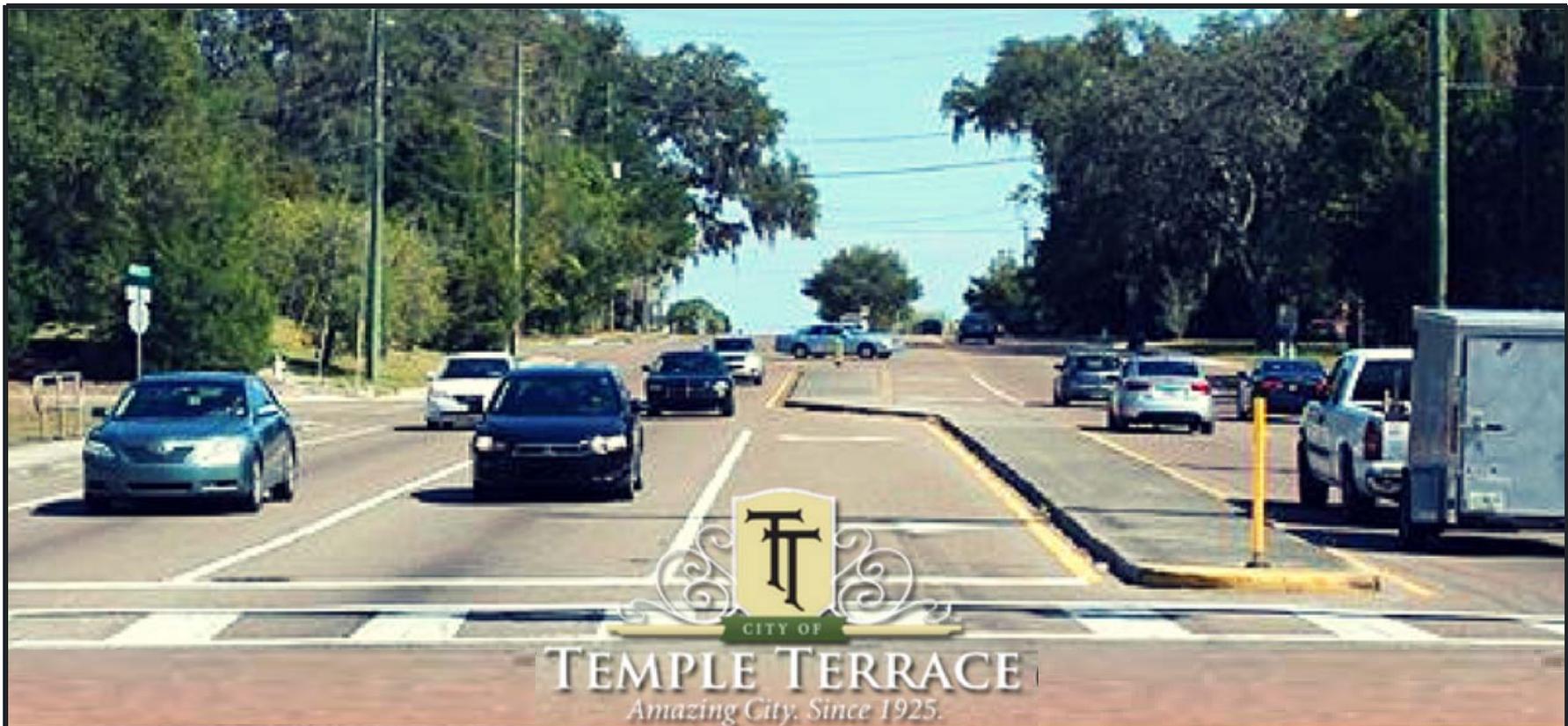




Bullard Parkway Complete Streets Study



July 2017

FINAL REPORT

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FINAL REPORT

BULLARD PARKWAY COMPLETE STREETS STUDY

From 56th Street N to Morris Bridge Road

Prepared for



Hillsborough MPO
Metropolitan Planning
for Transportation

By



July 2017

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EXECUTIVE SUMMARY

The purpose of the study was to identify and evaluate alternative options for better serving those who travel Bullard Parkway from 56th Street N to Morris Bridge Road. Of particular concern is the 475-foot long Woodard Bridge over the Hillsborough River which currently does not have designated accommodations for bicycles. The study evaluated existing conditions along the roadway and produced a list of recommended improvements to make the roadway safer and more comfortable for pedestrians, cyclists, and motorists.

The study corridor is urban in character and with limited right-of-way available, there are very few opportunities for roadway widening or construction of a shared-use path separate from the roadway. To upgrade existing bicycle/pedestrian facilities it is necessary to consider a range of possible bicycle-pedestrian improvements including:

- Providing shared lane pavement markings (sharrows);
- Narrowing traffic lanes for adding bike lanes;
- Increasing the width of existing bicycle lanes;
- Reducing speed limits; and,
- Constructing high emphasis pedestrian crossings.

As part of this Complete Streets Study for Bullard Parkway, workshops and meetings were conducted with various stakeholder groups including: City of Temple Terrace staff and City Council, Hillsborough County staff, Hillsborough MPO staff and residents and business owners in Temple Terrace. The meetings were intended to solicit the community’s input regarding the experience of traveling Bullard Parkway and its importance in connecting the eastern boundaries of the City to the Downtown area adjacent to 56th Street N. The meetings were very productive, as the attendees comments and suggestions established the necessary context for identifying appropriate changes to the design and operation of Bullard Parkway.

The recommended Complete Streets improvements resulting from this study are shown on the Corridor Map Exhibit on page iii.

1. Extend Bike Lanes West to 56th Street N

The segment from Ridgedale Road to 56th Street N is not currently marked for bike lanes, despite it being an important connection to the north-south bicycle activity on 56th Street N. It appears that bike lanes can be added if the width of traffic lanes is reduced from ±12 feet to 10 feet. This is the segment with the greatest congestion and lowest traffic speeds. Ten-foot lanes are acceptable per the new FDOT standards for Complete Streets projects. Learn more here:

<http://www.flcompletestreets.com/CSHandbook.shtm>

2. Extend Bike Lanes East to Bypass Canal Bike Trail

The bike lanes on both Bullard Parkway and Harney Road currently end at the I-75 underpass, which is near to the future Tampa Bypass Canal Bike Trail. The bike lanes should be extended the short distance when the trail is completed. The bike lanes should also be upgraded to include buffers, similar to those recommended for the eastern end of Bullard Parkway.

3. Consider a Future Pedestrian Crossing near the Library

This was a major topic of discussion at the community workshop meeting because of the importance of this connection to the future Downtown development on the southeast corner at 56th



High-Type Design Pedestrian Crossing

Street N. Installing a pedestrian crossing at this location would be challenging due to the close proximity of traffic signals at 56th Street N and Ridgedale Road which are each 650 feet from the library. It is possible to locate a high-type design pedestrian crossing at the midpoint, approximately 650 feet from each signal, similar to what is installed on Fletcher Avenue just west of 30th Street.

4. Upgrade Existing Bike Lanes to Buffered Bike Lanes

Where there are existing 5-foot bike lanes, two additional feet of width should be added to create buffers and improve the riding experience. The additional two feet can be gained by reducing lane widths to 11 feet, which is recommended for the existing design, speed, and land-use classifications along the roadway. With truck accounting for less than 3% of the traffic on Bullard Parkway, traffic operations should not be impacted by the one-foot lane width reduction.

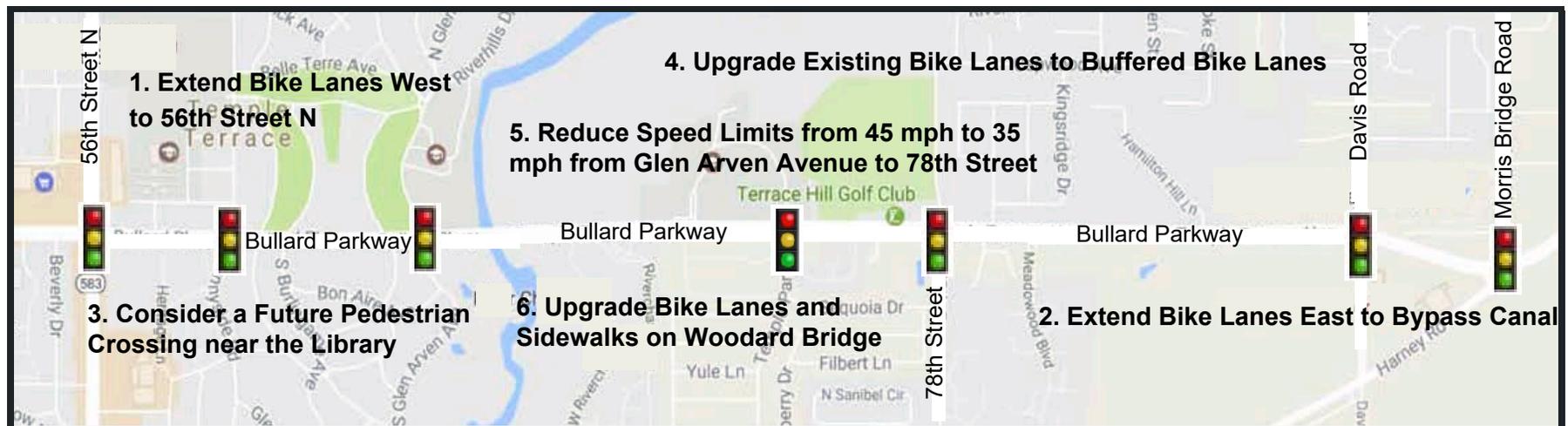
5. Reduce Speed Limits from 45 mph to 35 mph from Glen Arven Avenue to 78th Street.

