

VISIONZERO

HILLSBOROUGH

Vision Zero Corridor Study

Gibsonton Drive

DRAFT TECHNICAL MEMORANDUM

Fall 2020

GIBSONTON DRIVE VISION ZERO CORRIDOR STUDY

PREPARED FOR:



PREPARED BY:



The preparation of this report has been financed in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation. The TPO does not discriminate in any of its programs or services. Public participation is solicited by the TPO without regard to race, color, national origin, sex, age, disability, family or religious status.

TABLE OF CONTENTS

1.0 Introduction..... 1

2.0 Existing Conditions Analysis..... 3

 2.1 Study Corridor Description 4

 2.2 General Roadway Characteristics..... 5

 2.3 Bicycle and Pedestrian Facilities 7

 2.4 Transit 8

 2.5 Planned and Programmed projects in the Area 9

 2.6 Existing Land Use, Zoning, and Future Land Use10

 2.7 Other Plans and Studies..... 13

3.0 Needs Analysis 15

 3.1 Historical Safety Review (Crash Analysis)..... 15

 3.2 Issues Identification 17

4.0 Community Engagement19

 4.1 Virtual Engagement Process.....19

 4.2 Online Survey19

 4.3 Public Input Map 20

 4.4 Community Outreach Outcomes.....22

5.0 Proposed Corridor Solutions..... 24

 5.1 Safety Countermeasures 24

 5.2 Concept Layout25

 5.3 Hotspot Countermeasures 26

6.0 Action Plan..... 35

LIST OF FIGURES

Figure 2-1 Study Area 4

Figure 2-2 Gibsonton Drive Typical Section..... 5

Figure 2-3 Pedestrian Facilities 7

Figure 2-4 Existing Land Use..... 10

Figure 2-5 Zoning..... 11

Figure 2-6 Future Land Use..... 12

Figure 5-1 Proposed Cross Section 25

Figure 5-2 Proposed Enhancements: Gibsonton/US 301 29

Figure 5-3 Proposed Enhancements: Gibsonton/Mathog 30

Figure 5-4 Proposed Enhancements: Gibsonton/Fern Hill Drive..... 32

Figure 6-1 Proposed Safety Enhancements 36

APPENDICES

- Appendix A: CAD Renderings
- Appendix B: Public Involvement
- Appendix C: Crash Data
- Appendix D: Corridor Solutions

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1.0 INTRODUCTION

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1.0 INTRODUCTION

The Hillsborough Metropolitan Planning Organization (MPO) adopted its Vision Zero Action Plan ('Action Plan') in 2017. The data-driven Action Plan identified 30 High Injury Network (HIN) corridors to focus on to ultimately eliminate traffic-related fatalities and severe injuries. Out of these HIN corridors, eight were identified by the MPO for corridor-level analysis and recommendations development. Through the analysis and community engagement efforts, the goal of the Vision Zero corridor studies is to develop immediate low-cost design treatments, recommend community-based enforcement strategies, and highlight potential long-term solutions.

The Hillsborough MPO has tasked Atkins in collaboration with Alta Planning + Design (Alta) with conducting a Vision Zero corridor study for Gibsonton Drive from I-75 to Balm Riverview Road in Hillsborough County, Florida. The Gibsonton Drive Corridor project area consists of a four-to-six lane suburban arterial with a raised median. A major intersection with US 301 divides the corridor roughly in half.

The document is organized into the following sections:

- ◆ **1.0 Introduction:** Provides the context and purpose of the study.
- ◆ **2.0 Existing Conditions Analysis:** Includes general roadway characteristics and planned and programmed projects.
- ◆ **3.0 Needs Analysis:** Provides a historical safety review and issues identification along the corridor
- ◆ **4.0 Community Engagement:** Summarizes the virtual community engagement efforts and results.
- ◆ **5.0 Proposed Corridor Solutions:** Provides the proposed corridor solutions as a phased approach.
- ◆ **6.0: Conclusion:** Synthesizes the report.



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2.0 EXISTING CONDITIONS ANALYSIS



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2.0 EXISTING CONDITIONS ANALYSIS

The existing conditions analysis included a review of existing infrastructure, the existing transportation system, a review of recent corridor plans and studies, and existing and planned projects. The existing conditions analysis is the result of a combination of data collection and review along with visits to the field.

. The purpose of the field visits were to observe current conditions of the corridor including:

- ◆ Documenting notable facility issues and opportunities that can be incorporated into the recommendations.
- ◆ Experiencing the corridor as a pedestrian and/or bicyclist to perceive walking and biking safety and stress level conditions.

The results of the existing conditions analysis are detailed in this section.



Field visit photo. Source: Project Team.

2.1 STUDY CORRIDOR DESCRIPTION

Gibsonton Drive is an east-west roadway located in Hillsborough County, Florida. The study limits of the Gibsonton Drive corridor are from west of I-75 to Balm Riverview Road. It is functionally classified as an **Urban Minor Arterial** and is approximately **2.4 miles long**. The local jurisdiction

for the Gibsonton Drive corridor is Hillsborough County. See **Figure 2-1** for the project area study limits.



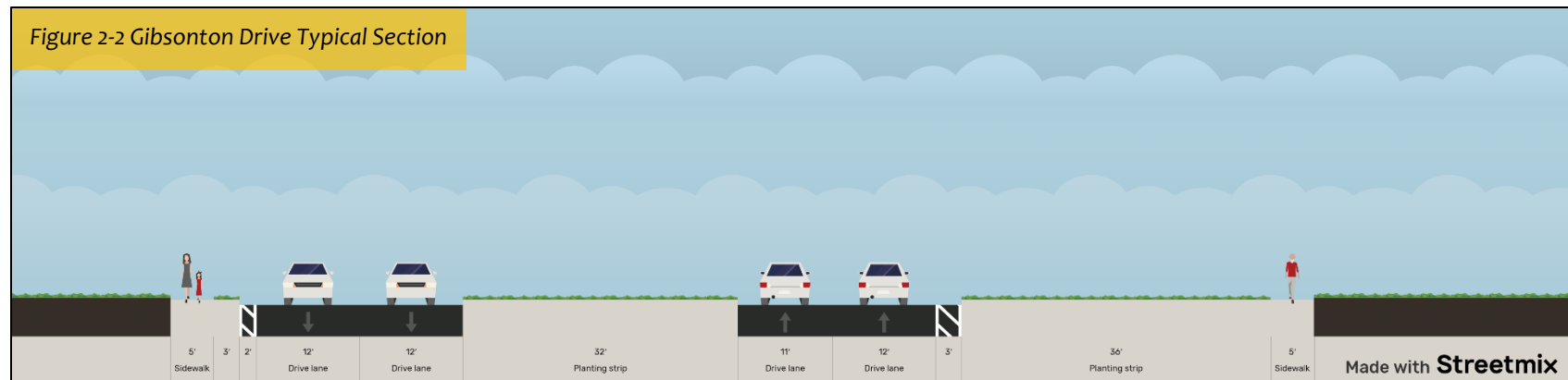
2.2 GENERAL ROADWAY CHARACTERISTICS

The following list summarizes the existing roadway characteristics for the Gibsonton Drive Study corridor:

- ◆ The FDOT functional classification is **Urban Minor Arterial**.
- ◆ Within the **Urbanized Area** as classified by the Federal Highway Administration (FHWA).
- ◆ Within the **Urban Service Area** for Hillsborough County.
- ◆ Gibsonton Drive is a **four to six lane divided** facility with a **raised median**.
- ◆ The posted speed limit along the corridor is **45 mph**.
- ◆ **Sidewalks** are present through most of the corridor.
- ◆ **Bicycle facilities** include paved shoulders and striped bike lanes.
- ◆ **Street lighting** is sporadic along the corridor.
- ◆ **Crosswalks** are present at 4 signalized intersections
- ◆ There are no **rail** facilities along the corridor

GIBSONTON DRIVE CORRIDOR TYPICAL SECTION

The existing roadway configuration consists of 5-foot sidewalks on both sides, 11 to 12-foot drive lanes, and a 32-foot median (See **Figure 2-2**).



STUDY INTERSECTIONS

The signalized intersections within the study area are listed and briefly described below. An analysis of these intersections is included in the Needs Analysis section of this report.