Reducing speed limits requires traffic studies to be conducted to determine the benefits and impacts of these changes. The context of the segment of Bullard Parkway from Glen Arven

Avenue to 78th Street indicates this type of a speed reduction is appropriate. The current 45 mph speed limit changes to 30 mph without a transition zone. The segment has a school crossing and many bicycle/pedestrian activity areas. Recent crash history includes two bike crashes along this segment of roadway.

6. Upgrade Bike Lanes and Sidewalks on Woodard Bridge

The design of bike lanes on the Woodard Bridge was also a major topic of conversation at the community workshop. Participant suggestions ranged from widening bike lanes and painting them green to building new separated structures. Based upon our review of the current design, it appears the bike lanes can be upgraded by reducing the widths of traffic lanes on the bridge and considering a speed limit reduction from 45 mph to 35 mph. Narrowing the traffic lanes to 10 feet would allow for 7-foot buffered bike lanes, similar to the recommended bike lanes at both ends of the bridge. As suggested at the workshop, the use of green paint will draw attention to the bike lanes, thus potentially improving cyclist visibility. As part of this upgrade, drainage on the bridge and on the sidewalks should be reviewed and improved to prevent standing water from accumulating in the bike lanes and on the sidewalks.



CORRIDOR MAP EXHIBIT

1. INTRODUCTION

The Bullard Parkway Complete Streets Study was conducted by the Hillsborough Metropolitan Planning Organization (MPO) in coordination with City of Temple Terrace and Hillsborough County staff. Complete Streets is an approach to transportation planning and design that prioritizes safe, comfortable and convenient travel for all modes of transportation, to improve connectivity within urban areas.

The purpose of the study was to identify and evaluate alternative options for better serving all those who travel Bullard Parkway (Temple Terrace Highway) from 56th St N to Morris Bridge Road. A particular focus of this study was the 475-foot Woodard Bridge over the Hillsborough River which currently does not have designated accommodations for bicycles. The study evaluated existing transportation conditions in the corridor and produced a list of recommended improvements to make the roadway safer and more comfortable for pedestrians, cyclists, and motorists. This report summarizes the findings and recommendations of the Bullard Parkway Complete Streets Study. The scope of this study included:

- (1) Inventories of existing roadway and traffic control characteristics (right-of-way, lane widths, shoulders, sidewalks and traffic signals);
- (2) Surveys of existing utilization of the street and sidewalks by vehicles, bicyclists and pedestrians at key locations;
- (3) Meetings and workshops with interested stakeholders to obtain input regarding needs and issues;
- (4) Reviews of area development plans, transportation plans and expected future needs; and,
- (5) Development and evaluation of alternative options for improving connectivity and enhancing pedestrian and bicycle travel with special focus on the Woodard Bridge.

The study area extends 2.5 miles from 56th Street N to Morris Bridge Road and includes several generators of bicycle and pedestrian activity, including a public library, Little League baseball fields, a recreation center, two golf courses and the Florida College Campus. The key locations along the corridor that were addressed in the Complete Streets Study of Bullard Parkway are:

- 56th Street N (major signalized intersection and activity center);
- Temple Terrace Public Library;
- Ridgedale Road/Sunnyside Road (Temple Terrace Little League fields);
- Glen Arven Avenue (Florida College and Temple Terrace Golf and Country Club);
- Woodard Bridge over the Hillsborough River;
- E Riverchase Drive (The Park at Valenza Apartments);
- Florida College Gymnasium;
- Temple Park Drive (Florida College Academy);
- 78th Street (Terrace Hill Golf Club and Temple Park Recreation Center); and,
- Davis Road (Point Plaza).

The study area was divided into five segments based upon existing characteristics and operating conditions. These segments are shown on Study Exhibit 1.



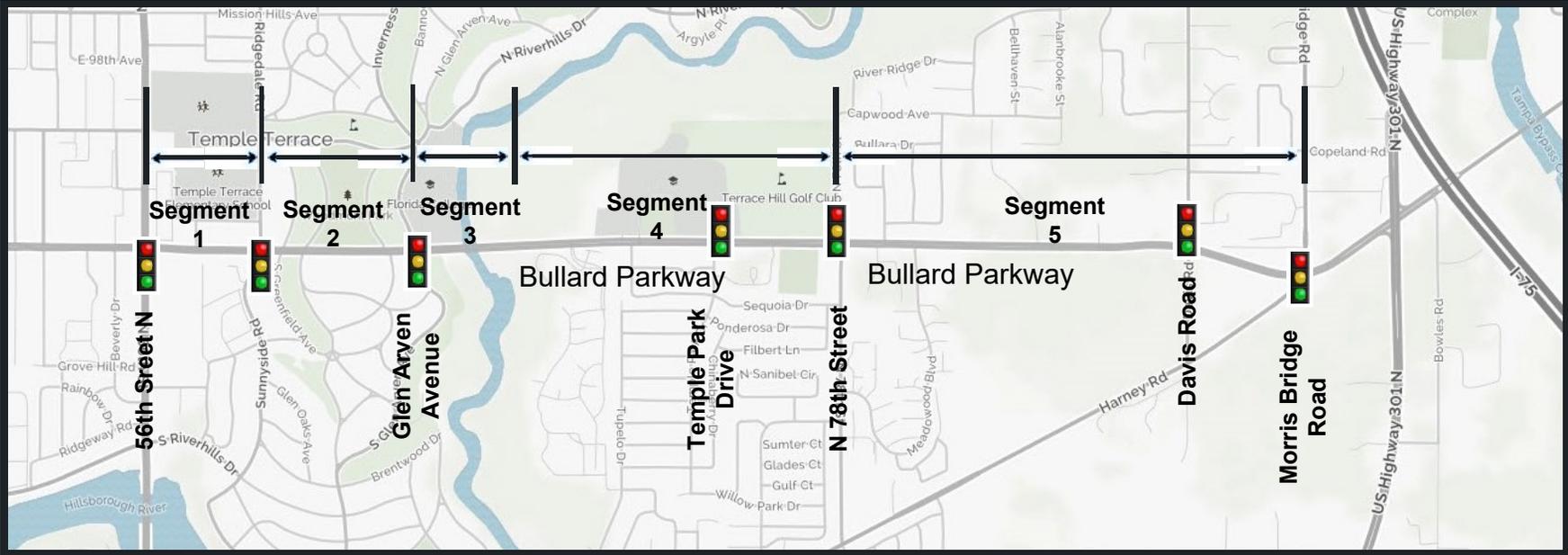
Bullard Parkway Complete Streets Study



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Project Goals & Study Area

Improve Connectivity between Eastern Temple Terrace and Downtown
Ensure Safe and Efficient Travel for All: Driving, Walking, Biking and ADA



Bullard Parkway - 56th Street N to Morris Bridge Road

2. BACKGROUND

Many transportation planning agencies have adopted context-based planning and design policies and practices, which offer a flexible approach to addressing multimodal transportation needs. Complete Streets is a context-based approach that considers all transportation modes, community needs and alternatives in order to achieve community objectives. Complete Streets considers local land development patterns while serving the transportation needs of pedestrians, bicyclists, transit riders and motorists.

As part of this Complete Streets Study for Bullard Parkway, workshops and meetings were conducted with various stakeholder groups including the City of Temple Terrace staff and City Council, Hillsborough County staff, Hillsborough MPO staff, and residents and business owners in Temple Terrace. The meetings were intended to solicit community input regarding the experience of traveling Bullard Parkway and its importance to connecting the eastern boundaries of the City to the Downtown area adjacent to 56th Street N. These meetings were very productive, as attendees' comments and suggestions established the necessary context for identifying appropriate changes to the design and operation of Bullard Parkway. This page lists the improvement needs identified from these community outreach efforts, as well as other comments related to transportation concerns and issues in the area. These suggestions and comments provided focus and context to this Complete Streets Study.

Improvement Needs

- Wider bike lanes with buffers, where possible;
- Lower speed limits between 78th Street and the Woodard Bridge;
- Removal of trash from bike lanes;
- Painted green bike lanes on bridge for emphasis;
- Separated bike lanes over the bridge, if possible;
- Midblock pedestrian crossing in vicinity of the Library; and,
- Wayfinding signage for bicycle connections to trails and external points.

Comments

- New parking lot access for Church of Christ needs to be reviewed for safety considerations;
- Conversion of recreation center to Boys & Girls Club will increase vehicle, pedestrian and bicycle activity;
- Riverchase Apartments generate significant vehicle and pedestrian activity causing congestion at Riverchase Drive intersection; and,
- New traffic signal at Ridgedale Road has increased cut through traffic in the neighborhood.





Bullard Parkway Complete Streets Study



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Stakeholder Workshop Input

Improvement Needs

- Widen bike lanes with buffers, where possible;
- Lower speed limits from 78th Street to Woodard Bridge to transition from 45 mph to 30 mph;
- Regularly remove trash from bike lanes to make them more usable;
- Painted green bike lanes on Woodard Bridge;
- Separate bicycle bridge(s) over Woodard Bridge, if possible;
- Mid-block pedestrian crossing at Library/Broadway; and,
- Bicycle signage for connections to trails and external destinations.

Comments

- New parking lot access for Church of Christ needs to consider pedestrians and bicyclists;
- Conversion of Temple Terrace Rec Center to a Boys & Girls Club will increase ped/bike activity, possibly requiring a HART line stop;
- Riverchase Apartments generate significant vehicle and pedestrian activity; and,
- Cut-through traffic using Glen Arven/Inverness/Druid (possibly Mission Hills) has increased since installation of Ridgedale/Sunnyside signal.

Bullard Parkway - 56th Street N to Morris Bridge Road

3. STUDY AREA

The Bullard Parkway (Temple Terrace Highway) study corridor extends approximately 2.5 miles from 56th Street N to Morris Bridge Road through Temple Terrace. This minor arterial roadway is abutted by a mixture of land uses, including:

- Downtown mixed uses (56th Street N);
- Temple Terrace Fire Station/Public Library;
- Single-family residential;
- Multi-family residential (condominiums, apartments);
- Recreational (Temple Terrace Golf & Country Club, Terrace Hill Golf Club);
- Institutional/Educational (Florida College, Florida College Academy);
- Institutional/Religious (churches);
- Natural Preserve (Hillsborough River);
- Commercial Office;
- Commercial Retail (River Run Preserve, Point Plaza and miscellaneous highway-related services);
- Business Park and Storage; and,
- Transitional Areas (undeveloped).

The roadway has a basic four-lane divided urban cross section located within 100 feet of right-of-way. Four to five-foot sidewalks extend continuously on both sides of the roadway for the entire length of the corridor. A landscaped median 19 to 24-feet wide is provided for most of the corridor with some short segments of painted or concrete medians and two-way left turn lanes at certain locations. The posted speed limits in the corridor range from 30 mph from 56th Street N to east of Glen Arven Avenue, and 45 mph from east of Glen Arven Avenue to Harney Road.

The study corridor was divided into five study segments based upon design and operating characteristics. The key characteristics that distinguish one segment from another are:

- Street Width;
- Bike Lanes;
- Speed Limits;
- Level of Congestion;
- Pedestrian and Cyclist Activity; and,
- Adjacent Land-uses.

The five study segments are listed below and shown on the following pages:

Segment 1 56th Street N to Ridgedale Road (1325 ft);

Segment 2 Ridgedale Road to Woodard Bridge (2200 ft);

Segment 3 Woodard Bridge (475 ft);

Segment 4 Woodard Bridge to 78th Street (4035 ft); and,

Segment 5 78th Street to Morris Bridge Road (5375 ft).



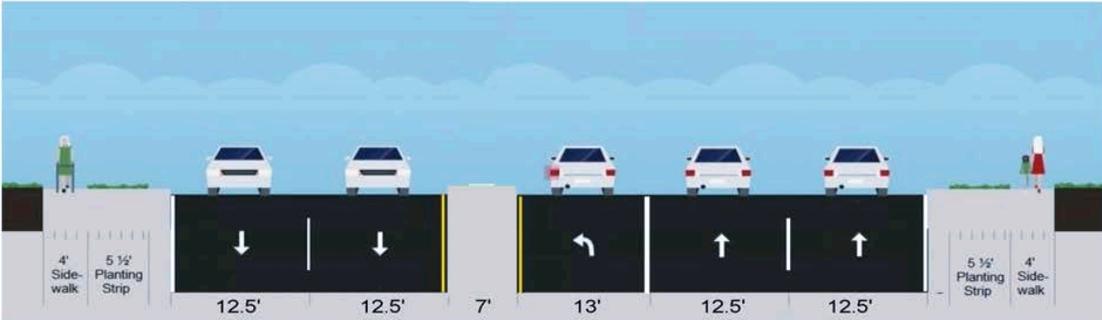
Bullard Parkway Complete Streets Study



56th Street N to Ridgedale Road

Classification: Minor Arterial
 Cross Section: 4 Lane Divided w/Median Area
 Auxiliary Turn Lanes at 56th Street
 Speed Limits: 30 MPH
 Width: 70' with 20' Median Area
 Ped Facilities: 4' Sidewalks on Both Sides
 Bike Facilities: None
 Land-Use: Commercial, Institutional

Observations: Peak Hour Traffic Congestion
 Reduced Traffic Speeds
 Pedestrian and Bicycle Activity
 Mid Block Street Crossings
 No Bike Lanes





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Ridgedale Road to Woodard Bridge

Classification: Minor Arterial
 Cross Section: 4 Lane Divided w/Median Area
 Speed Limits: 30 MPH
 Width: 80' with 22' Median
 Ped Facilities: 5' Sidewalks on Both Sides
 Bike Facilities: 5' Bike Lanes in Both Directions
 Land-Use: Residential, Recreational, Institutional

Observations: Reduced Traffic Speeds
 Pedestrian and Bicycle Activity
 No Separation of Bike Lanes





Bullard Parkway Complete Streets Study

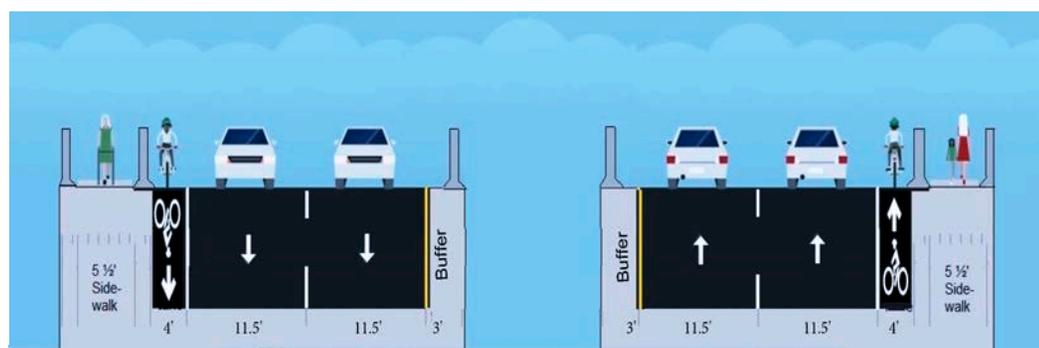


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Woodard Bridge

Classification: Minor Arterial
 Cross Section: 4 Lane Divided Two Structures
 Speed Limits: 45 MPH
 Width: 30' from Wall to Wall
 Ped Facilities: 5' Sidewalks on Both Sides
 Bike Facilities: 4' Bike Lanes in Both Directions
 Land-Use: Open Space, Wetlands

Observations: High Speed Traffic
 Adjacent Open Space
 Pedestrian and Bicycle Activity
 No Separation of 4' Bike Lanes
 Drainage Problem in Bike Lane
 Drainage Problem on Sidewalk



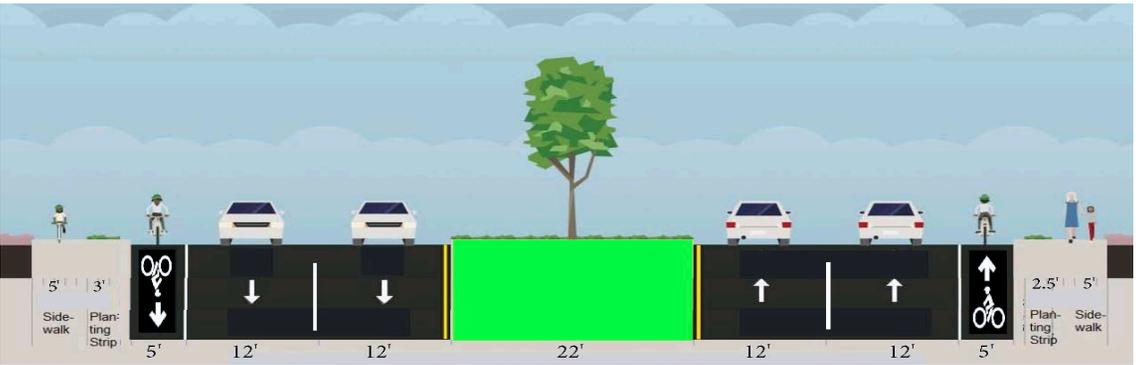
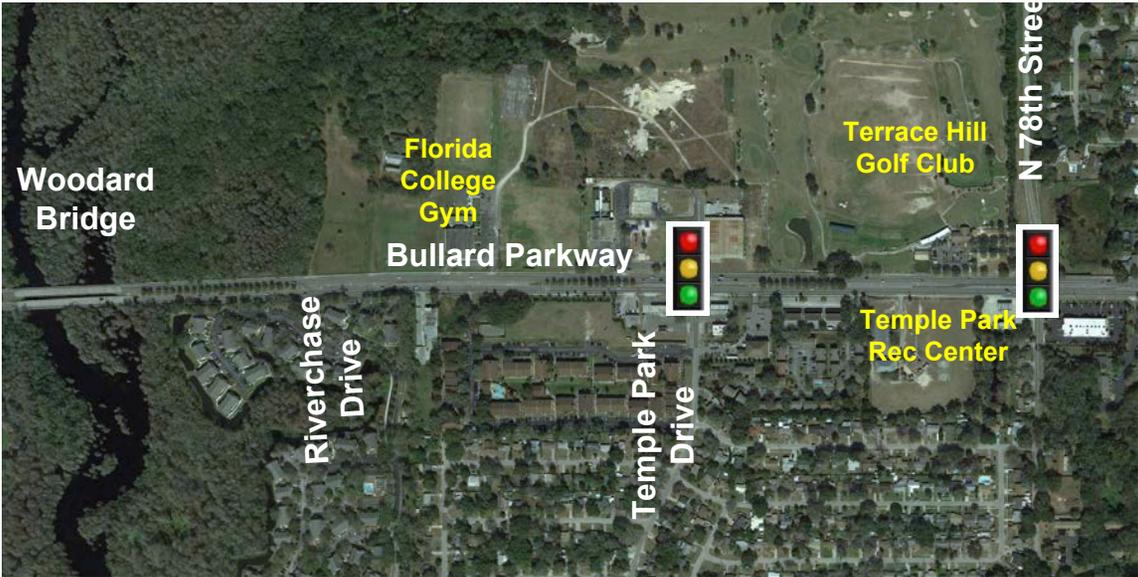