- ◆ **Gibsonton Drive/Fern Hill Drive:** located just east of the I-75 on- and off-ramps. A signalized intersection for gas stations on the north and south sides of the Gibsonton Drive. Fern Hill Drive is a two-lane undivided roadway with a narrow median approaching the intersection on the southern end. There are sidewalks on the east side of the intersection and no crosswalk facilities to cross Gibsonton Drive. Paved shoulders exist at all approaches to the intersection.
- ◆ **Gibsonton Drive/Mathog Road:** intersection for Mathog Road, which is a 2-lane undivided roadway which dead ends on the north side. Northbound, there are two dedicated left-turn lanes and a dedicated right-turn lane. There are dedicated left-turn lanes along Gibsonton and a dedicated right turn lane to go southbound on Mathog Road. Marked, signalized crosswalks are present on three of the four sides of the intersection. Sidewalks and paved shoulders are present on both sides of the road at all approaches to the intersection.
- ◆ **Gibsonton Drive/Park Place Avenue:** intersection for a shopping complex to the south and residential to the north with dedicated left turn lanes. Located about 600 feet from the signalized intersection at Mathog Road. The northeast corner is vacant and the northwest corner is commercially developed. Marked and signalized crosswalks are present in all directions. Sidewalks are present on both sides of the road on three of the

four approaches. Park Place Avenue does not have a paved shoulder or bike lanes.

- ◆ **Gibsonton Drive/US 301:** major intersection with a US highway with dedicated left and right turn lanes in all directions. Signalized and marked crosswalks exist in all four directions. All four corners are developed with commercial businesses. A transit stop exists with a bus pull-off lane along US 301 just north of the intersection. There are sidewalks on both sides of the road at all approaches to the intersection. Striped bike lanes begin to the east of US 301 and paved shoulders are to the west.
- ◆ **Gibsonton Drive/Balm Riverview Road:** large intersection with dedicated left and right turn lanes in all directions with sidewalks and bike lanes present. A school zone starts to the east and south of the intersection. Southbound is residential development and a high school. A gas station is present on the northwest corner; and the northeast corner is undeveloped. Signalized and marked crosswalks exist in all four directions.



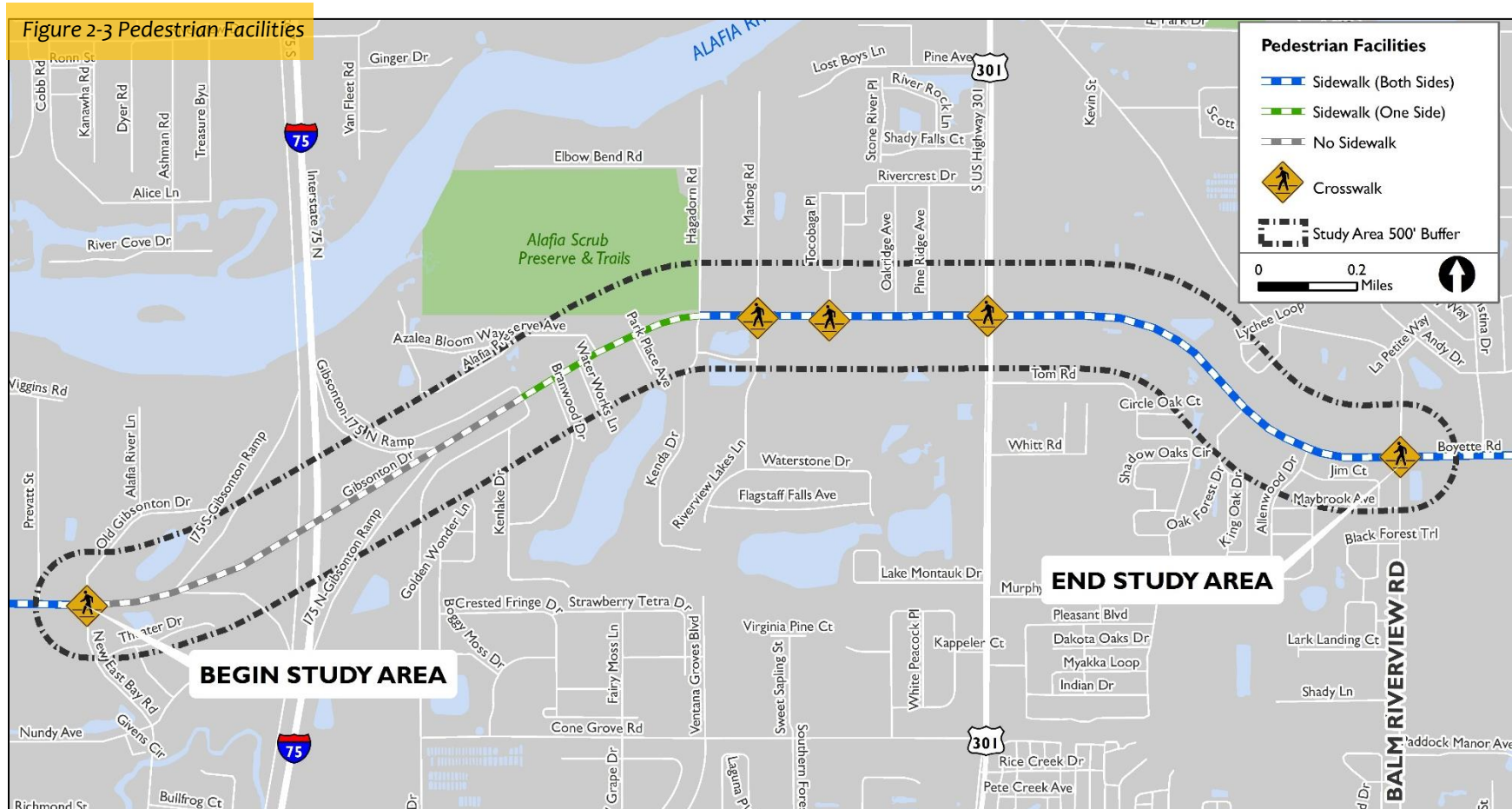
Gibsonton Drive/Mathog Road intersection. Source: Project Team.

2.3 BICYCLE AND PEDESTRIAN FACILITIES

Sidewalks are present on both sides of Gibsonton Drive from Hegadorn Road/Kenda Drive to Balm Riverview Road. Sidewalks are present on the north side of the road between Hegadorn Road/Kenda Drive and the I-75 on-ramps. There are no sidewalks along the portion of Gibsonton Drive over I-75. **Figure 2-3** displays the pedestrian facilities along the corridor.

Crosswalks are present at four locations: Gibsonton Drive/Mathhog Road, Gibsonton Drive/Park Place Avenue, Gibsonton Drive/US 301, and Gibsonton Drive/Balm Riverview Road. The longest distance between signalized crossings is over a mile.

An approximate 5-foot bike lane exists along Gibsonton Drive east of US 301. A paved shoulder varying from approximately 3 feet to 4-feet exists along Gibsonton Drive west of US 301.



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2.4 TRANSIT

The Hillsborough Area Regional Transit Authority (HART) provides transit service through Hillsborough County. Due to Covid-19, the modified service schedule as of August 2020 provides service along Gibsonton Drive via **Route 31 South Hillsborough County**. Route 31 connects Brandon to Southshore via Gibsonton/Apollo Beach. Key destinations along this route include:

- ◆ Westfield Brandon Mall
- ◆ Gibsonton Super Walmart
- ◆ Twin Oaks Shopping Center
- ◆ Ruskin Neighborhood Service Center
- ◆ HCC SouthShore Campus
- ◆ Amazon Warehouse

WEEKDAY ONLY							SERV SCHED EFFECTIVE AUGUST 9, 2020
A	B	C	D	E	F	G	
Westfield Brandon Mall	Providence Rd. @ Bloomingdale Ave.	Gibsonton Super Walmart (streetside stop Gibsonton Dr.)	Apollo Beach Park-n-Ride	Joyce Ely Health Center	HCC SouthShore Campus	Amazon Warehouse - Ruskin	
DEPARTS						ARRIVES	FREQUENCY
6:10	6:20	6:35	6:54	7:15	7:23	7:27	75 - 85 Min.
7:25	7:37	7:55	8:14	8:36	8:44	8:47	
8:55	9:06	9:20	9:38	9:59	10:06	10:09	
10:10	10:19	10:34	10:51	11:13	11:21	11:24	
11:25	11:34	11:49	12:08	12:31	12:38	12:41	
12:40	12:50	1:05	1:23	1:44	1:51	1:54	
2:05	2:15	2:30	2:49	3:12	3:19	3:23	
3:20	3:32	3:49	4:04	4:31	4:38	4:41	
4:50	5:03	5:21	5:41	6:02	6:08	6:11	
6:15	6:27	6:49	7:07	7:28	7:36	7:40	
7:40	7:50	8:04	8:23	8:43	8:50	8:53	

P.M. Times are shown in *bold/italic*.
Schedule times subject to delay due to traffic conditions, weather or unforeseen events.

Service is currently provided on weekdays only from approximately 6:10 a.m. to 8:53 p.m.



2.5 PLANNED AND PROGRAMMED PROJECTS IN THE AREA

Planned and programmed projects for the study area were identified in Hillsborough County's Transportation Improvement Program (TIP) and Capital Improvement Program (CIP).

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

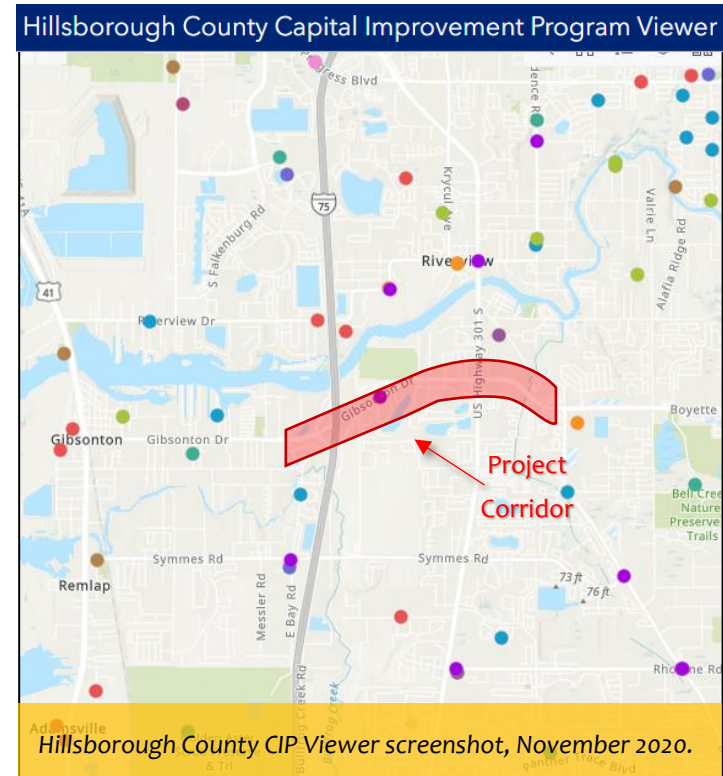
For the **Gibsonton Drive Corridor**, the addition of turn lanes at the intersection/interchange of Gibsonton Drive and I-75 are included in the TIP (Project Number 437650-1). FDOT is the agency implementing the project. The project will add an additional eastbound left turn lane and a northbound entrance lane. The total project cost is approximately \$5 million and is forecast to be funded in Year 5 of the TIP (2024).

CAPITAL IMPROVEMENT PROGRAM (CIP)

Using the Hillsborough County interactive Capital Improvement Program (CIP) Viewer, the following projects were identified along the **Gibsonton Drive Corridor**:

- ◆ Gibsonton Drive at Fern Hill Drive (CIP Number 69600311)
 - ◇ Project Description: The intersection will be designed and permitted to include geometric improvements on Fern Hill Drive and Gibsonton Drive if needed. Signals (including pedestrian) will be on all four corners. Fern Hill Drive will have additional turn lanes added.
 - ◇ Project Objectives: Improve transportation mobility and safety for vehicles and pedestrians. Upgrade existing transportation facilities included retrofitting for Americans with Disability Act (ADA) compliance to provide services that improve access for all users.
 - ◇ Project Cost Estimate: \$4,346,604

- ◆ Gibsonton Drive Rice Creek Bridge (CIP Number 62120199)
 - ◇ Project Description: This is a subproject of the Bridge Rehabilitation and Preservation Program. Work includes re-stabilizing the banks and utilizing physical countermeasures such as riprap for 17 bridges throughout the County.
 - ◇ Project Objectives: To extend the service life of Hillsborough County Structures, and to enhance water flow rate under the bridge. Avoid expensive replacement costs in the future by reducing deterioration and preserving structural integrity.
 - ◇ Project Cost Estimate: \$6,523,853



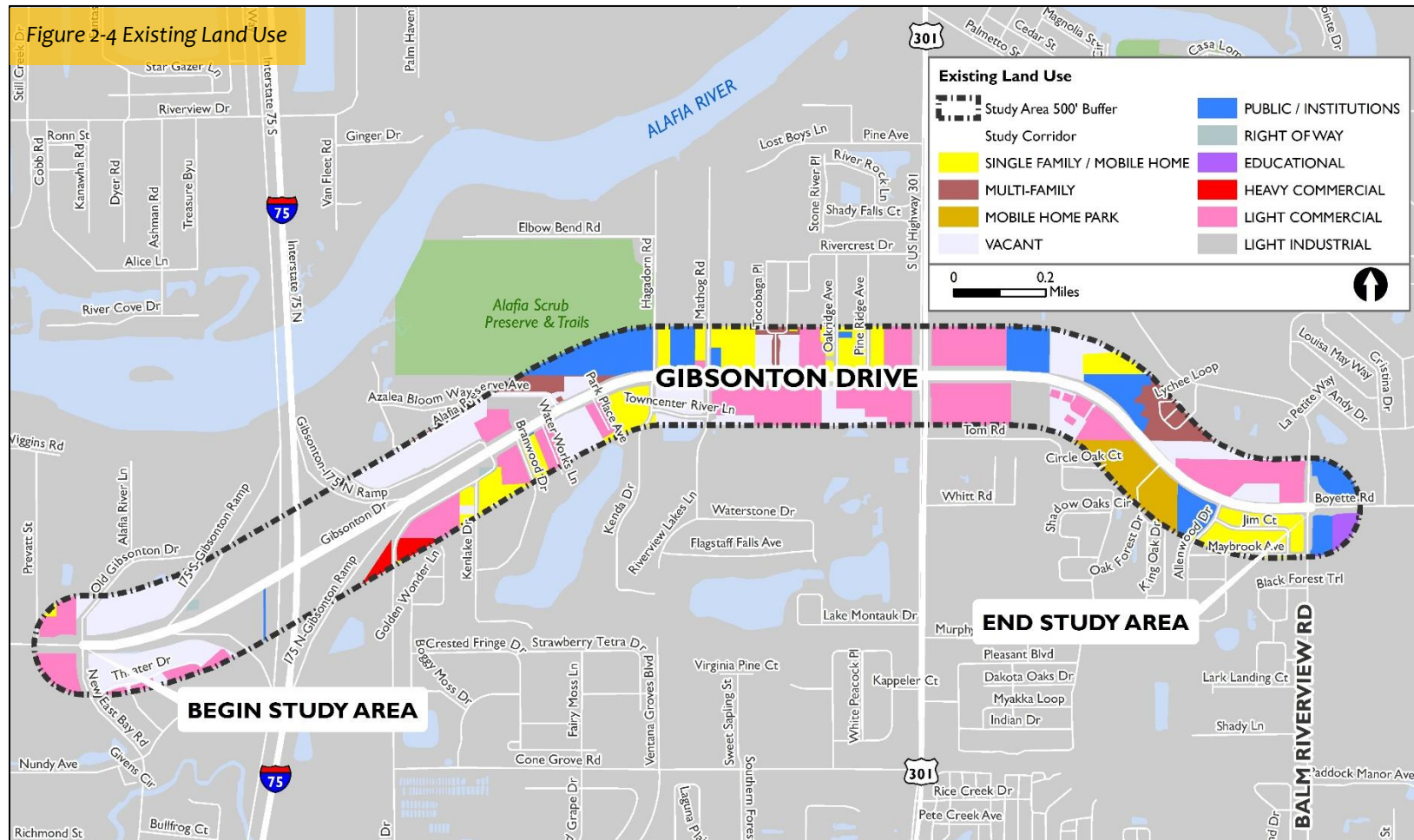
2.6 EXISTING LAND USE, ZONING, AND FUTURE LAND USE

EXISTING LAND USE

The generalized existing land use data was obtained from the Hillsborough MPO (dated March 2019). The dataset was derived from

the Hillsborough County Property Appraiser parcels and NAL DOR codes.