Bullard Parkway Complete Streets Study



Woodard Bridge to 78th Street

- Classification: Minor Arterial
- Cross Section: 4 Lane Divided w/ Planted Median
- Speed Limits: 45 MPH
- Width: 80' with 22' Median
- Ped Facilities: 5' Sidewalks on Both Sides
- Bike Facilities: 5' Bike Lanes in Both Directions
- Land-Use: Residential, Recreational and Institutional
- Observations: High Speed Traffic
Active Land Uses
Pedestrian and Bicycle Activity
School Crossing w/ 20 MPH
Congestion on Riverchase Drive
No Separation of Bike Lanes





Bullard Parkway Complete Streets Study



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78th Street to Morris Bridge Road

Classification: Minor Arterial
 Cross Section: 4 Lane Divided w/ Planted Median
 Speed Limits: 45 MPH
 Width: 80' with 22' Median
 Ped Facilities: 5' Sidewalks on Both Sides
 Bike Facilities: 5' Bike Lanes in Both Directions
 Land-Use: Residential, Commercial

Observations: High Speed Free-Flowing Traffic
 Considerable Open Space
 Low Pedestrian and Bike Activity
 No Separation of Bike Lanes



4. EXISTING CONDITIONS

The existing use of Bullard Parkway by motorists, commercial trucks, bicyclists and pedestrians was measured to obtain a more thorough understanding of existing operating conditions, current needs, and opportunities for changes to better accommodate all transportation modes. New counts of automobiles, trucks, bicyclists and pedestrians were conducted at several locations along the corridor to identify current demands, and to evaluate levels of service and congestion at key intersections. Crash data were obtained and summarized for recent years to identify traffic safety problems and need for improvements.

Traffic Volumes

Traffic demands in the corridor range from a high of 23,500 vehicles per day between 56th Street N and 78th Street, to a low of 16,500 vehicles per day from 78th Street to Morris Bridge Road. The peak periods of the day for traffic are between 7-9am and 4-6pm with the highest volumes (approximately 10% of the daily volumes) occurring between 5-6pm. The prevailing traffic patterns during these peak hours reflect higher westbound traffic volumes during the morning peak with balanced eastbound and westbound traffic during the evening peak. The highest intersection traffic volumes are found at the 56th Street N intersection. The highest traffic volumes along Bullard Parkway, however, were recorded at the Glen Arven Avenue intersection. Commercial trucks represent approximately 2.6% of the traffic volumes throughout the day in the corridor.

Level of Service Conditions

Operational conditions on Bullard Parkway are generally good with acceptable (Level of Service C) conditions prevalent throughout most of the corridor. Congested conditions (Level of Service E) are experienced at the western end of the corridor in the vicinity of 56th Street N due to signal timing requirements for traffic at that signalized intersection. Existing level of service conditions during peak traffic hours are listed in Table 1, below:

**Table 1
Existing Level of Service Conditions**

Bullard Parkway Intersection	AM Peak Hour		PM Peak Hour	
	Average Delay (sec)	Level Of Service	Average Delay (sec)	Level Of Service
56th Street N	61.7	E	64.4	E
Glen Arven Avenue	16.8	B	15.4	B
Temple Park Drive /Florida College	25.0	C	19.2	B
78th Street	16.5	B	18.7	B
Davis Road	14.5	B	18.3	B

Traffic congestion on Bullard Parkway in the westbound direction during peak traffic periods extends east from the 56th Street N intersection and impacts the operation of nearby intersections and driveways. Of particular concern is the impact of this congestion upon pedestrian and bicycle activity, which occurs along and across Bullard Parkway between 56th Street N and Ridgedale Road.

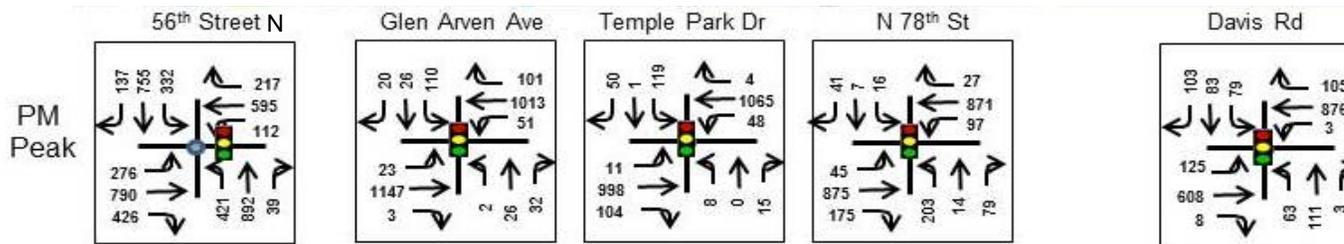
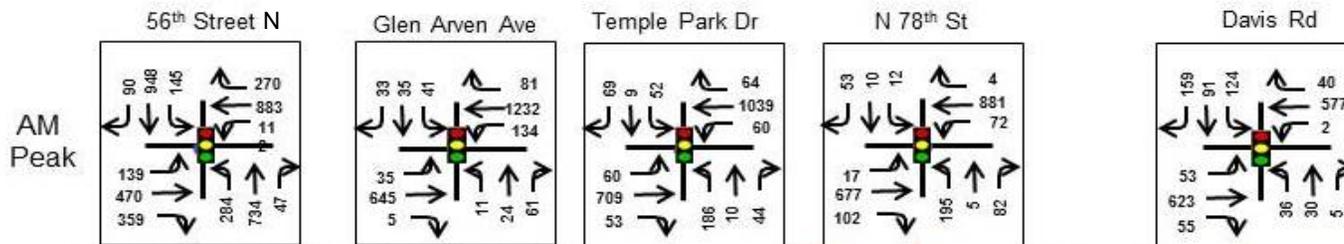


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Existing Conditions - Traffic Volumes



Pedestrian Activity

Observations and counts of pedestrian and bicycle activity were conducted for eight hours at several key locations along Bullard



Parkway. The greatest pedestrian activity occurred toward the west end between 56th Street N and Ridgedale Road. Near the library, pedestrians cross Bullard Parkway without the benefit of traffic signal control or a center median area for

refuge. Pedestrians cross in concert with traffic gaps, which result from the nearby traffic signals at 56th Street N and Ridgedale Road. The predominant pedestrian patterns at other locations reflect east-west travel rather than north-south crossings of Bullard Parkway. Due to higher traffic speeds east of the Woodard Bridge, pedestrians usually cross at the signalized intersections.

Bicycle Activity

Bicycle activity occurs along and across Bullard Parkway on both the roadway and sidewalks. Observations indicate that more experienced cyclists tend to utilize the roadway, while the less experienced recreational riders favor sidewalks for shorter trips. The greatest bicycle activity was observed near Riverchase Drive and the Florida College gym. Even in this area, the current level of bicycle activity is relatively low with counts of less than 68 bicyclists over eight hours on weekdays. The current low level of bicycle activity may reflect the challenges of riding a bicycle along the Bullard Parkway corridor, such as uneven sidewalk surfaces, no separation from traffic lanes, and an uncomfortably narrow bridge crossing.