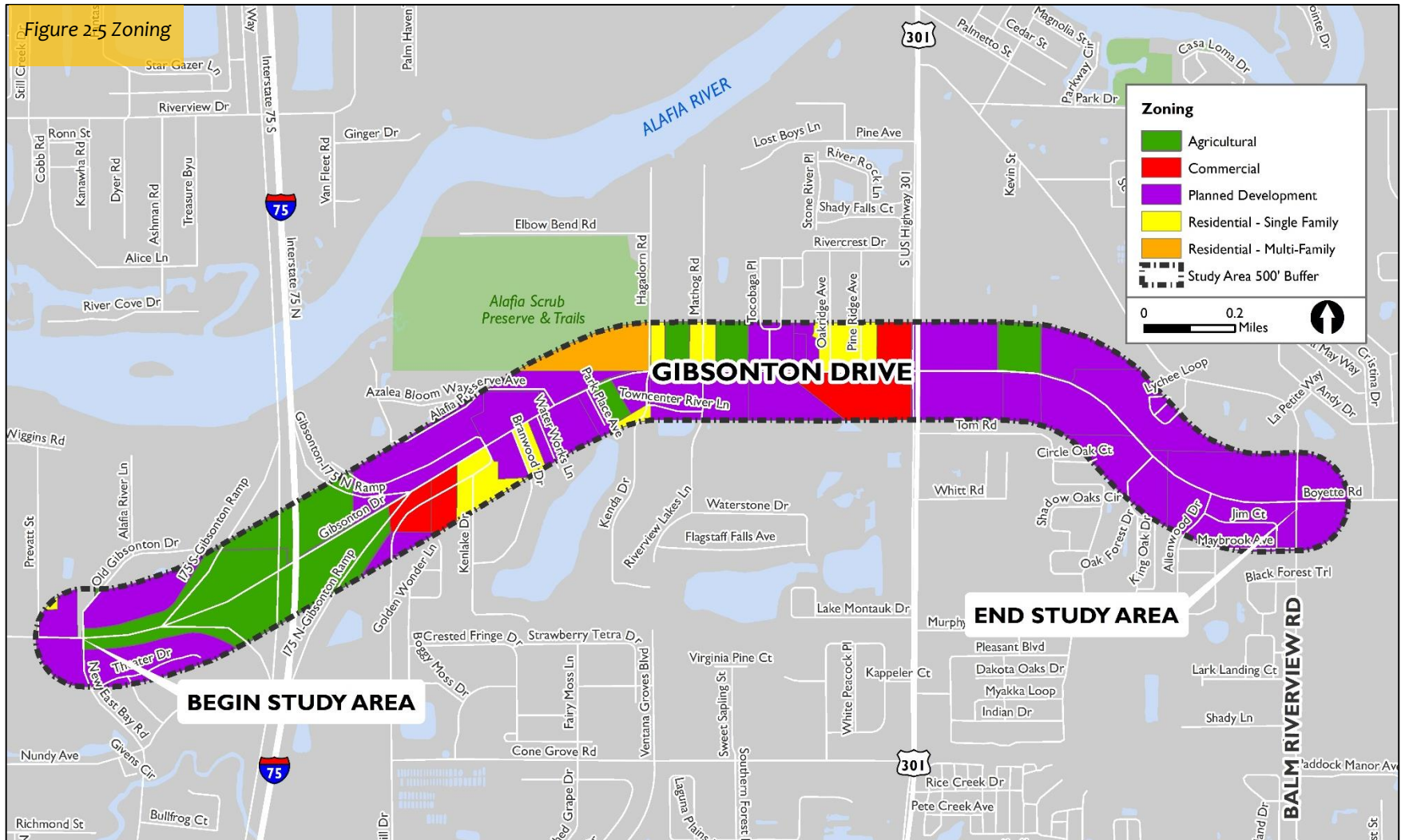
As displayed in **Figure 2-4**, the corridor consists of a variety of existing land uses including Light Commercial (pink), Single Family/Mobile home (yellow), Vacant (light grey), and Public/Institutions (blue).



ZONING

The zoning data was obtained from Hillsborough County (dated October 2019) and displayed in **Figure 2-5** for the 500-foot buffer around the

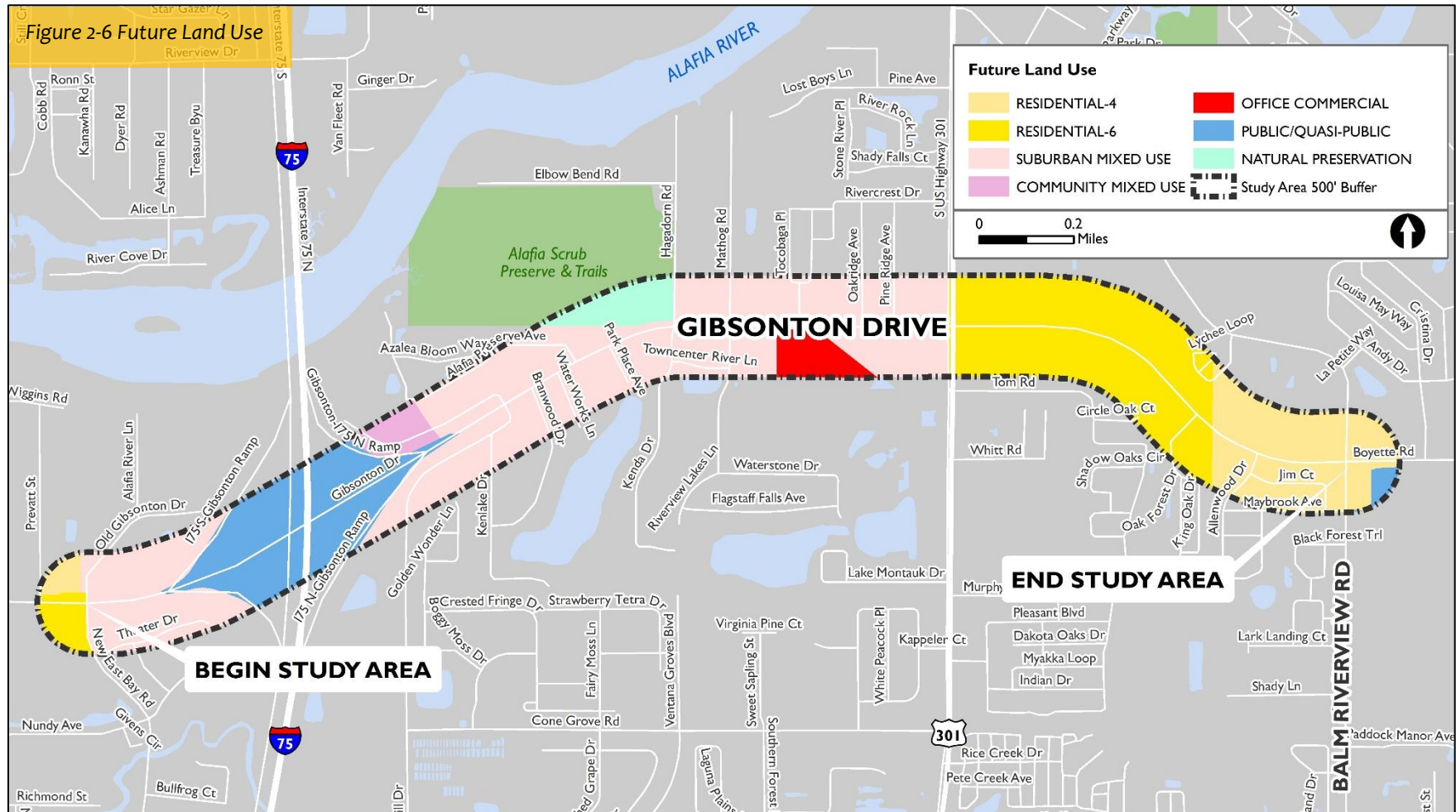
study area. The zoning along the corridor is primarily Planned Development (purple). Other zoning districts include Agricultural (green) near I-75, Commercial (red), Residential Multi-Family (orange) and Residential Single-Family (yellow).



FUTURE LAND USE

The future land use data was obtained from the Hillsborough MPO (dated June 2020) and displayed in **Figure 2-6**. The future land use along the study corridor is generally either Suburban Mixed Use (pale pink) or Residential (yellow). Other future land uses along the corridor include

Public/Quasi-Public (blue), Community Mixed-Use (pink), and Office Commercial (red).



2.7 OTHER PLANS AND STUDIES

Relevant corridor plans and studies for the area were collected and reviewed to provide a synopsis of the ongoing efforts in the area. Included in the literature review were the following documents:

- ◆ Southshore Areawide Systems Plan
 - ◇ Gibsonton Community Plan (Gibsonton Drive)
 - ◇ Riverview Community Plan (Gibsonton Drive)
 - ◇ Greater Palm River Community Plan (78th Street)
- ◆ Current and Proposed Developments
- ◆ Transportation Improvement Plan (TIP)
- ◆ Capital Improvements Plan (CIP)

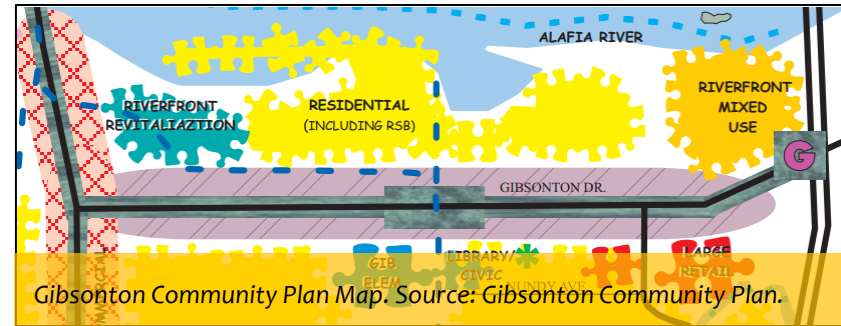
SOUTHSHORE AREAWIDE SYSTEMS PLAN

The Southshore Areawide Systems Plan was developed in 2003 and preceded all other community-based plans in south Hillsborough County. Since then, the Board of County Commissioners approved the Community Based Planning work program in 2011 which includes an update of the Southshore Areawide Systems Plan. By establishing an areawide policy framework, the systems plan facilitated specific community planning efforts within the greater areawide study area including the Gibsonton, Riverview, and Greater Palm River Communities. The plans developed for the communities within the study area are summarized in this section.

GIBSONTON COMMUNITY PLAN (2005)

Overview: The Gibsonton area is approximately 9,154 acres with a projected population of 13,891 by 2025. The Gibsonton community includes schools, services, and infrastructure but does not have town center. The area is quickly suburbanizing from a rural community.

Gibsonton Drive is identified as the signature main street with landscaped gateways, median plantings, and a civic space with a library, elementary school, and major greenway crossing.



Relevant Community Themes, Goals, and Strategies:

- ◆ Walkability Strategy (Goal 2): Sidewalks along all roadways fronting new developments; sidewalks before site construction begins, not at the end of new development projects.
- ◆ Infrastructure (Goal 3): Transportation Strategy:
 - ◇ Identify unsafe intersections and collaborate with other agencies in resolving dangerous locations. Include I-75 interchange with Gibsonton Drive
 - ◇ Work with the county, HART, and the private sector to ensure people can commute to and from the area
- ◆ Economy (Goal 4b): Signature Street Strategy
 - ◇ Gibsonton Drive as a “signature street” to encourage small scale business development and beautification
 - ◇ Incorporate minimum standard of landscaping consistent with Gibsonton Drive’s “signature street” stats for office and special retail-oriented development
- ◆ Natural Resources (Goal 5): Increase the connectivity of public lands through trails and canoe/kayak boat routes
- ◆ Image (Goal 7): Enhance the visual quality of its key streets and gateway entry points. Includes:

- ◇ Gateway and Street enhancement for signage, lighting, and landscaping
- ◇ Major roadway medians to enhanced landscapes
- ◇ Gibsonton Drive is proposed for additional treatment as the signature street and the main street (in contrast to US 41).

RIVERVIEW COMMUNITY PLAN (2004)

Overview: The Riverview Community Plan reflects the community's commitment to the idea that the well-being and vitality of the community is based on guiding principles such as: small town character; historic and environmental resources and community assets; economic opportunities; recreational opportunities; and livable communities. The overall vision for the plan is to maintain the area's small town charm and atmosphere while creating a peaceful, family-oriented and pedestrian-friendly atmosphere.

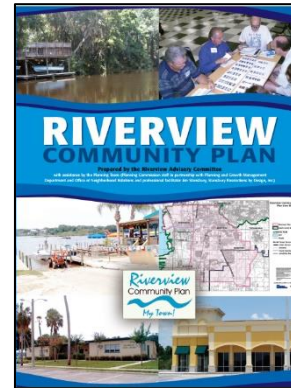
Relevant Transportation-Related Community Themes, Goals, and Strategies:

The community detailed a 'puzzle plan' for the Riverview community. The Gibsonton Drive study area passes through the Residential, Highway 301 Corridor, and the Downtown districts of the puzzle plan. The transportation elements of each of the districts are summarized as follows:

- ◇ **Residential District:** Landscaped entryways, connectivity, and design elements to characterize a sense of place within with the Residential District were emphasized. Continuous sidewalks, trails, and roadways are a priority. It is envisioned the residential areas are convenient to all other areas of Riverview due to the transit system, pedestrian-friendly streets, and bike trails.
- ◇ **Highway 301 Corridor:** the primary north-south transportation corridor and commercial gateway to the community.

Congestion and level of service of the corridor are growing concerns. The vision for this district includes having a pleasant drive or walk that is well maintained, tree-lined, with center medians, sidewalks, bike lanes, crosswalks, adequate lighting and traffic signals. Strict traffic laws enforced to protect the pedestrian and bicycle-friendly environment.

- ◇ **Downtown District:** The riverfront is idealized as the focal point for the downtown district. Emphasis was placed on creating a



quaint, walkable, Downtown District attracting citizens young and old. It is envisioned interlocking paths and trails connect the elements of the Downtown District with tree-lined streets, colorful landscaping, and consistent signage.

◇ Community Goals and Strategies:

- ◇ Develop distinctive roadway design and landscape standards
- ◇ Encourage buffers for parking areas and sidewalks
- ◇ Incorporate transit-friendly street design along bus routes
- ◇ Increase gateways to create a sense of arrival using signage, public art, and landscape features
- ◇ Provide safe, attractive, efficient multi-modal transportation
- ◇ Provide sidewalks, pedestrian crossings, bike lanes, and connections to the Hillsborough County Greenway and Trail Master Plan
- ◇ Extend crossing signal times
- ◇ Use traffic calming techniques along major thoroughfares
- ◇ Implement access management standards

3.0 NEEDS ANALYSIS

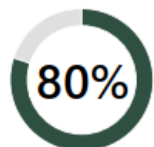
A Needs Analysis was conducted to evaluate the mobility needs of the corridor. This analysis included an identification of operational and safety issues, an evaluation of transit facility needs, bicycle and pedestrian needs, and other relevant issues that arose during the study.

3.1 HISTORICAL SAFETY REVIEW (CRASH ANALYSIS)

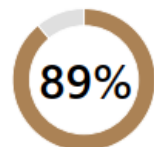
A crash analysis was performed using the Signal 4 Analytics database. Five years of crash data was analyzed (2014-2018). General trends are listed below and summarized in this section. Further details are included in the appendix.

- ◆ There were 1,139 total crashes.
- ◆ 92 crashes resulted in fatalities or serious injury.
- ◆ 34% of all crashes involved aggressive driving/speeding.
- ◆ 37% of fatal and severe injury crashes were left turning movement-related.
- ◆ 33% of fatalities and severe injuries occurred between 6 a.m. and 9 a.m.
- ◆ 57% of all crashes were the result of left-turns
- ◆ 12 bicycle/pedestrian crashes with no fatalities and 6 severe injuries.

1139 Total Crashes



Daylight



Dry Roads

92 Total Serious Crashes



7 Fatally Injured
85 Seriously Injured



8%
of All Crashes

CRASH HOTSPOTS

Crash hotspots were identified at the intersections of Gibsonton Drive/US 301, Gibsonton Drive/Mathog Road, and Gibsonton Drive/I-75. Crash trends involving these hotspots are summarized in this section. Countermeasures to combat future crashes are presented in the Proposed Corridor Solutions section.