Crash History

Approximately five years of crash data along the corridor were reviewed to identify locations with the greatest number of crashes and where pedestrian and bicycle crashes have occurred. As expected many crashes were concentrated near the 56th Street N intersection and demonstrated a distinct pattern of rear-end and fixed-object crashes. The intersections with the most significant crash experience are 56th Street N (55 crashes), Temple Park Drive (17 crashes) and 78th Street (15 crashes). Between 2011-2016, there have been eight crashes involving cyclists/pedestrians along Bullard Parkway. Of those eight crashes, only one occurred during dark lighting conditions, however, the crash location was noted to be lighted. The locations where these crashes occurred are listed in Table 2, below:

**Table 2
Summary of Pedestrian and Bicycle Crashes (2011-2016)**

Cross Street Location	Type of Crash	Date
56th Street N (SR 583)	Pedestrian	8/13/2012
	Bicycle	10/1/2013
	Pedestrian	11/2/2013
	Pedestrian	11/23/2013
Ridgedale Road	Bicycle	11/18/2011
Burlingame Avenue	Bicycle	7/28/2012
Temple Park Drive	Bicycle	7/10/2012
78th Street	Bicycle	2/1/2012

Collision diagrams were prepared for each intersection along the study corridor that experienced more than five crashes during the period from 2011 to 2016. The collision diagrams showing crash patterns by type of crash and location are provided on the following pages.



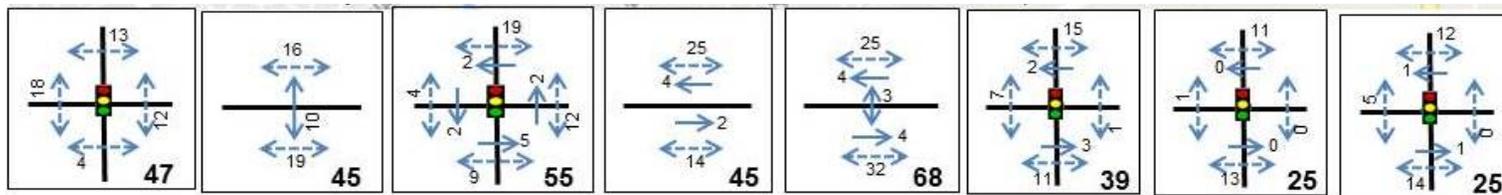
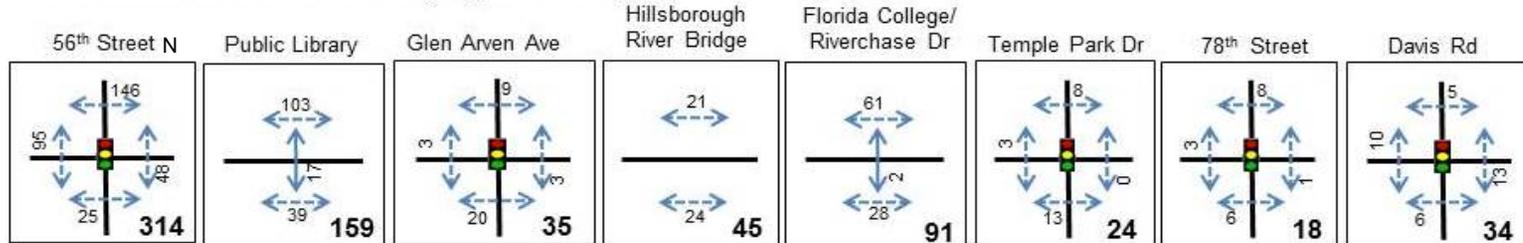
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Existing Conditions - Bike/Pedestrian Activity

Pedestrian Movements (Eight Hours)



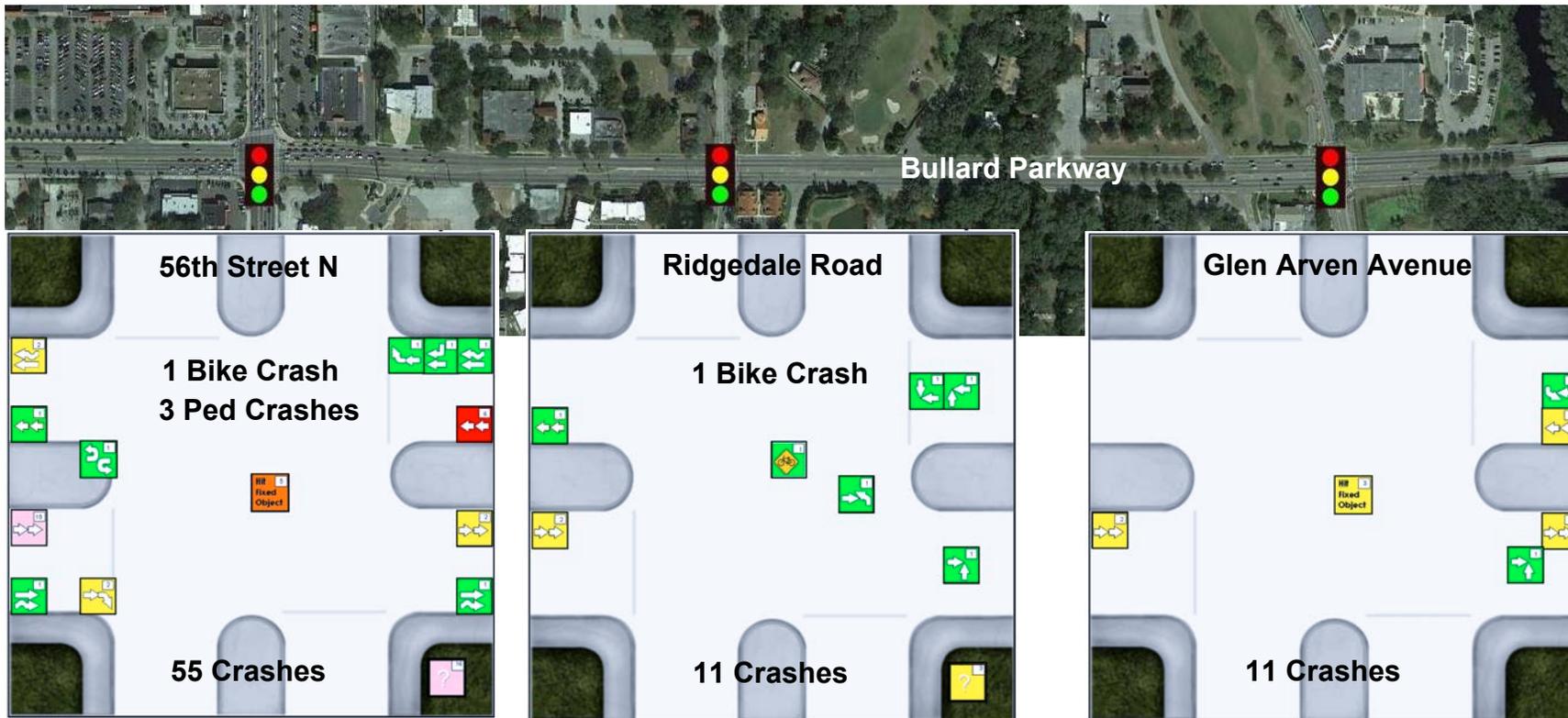
Bike Movements (Eight Hours)



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Existing Conditions – Crash History (West)



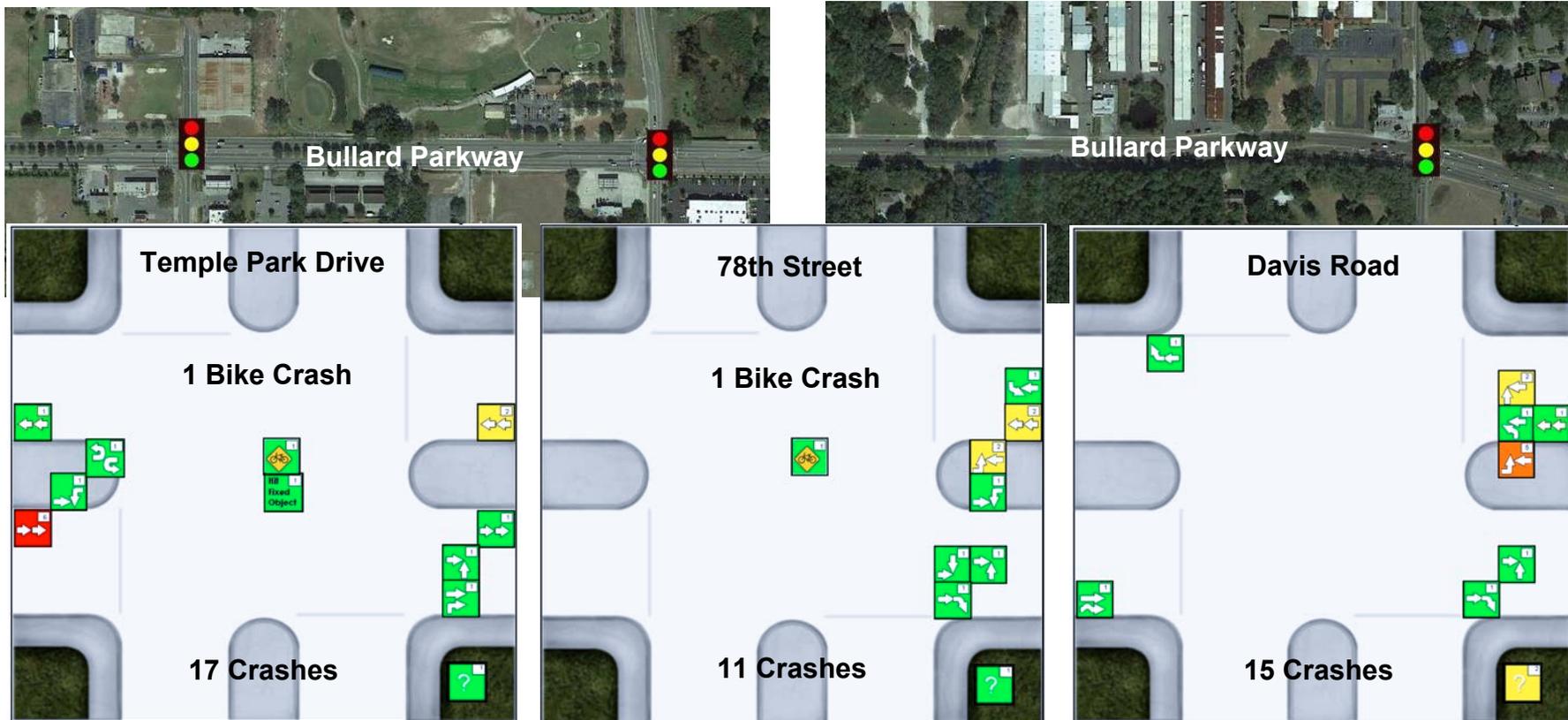
Bullard Parkway - 56th Street N to Glen Arven Avenue



Bullard Parkway Complete Streets Study



Existing Conditions – Crash History (East)



Bullard Parkway - Woodard Bridge to Davis Road

5. FUTURE CONSIDERATIONS

Several significant changes are planned and likely to occur along the Bullard Parkway corridor, and these need to be taken into consideration in proposed Complete Streets improvements. These changes include area development proposals and the addition of nearby bike trails as described below and shown on Study Exhibit 13.

Downtown Development Proposal



Renewed efforts are underway by Temple Terrace to redevelop 30 acres located at the southeast corner of Bullard Parkway and 56th Street N. This major parcel is controlled by the City and represents an opportunity to anchor the west end of the city with destination-type development. Bullard Parkway provides the primary transportation connection to this site for residents, employees, and business owners in Temple Terrace.

Recreation Center Conversion

The existing Temple Terrace Recreation Center located at 7701 Temple Terrace Highway near the 78th Street intersection is being converted to a Boys & Girls Club, which is expected to generate more vehicle, pedestrian and bicyclist activity. Connections to this facility for all modes of transportation will be more important as demand increases.

Tampa Bypass Canal Bike Trail

The proposal is to construct a multi-use trail running along the west side of the Tampa Bypass Canal connecting Flatwoods Park in New Tampa through Wilderness and Trout Creek Parks, south to the McKay Bay Trail, the Selmon Greenway and the South County Trail. This 17-mile multi-use trail will provide both recreational and social opportunities for residents and visitors, connecting the communities of New Tampa, Temple Terrace, East Lake/Orient Park and Palm River along the trail to each other and to the resources in north and south Tampa and Hillsborough County. The bicycle lanes on Bullard Parkway currently extend to US Route 301, but not past the I-75 overpass.

Riverchase Drive

Riverchase Drive provides exclusive access to over 800 residential units in the Park at Valenza subdivision. This access point experiences congestion and delays at Bullard Parkway during peak traffic periods for exiting vehicles, particularly those turning left to travel west. This intersection may need an improvement to restrict traffic movements to safely accommodate current traffic demands.



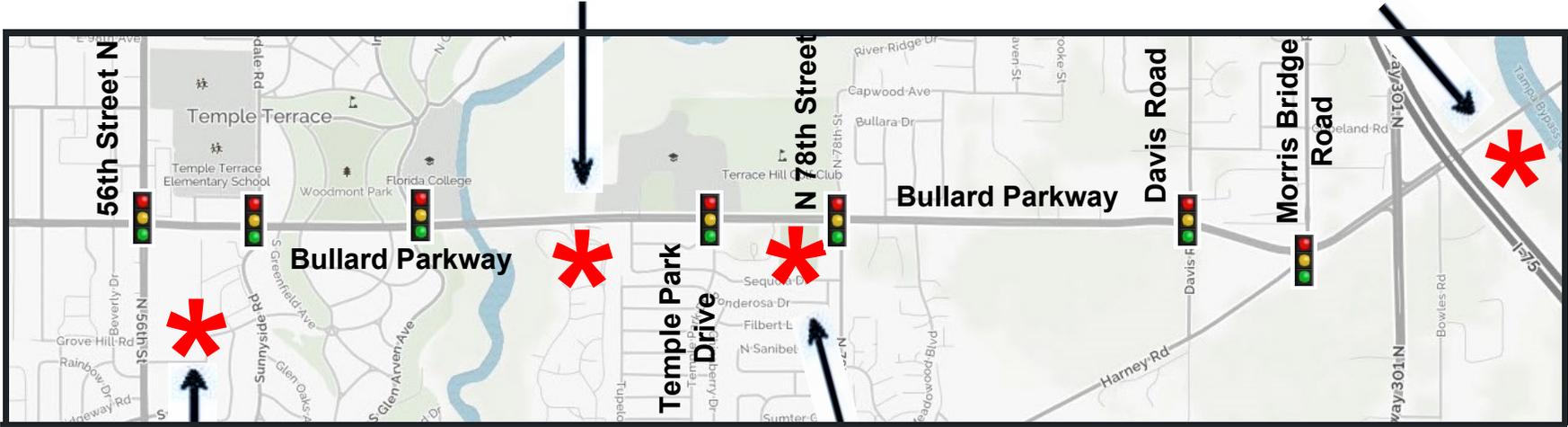
Bullard Parkway Complete Streets Study



Future Considerations

Riverchase Drive Changes

Tampa Bypass Canal Bike Trail



Downtown Development Proposal

Recreation Center Conversion

Bullard Parkway - 56th Street N to Morris Bridge Road

6. STUDY RECOMMENDATIONS

1. Extend Bike Lanes West to 56th Street N

The segment from Ridgedale Road to 56th Street N is not currently marked for bike lanes, despite being an important connection to the Downtown and north-south bicycle activity on 56th Street N. It appears the bike lanes can be added, if the width of traffic lanes is reduced from ± 12 feet to 10 feet. This is the segment with the most congestion and lowest traffic speeds. Ten-foot lanes are acceptable per the new FDOT standards for Complete Streets projects.

2. Extend Bike Lanes East to Bypass Canal Bike Trail

The bike lanes on Bullard Parkway and Harney Road currently end at the I-75 underpass, very near the future Tampa Bypass Canal Bike Trail. The bike lanes should be extended the short distance when the trail is completed. The bike lanes should also be upgraded to buffered bike lanes, similar to those recommended for the eastern end of Bullard Parkway.

3. Consider a Future Pedestrian Crossing near the Library

This major topic of discussion at the community workshop meeting reflects the importance of this connection to the future Downtown development at the southeast corner at 56th Street N. Locating a pedestrian crossing here is difficult due to the close proximity of the signals at 56th Street N and Ridgedale Road which are 1300 feet apart. It is possible to locate a high-type design pedestrian crossing at the midpoint, approximately 650 feet from each signal, similar to Fletcher Avenue west of 30th Street.

4. Upgrade Existing Bike Lanes to Buffered Bike Lanes

Where there are existing 5-foot bike lanes, two additional feet of width should be added to create buffers and upgrade the riding experience. The additional width can be gained by reducing vehicle lane widths to 11 feet, which is considered acceptable for the context of Bullard Parkway. With truck percentages of less than 3% on Bullard Parkway, the reduction of lane widths by one-foot should not impact traffic operations.

5. Reduce Speed Limits from 45 mph to 35 mph from Glen Arven Avenue to 78th Street

Reducing speed limits requires traffic studies to be conducted to determine the benefits and impacts of these changes. The context of the segment of Bullard Parkway from Glen Arven Avenue to 78th Street indicates this type of a speed reduction is appropriate. The current 45 mph speed limit changes to 30 mph without a transition zone. The segment has a school crossing and many bicycle/pedestrian activity areas. Recent crash history includes two bike crashes within this segment of roadway.

6. Upgrade Bike Lanes and Sidewalks on Woodard Bridge

The design of bike lanes on the Woodard Bridge was also a major topic at the community workshop. Participant suggestions ranged from wider bike lanes painted green to new separate structures alongside Woodard Bridge. Based upon our review of the current design, it appears the bike lanes can be upgraded by reducing the widths of traffic lanes on the bridge, in combination with a speed limit reduction from 45 mph to 35 mph. Narrowing the traffic lanes to 10 feet would expand the bike lanes to 7 feet, similar to the recommended widths at both ends of the bridge. As suggested at the workshop, the use of green paint will draw attention to the bike lanes, thereby potentially improving visibility of cyclists. As part of this upgrade, drainage on the bridge and on the sidewalks should be reviewed and improved to prevent standing water in the bike lanes and sidewalks.

As part of these bicycle/pedestrian recommendations, consideration should be given to provide for the following elements:

- Safe transitions between all types of improvements;
- Wayfinding/direction signs for bicyclists;
- Improved pavement conditions, including drainage and roadway resurfacing to eliminate irregularities; and,
- Bike friendly grates and manholes.