GIBSONTON DRIVE/US 301

The intersection of Gibsonton Drive/US 301 had the following notable crash statistics:

- ◆ 582 total crashes (51% of all crashes along the corridor)
- ◆ There was 1 fatality and 14 severe injuries
- ◆ 38% of these crashes were rear-ends
- ◆ 5 crashes involved bicycles or pedestrians
- ◆ 15% occurred in the dark



GIBSONTON DRIVE/MATHOG ROAD

The intersection of Gibsonton Drive/Mathog Road had the following notable crash statistics:

- ◆ 165 total crashes (14% of all crashes along the corridor)
- ◆ 4 fatalities and 7 severe injuries
- ◆ 72% were rear-ends
- ◆ 15% occurred in the dark
- ◆ 9% were left turn

GIBSONTON DRIVE/I-75

The Gibsonton Drive/I-75 area had the following crash statistics:

- ◆ 1 fatality and 11 severe injuries
- ◆ 23% occurred in the dark
- ◆ 21% involved left turns

Top Locations

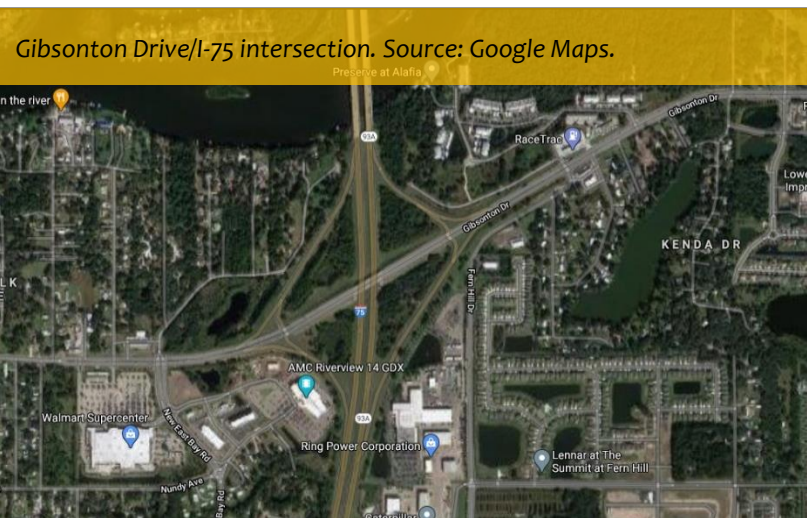
US 301 (51%)
Mathog Rd (14%)
Fern Hill Rd (12%)

Peak Crashes

6-9 AM - 317 (28%)
4-7 PM - 250 (22%)

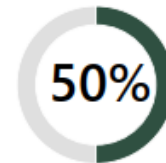
Most Common Crash Type

Rear End (51%)/Left Turn (19%)/Sideswipe (8%)

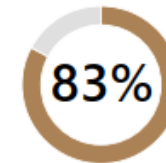


Crash History – People Walking or Biking

12 Total Bike/Ped Crashes
 ⇒ **5** People Walking
 ⇒ **7** People Biking



Daylight



Dry Roads

Top Location

US 301 (33%)

3.2 ISSUES IDENTIFICATION

Based on the Existing Conditions Analysis, preliminary issues were identified along the corridor. Issues identified focus on safety and pedestrian and bicycle mobility.

SAFETY

The safety issues identified were centered around the crash analysis with a focus on system-level crash trends and hot spot locations. For example, 57% of the fatalities were the result of left-turn crashes. Countermeasures to combat these safety issues are presented in the Proposed Corridor Solutions. Some identified safety issues include:

- ◆ Dangerous left-turns
- ◆ Speeding and aggressive driving
- ◆ Pedestrian crossings
- ◆ Visibility constraints (lighting)
- ◆ Access management
- ◆ Dangerous movements involving the on- and off-ramps for I-75
- ◆ Dangerous right-turn movements at signalized intersections
- ◆ Large, complicated intersections

PEDESTRIAN AND BICYCLE MOBILITY

The following issues were identified that currently impeded pedestrian and bicycle mobility along the corridor:

- ◆ Lack of a separated bicycle facility
- ◆ Pedestrian crossing signals could be updated and enhanced
- ◆ Crosswalk visibility and length
- ◆ Lack of pedestrian refuge islands where needed
- ◆ Sidewalk gap along I-75

Gibsonton Drive/East Bay Road intersection. Source: Project Team.



Gibsonton Drive/Walmart intersection. Source: Project Team.





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Gibsonton Drive



4.0 COMMUNITY
ENGAGEMENT



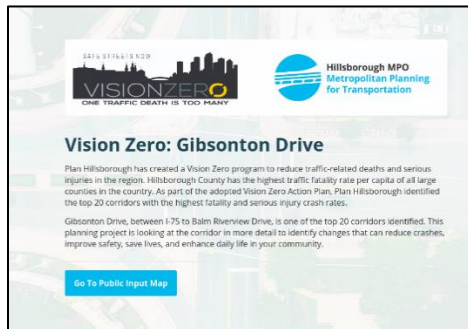
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4.0 COMMUNITY ENGAGEMENT

Despite the challenges posed by the COVID-19 pandemic, the project team was able to receive important input from the community about areas where they feel unsafe or uncomfortable on along the Vision Zero Corridors. The consultant team was required to adapt the outreach strategy to solicit feedback from the community by moving primarily to online engagement with an on-line survey and an interactive web map. Both the survey and web map were made available on the County’s website. The MPO informed the public of the opportunities to provide feedback via the MPO’s website, email blasts, and flyers distributed at key locations along the corridor. The following section summarizes the results of the virtual community engagement efforts. Further details are included in the appendix.

4.1 VIRTUAL ENGAGEMENT PROCESS

The survey was intentionally short and simple to encourage a higher completion rate. The three questions were designed to identify reasons why people use the road, their perceptions of safety on the corridor, and what types of safety outcomes they would like to see on the corridor.



The public input map was open-ended, inviting members to drop points and provide comments in the form they felt most comfortable. Additionally, the pins were visible to other users, where individuals could respond to the other users’ comments to spark dialogue between neighbors. This

comment feature was used heavily on Gibsonton Drive. Each comment was considered as a separate response in this analysis.

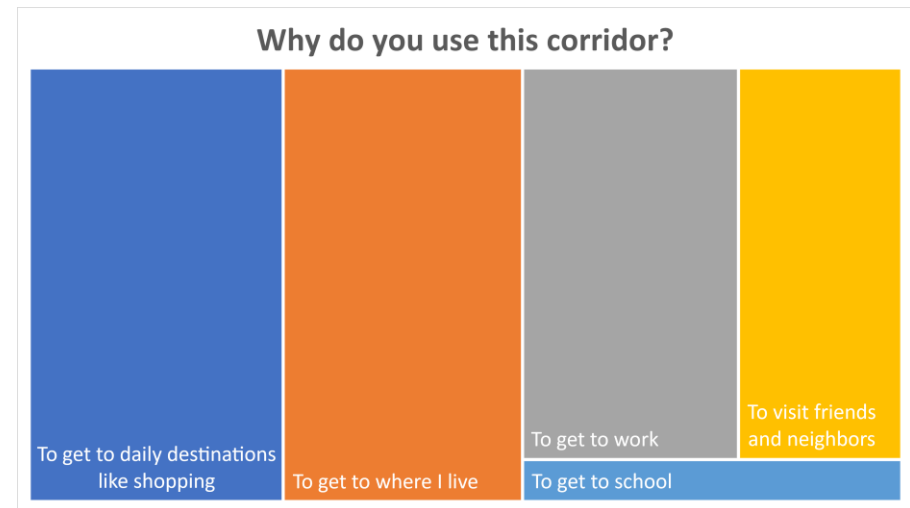
4.2 ONLINE SURVEY

The Gibsonton Drive Survey received a total of 103 form submissions between September 1, 2020 and September 30, 2020. Not everyone answered each question, however, which amounts to a different total for each question.

QUESTION 1: WHY DO YOU USE THIS CORRIDOR?

Overall, people use the road for a variety of purposes – with school being the least frequent answer. Other responses included the following:

- ◆ To get to daily destinations like shopping
- ◆ To get to where I live
- ◆ To get to work
- ◆ To visit friends and neighbors



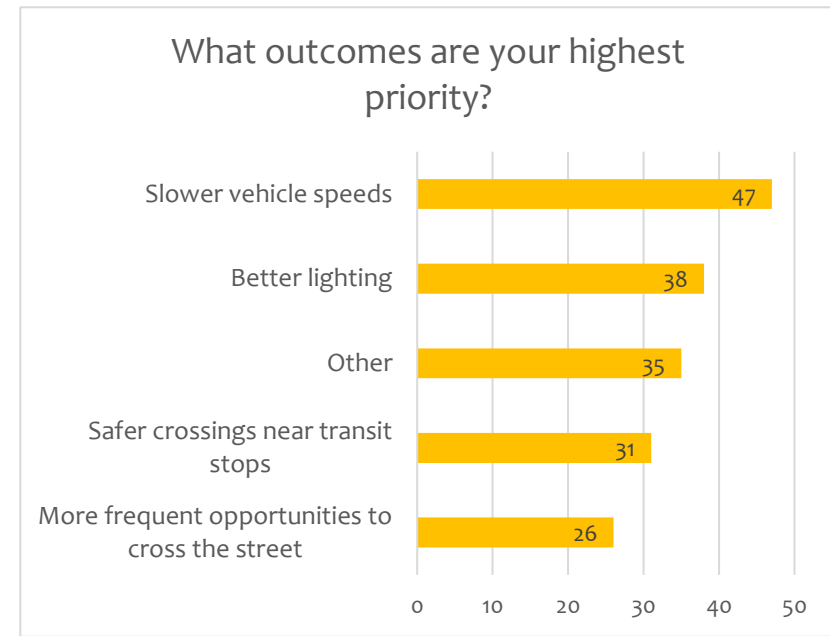
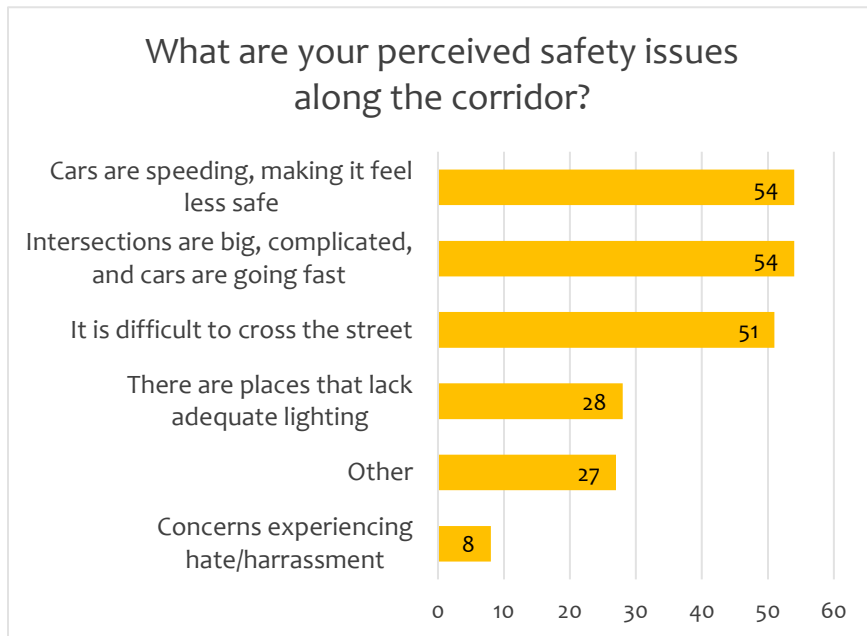
QUESTION 2: WHAT ARE YOUR PERCEIVED SAFETY ISSUES ALONG THE CORRIDOR?

Survey participants were asked about the main perceived safety issues along Gibsonton Drive. Speeding cars was revealed to be the leading cause of the corridor users' lack of perceived safety. Crossing Gibsonton Drive, whether midblock or at intersections, also ranked high.

Recent research has found that asking whether people perceive safety concerns such as hate or harassment brings to light inherent issues that should be tackled in tandem with implementing safety treatments; particularly in low-income and minority neighborhoods¹.

QUESTION 3: WHAT OUTCOMES ARE YOUR HIGHEST PRIORITY?

When asked for their top three priorities for improving safety, the potential response options provided by the survey received similar frequency, with reducing vehicle speeds receiving the most votes. Improving lighting was also a priority. Those who selected "Other" did not specify their priority.



¹ http://njbikeped.org/wp-content/uploads/2016/09/Fear_A-Silent-Barrier-to-Bicycling-in-Black-and-Hispanic-Communities_Sept2016.pdf

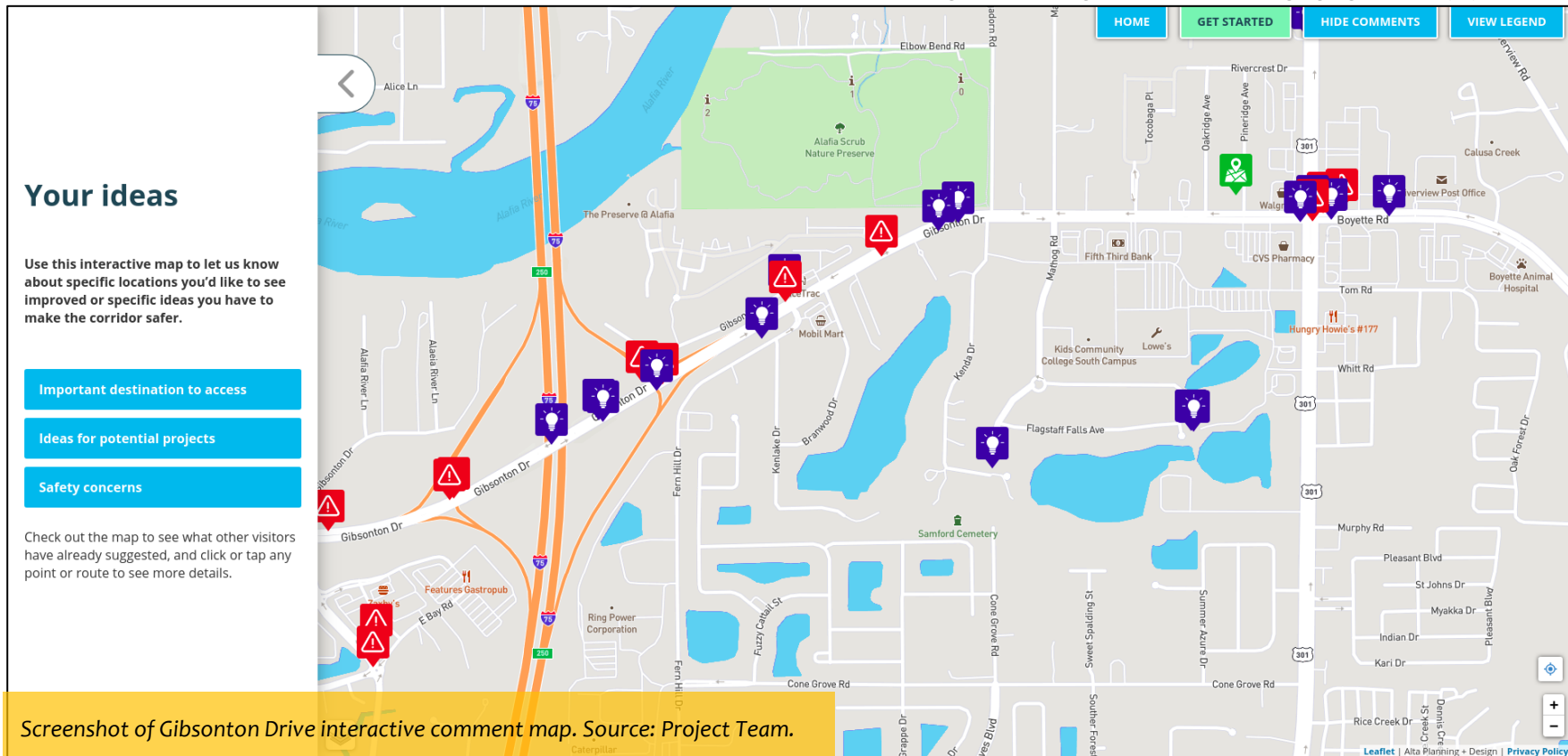
4.3 PUBLIC INPUT MAP

Members of the public were asked to also identify key destinations or areas where they experience unsafe travel conditions. A detailed review of the comments, anonymized and summarized, is below.

The locations that received the most comments coincided with the high crash locations identified in the crash analysis. State Route 301 and the entrance/exit ramps for Interstate 75 dominated this comment prompt.

GENERAL COMMENTS RECEIVED

A total of forty-two comments were received from 22 unique responses. The top concern (20 responses) was traffic congestion. Details related to traffic congestion included concerns around merge areas and vehicle stacking at left turns. Additionally, signal timing (17) was a common theme, with people recommending longer signal cycles, new signals, and modified turn signals. The third most common concern was related to turning movements, such as expressing the need for longer turning lane storage, prohibiting U-turns, and managing right turns (15). Some



comments also expressed concerns the impacts of speeding cars on walking and biking conditions on Gibsonton Drive.

GIBSONTON DRIVE/US 301

The intersection of Gibsonton Drive and US 301 received a relatively significant amount of the 14 comments received. Comments included frustration with traffic congestion in all four directions, with multiple requests for prohibiting U-turns. A few people requested creating an overpass at this intersection, while others recommended eliminating the right turn on red provision, or creating a dedicated right turn phase. Some raised issues of debris and roadway damage, especially near the bus stop.

“The ramp coming off of northbound I-75 is dangerous. Going east, it is hard to see the merging traffic, and going westbound is very dangerous because of all the traffic that has to be crossed and entered.”

GIBSONTON DRIVE/I-75

The second most frequently mentioned area was the area around the Interstate 75 interchange. It should be noted that there were multiple comments recommending completely redesigning the interchange with a Cloverleaf interchange or a Diverging Diamond design. The east side of the interchange received a total of 10 comments. Every comment expressed concern over the left turning movements, with references to a lack of clear sight distance and traffic signals.