RECOMMENDATIONS EXHIBIT 1



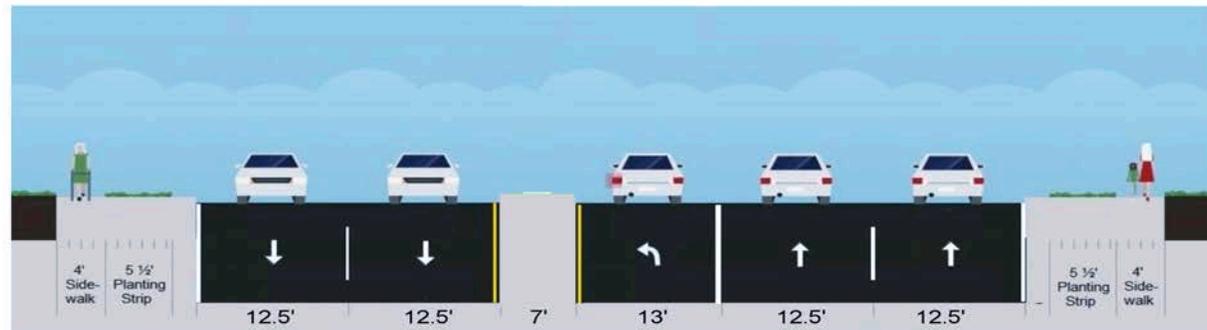
Bullard Parkway Complete Streets Study



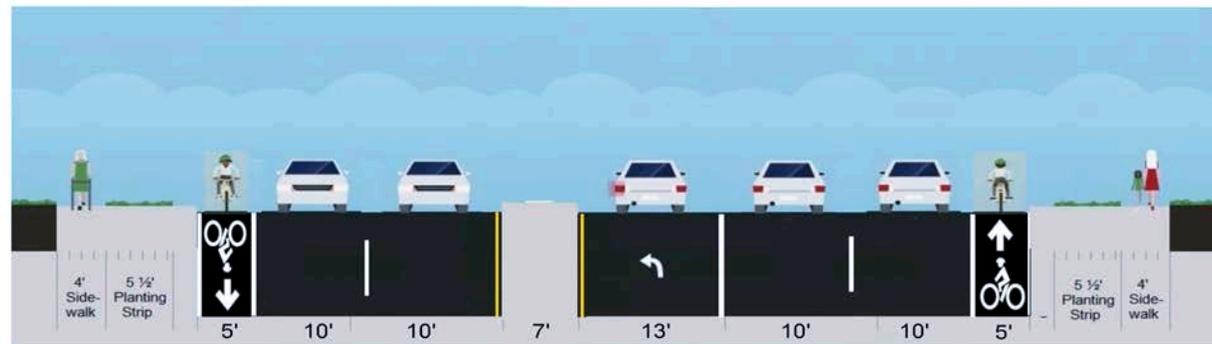
Complete Streets Improvements

Connectivity Extend bike lanes west to 56th Street N by reducing lane widths

Existing



Proposed



Bullard Parkway - 56th Street N to Ridgedale Road



Bullard Parkway Complete Streets Study



Complete Streets Improvements

Connectivity

Extend buffered bike lanes east to the Tampa Bypass Canal Bike Trail



Bullard Parkway – Morris Bridge Road to Tampa Bypass Canal



Bullard Parkway Complete Streets Study



Complete Streets Improvements

Connectivity

Provide mid-block pedestrian crossing near Broadway Avenue to connect Library and Schools with new development area *pending future pedestrian observations



Bullard Parkway - 56th Street N to Ridgedale Road

RECOMMENDATIONS EXHIBIT 4



Bullard Parkway Complete Streets Study

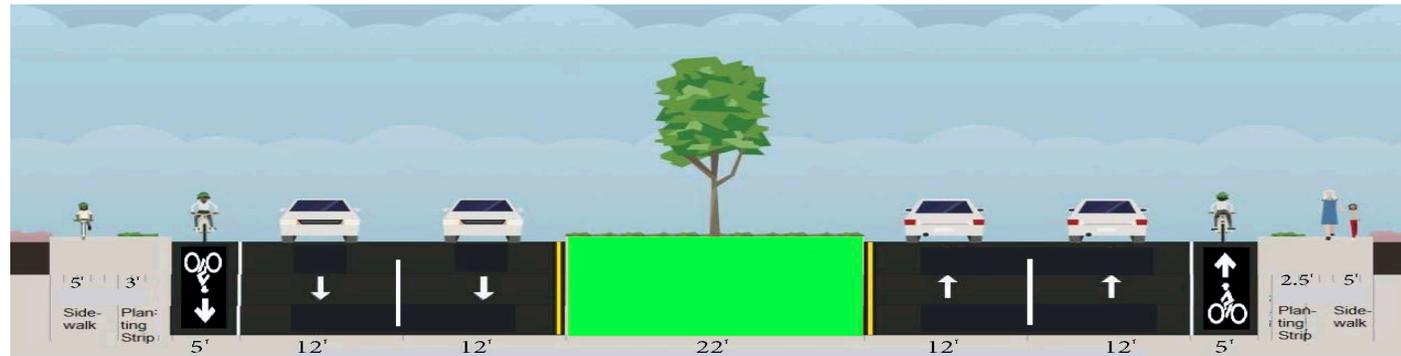


Complete Streets Improvements

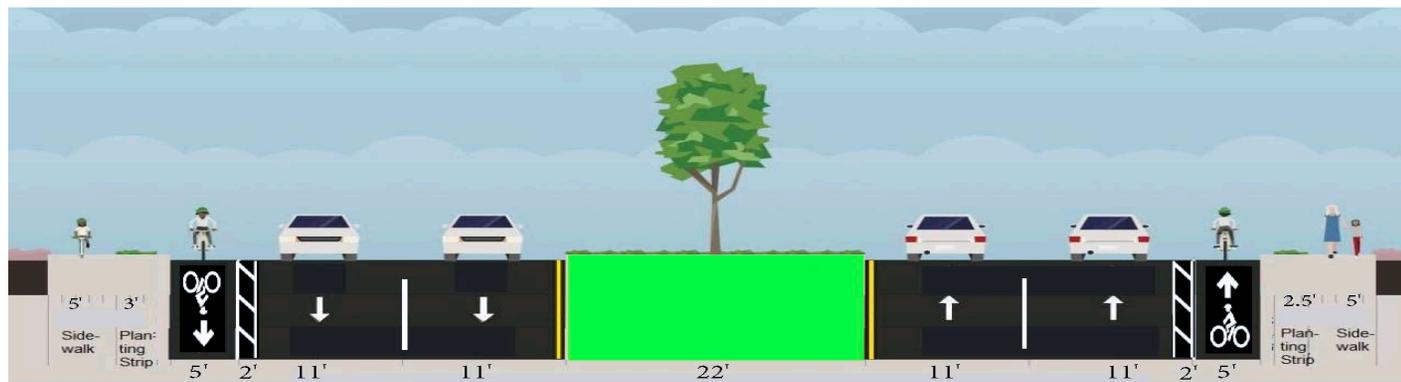
Safety

Convert bike lanes to buffered bike lanes

Existing



Proposed



Bullard Parkway - Ridgedale Road to Morris Bridge Road

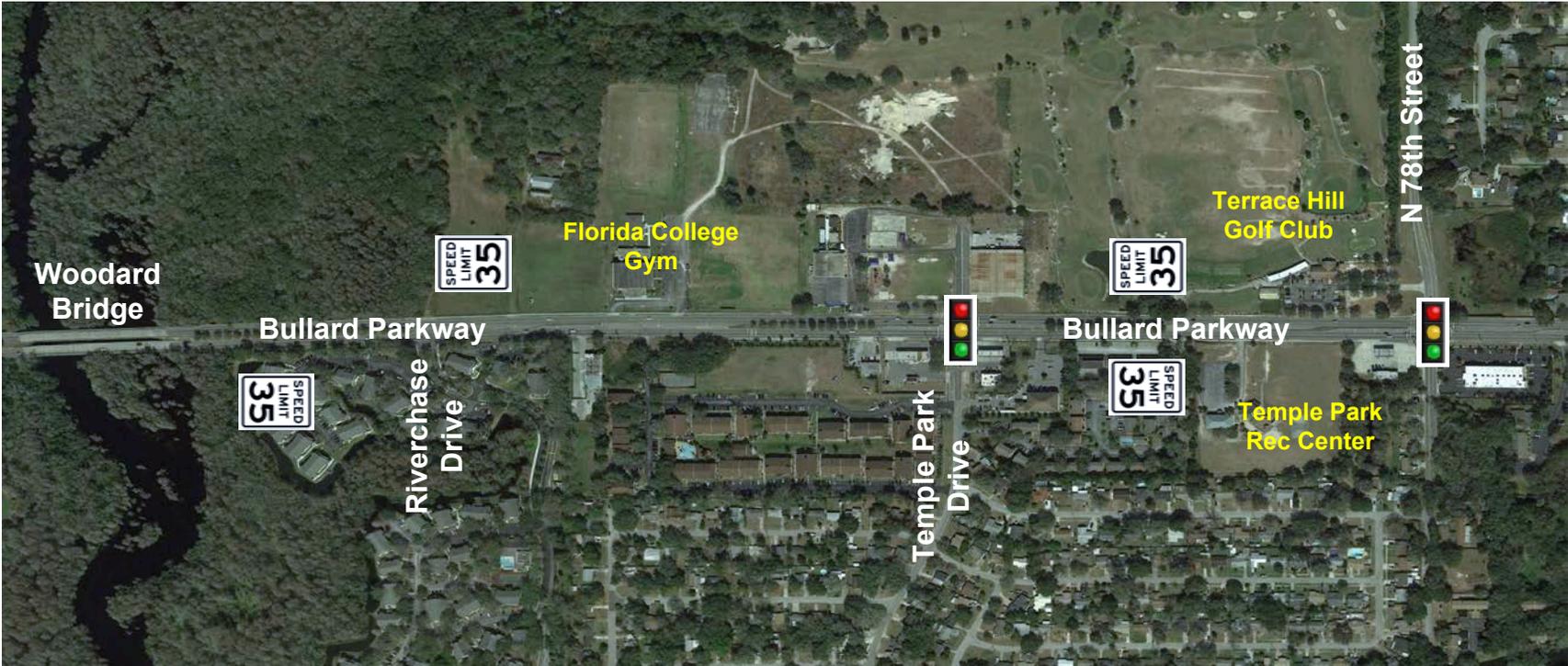


Bullard Parkway Complete Streets Study



Complete Streets Improvements

Safety Reduce speed limits to 35 MPH in transition zone between Glen Arven Avenue and 78th Street



Bullard Parkway - Glen Arven Avenue to 78th Street



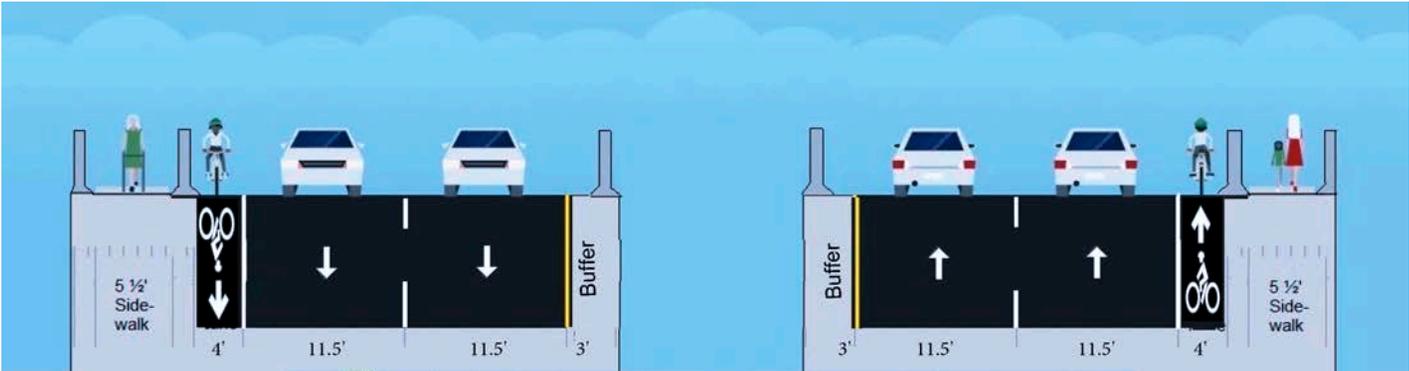
Bullard Parkway Complete Streets Study



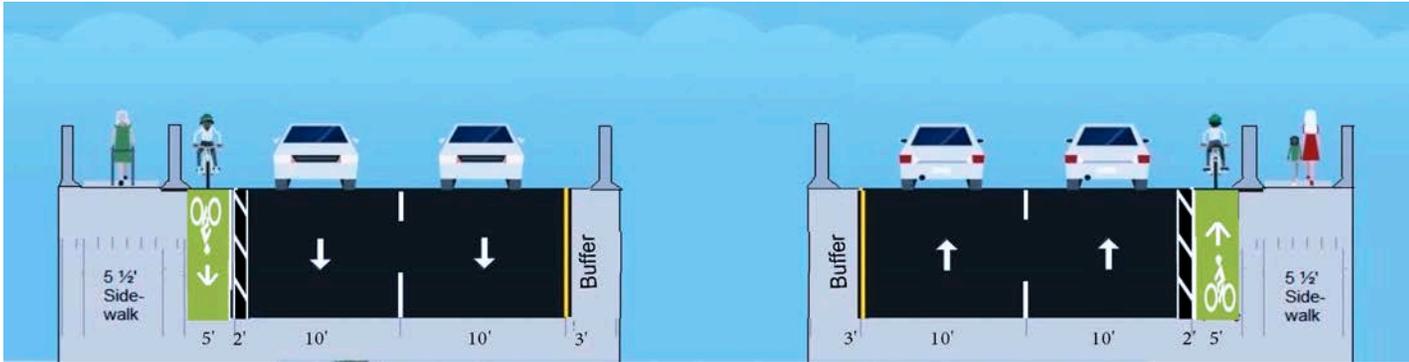
Complete Streets Improvements

Safety Upgrade bike lanes and sidewalks on Woodard Bridge

Existing



Proposed



Bullard Parkway - Woodard Bridge

During our stakeholder meetings in Temple Terrace, two traffic issues were raised and discussed, which did not result in recommended changes. The first issue was a request to install a traffic signal at the intersection of Riverchase Drive and Bullard Parkway. The second issue was to accommodate golf carts traveling on Bullard Parkway.

Riverchase Drive Intersection

The Riverchase Drive intersection on Bullard Parkway is located east of the Woodard Bridge and provides exclusive access to over 800 residential units in the Park at Valenza subdivision on the south side of Bullard Parkway. Exiting vehicles from this subdivision on Riverchase Drive experience delays during busy traffic periods because of the volume and speed of traffic on Bullard Parkway. Obtaining approval for a new traffic signal at any intersection requires a detailed Traffic Engineering study and satisfying warrants criteria related to traffic volumes, speeds or crash history. The Bullard Parkway Complete Streets Study did not include a detailed evaluation of the traffic signal warrants, so installation of a traffic signal cannot be recommended as part of this study. Based upon preliminary observations of traffic and analyses of crash data, however, the intersection does not appear to satisfy the required warrants for a traffic signal. Recognizing that other treatments may provide relief for motorists at this intersection, it is recommended that conditions at this intersection continue to be monitored to determine appropriate future actions.

Use of Golf Carts on Bullard Parkway

Golf carts are currently permitted to travel within the City of Temple Terrace on local streets which have low traffic volumes and low operating speeds. Bullard Parkway is a desirable corridor for golfers, as it is adjacent to two golf courses and a driving range. Therefore, permitting the use of golf carts on this street could provide an alternative travel option for local users. Accommodating golf cart travel on Bullard Parkway, however, will prove difficult to achieve because of jurisdictional and functional design issues.

Bullard Parkway is a roadway operated and maintained by Hillsborough County and Hillsborough County does not permit operation of golf carts on their roadways. Per Florida Statutes (Title XXIII, Chapter 316), operating golf carts on or crossing a county roadway requires counties to designate the roadway as being safe for this travel. Hillsborough County Public Works is on record for not permitting golf cart travel on their roadways because of traffic safety concerns, citing significant speed differential between cars and golf carts. Speed differential creates the potential for serious conflicts and safety concerns on county roadways, which have higher traffic volumes and higher speeds.

Several options for accommodating golf cart travel along Bullard Parkway were explored for preliminary discussions. These options included constructing a multi-use path with sufficient width for two-way golf cart use within or adjacent to Bullard Parkway. A multi-use path could be aligned (1) adjacent to the north side of Bullard Parkway where the golf venues are located, or (2) in the center median within Bullard Parkway where sufficient width is available. Both of these options have significant design issues to overcome related to available right-of way, restrictions at the Woodard Bridge and removal of existing landscaping. The center median on Bullard Parkway has 56 mature oak trees that would need to be removed to consider constructing the multi-use path within the median area. The design options and challenges for accommodating golf carts along Bullard Parkway are listed on Recommendations Exhibit 7.



Bullard Parkway Complete Streets Study



Hillsborough MPO
Metropolitan Planning
for Transportation

Preliminary Options & Challenges for Accommodating Golf Carts

1. Golf Carts on Road

- Golf carts are allowed on low-volume local roads with posted speed limits of 25 mph or less
- Golf Carts are not allowed on County Roads

2. Golf Carts on a Separate Multi-use Path on One Side of the Road

- Will require purchase of right-of-way and construction of a new structure over the Hillsborough River
- May result in traffic safety issues where golf carts cross major side streets

3. Golf Carts on a Separate Multi-use Path within the Median

- Right-of-way is mostly available
- Would require crossing five median openings between Glen Arven Avenue and 78th Street
- Would require crossing Bullard Parkway to reach the center median
- Would require removal of 56 mature oak trees

4. Golf Carts on Wider Paved Shoulders

- Golf carts are not allowed on County Roads
- Repurpose 6 feet of median area to widen each bike lane by 3 feet
- Will require construction of a new structure over the Hillsborough River
- Should include reducing speed limits on Bullard Parkway
- Cyclists and golf carts travel at similar speeds, so this could increase usage of the shoulders