Additional comments near the Old Gibsonton Drive/Kenlake Drive intersection referenced vehicles filtering into the right lane east of the intersection to enter I-75 Northbound ramp, therefore causing delays and confusion. Additional signage and travel lanes were possible solutions

shared by the community. West of Interstate 75, the primary concerns were excessive speed and lack of sight distance, especially for westbound drivers coming down from the overpass. One comment recommended installing a warning signal to alert drivers about the red light ahead, and another pointed out that the traffic signal cycle length is too long with too many lanes. Some comments indicated that there were some illegal movements at the ramps, such as utilizing the dedicated southbound to westbound right turn lane of the southbound exit ramp is being utilized as a third left turn lane to go eastbound by drivers.

4.4 COMMUNITY OUTREACH OUTCOMES

Overall, the collected comments reinforced the information gleaned from the crash analysis. The following common themes were identified based on public input for Gibsonton Drive improvement:

- ◆ Speeding was commonly identified as a top issue.
- ◆ Crossing as a bicyclist or pedestrian is a safety concern.
- ◆ Traffic congestion was also cited as contributing to overall comfortable corridor use.
- ◆ Intersections and turning movements pose a great challenge to safely using the corridor.
- ◆ The lack of traffic signals at some locations, and current signal timing is attributed to frustration for both drivers waiting at the lights and pedestrians unable to cross within the allotted time.

The input received through the virtual community engagement effort was integrated into the overall analysis and countermeasures’ identification process for Gibsonton Drive. This ensured that both qualitative and quantitative factors were considered in developing safety solutions that are context-sensitive to the corridor as a whole, as well as to high crash locations along Gibsonton Drive.



Corridor Study

Gibsonton Drive



**5.0 PROPOSED
CORRIDOR SOLUTIONS**



HILLSBOROUGH

5.0 PROPOSED CORRIDOR SOLUTIONS

Gibsonton Drive between the I-75 interchange and Balm Riverview Road was identified as a high-injury corridor by the Hillsborough MPO Vision Zero Action Plan. Based on the comprehensive crash data analysis conducted and the multiple public input efforts that were deployed to solicit community feedback, the consultant team developed a set of safety improvement recommendations for the Gibsonton Road corridor.

The recommendations are categorized into system-level and hotspot countermeasures. The system-level countermeasures are based on crash trends observed along the entire corridor, as well as common themes extrapolated from community input. The hotspot treatment recommendations identify safety solutions for the high crash locations along Gibsonton Drive within the study area.

5.1 SAFETY COUNTERMEASURES

The crash data review and analysis revealed several system-level crash trends. This includes crashes during the dark, crashes related to left-turns, rear-end collisions, crashes related to aggressive driving and speeding, red-light running, and crashes during peak hours. The following table identifies appropriate countermeasures associated with the prevailing crash types. The system-level crash trends observed for Gibsonton Drive were consistent with the public input received regarding safety issues on the corridor. According to the online public survey and interactive map administered in September 2020, the primary concerns of the public who participated in the planning process included speeding, large and complicated intersections, and lack of adequate lighting.

Crash Type	System-Level Trend	Countermeasures
Left-turning movements	37% of all severe crashes were related to left-turning movements, including intersections.	<ul style="list-style-type: none"> Restrict turning movements at unsignalized intersections. Evaluate left-turning offset at intersections.
Aggressive driving & speeding	34% of all crashes were related to aggressive driving and/or speeding.	<ul style="list-style-type: none"> Reduce posted speed limit from 45 mph to 40 mph. Narrow travel lanes to 11 feet.
Peak hours	<p>19% of all crashes occurred during the AM Peak, out of which 25% were severe.</p> <p>15% of all crashes occurred during the PM Peak.</p>	<ul style="list-style-type: none"> Implement adaptive traffic signal control and signal retiming strategies. Evaluate lane repurposing to accommodate changing travel patterns.
Rear-end	Approximately one quarter (~25%) of all severe crashes were rear-end collisions.	<ul style="list-style-type: none"> Consolidate median openings. Work with property owners to consolidate driveways. Improve right turn slip lane design. Investigate the need for additional traffic signalization. Evaluate need for the provision of “no right turn on red” at signalized intersections.
Nighttime/unlit conditions	20% of all crashes occurred at nighttime. About 21% of these crashes caused fatalities and severe injuries.	<ul style="list-style-type: none"> Enhance street lighting. Install oversized, illuminated, and/or flashing advance warning signs.
Red-light running	36 crashes (over 3%) were related to running a traffic signal on red. 18 of those crashes occurred at the SR 301 intersection.	<ul style="list-style-type: none"> Add a second westbound left turn lane at US 301 intersection. Install red-light cameras at intersections with a high probability of running red lights. Work with law enforcement agencies to deploy intermittent red-light enforcement.

5.2 CONCEPT LAYOUT

These system-level countermeasure recommendations helped to frame recommendations for a corridor-wide safety improvement plan. The plan, which is articulated through a recommended typical cross-section and corridor-wide conceptual layout, also includes short-term improvements that help reduce crashes and their severity. The countermeasures integrated into the plan focus on low-cost, high-impact treatments such as restriping and channelization median islands.

The proposed cross-section for the corridor includes narrowing travel lanes to 11 feet, allowing for a 5-foot striped paved shoulder on each side. The lane narrowing serves as a speed management strategy. As described in the recommended system-level countermeasures, maintaining the existing concrete median, and consolidating existing median openings, would help reduce crashes and their severity.

Additionally, while the public right-of-way dimensions vary along the corridor, the proposed cross section for Gibsonton Drive includes a 12-foot shared use path on the north side, and an 8-foot sidewalk on the south side. Both facilities are buffered from travel lanes by a planting strip of varying width. In the long-term, multiple bike and pedestrian

facility scenarios could be evaluated for implementation along Gibsonton Drive, including:

- ◆ Implementing a shared use path on both sides of the street,
- ◆ Installing directional on-street bike facilities, or
- ◆ Installing a cycle-track on the north side

Should the opportunity arise for reconstruction of the corridor, these alternatives would greatly enhance the bike and pedestrian experience and safety along this congested corridor.

The proposed typical cross section below was used as a prototype for developing the conceptual layout for the whole Gibsonton Drive corridor. The concept demonstrates the proposed restriping within the existing pavement width, proposed sidewalk gap installations, and median changes such as channelization islands. The concept can be found in the appendix.

Updates to Hillsborough County’s Transportation Technical Manual (TTM) will include context-sensitive design. As these projects advance to conceptual design, consistency with the TTM should be maintained.

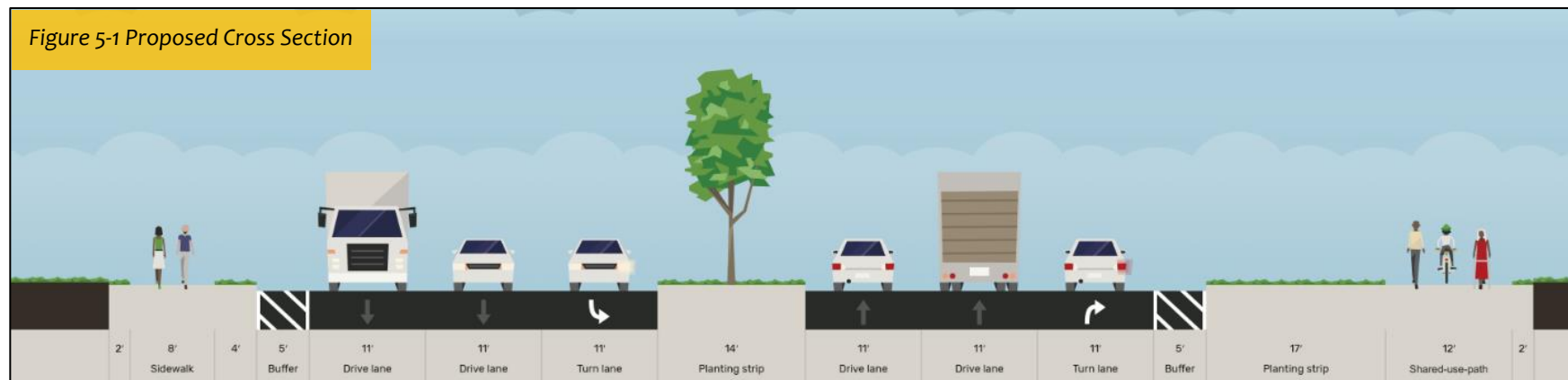


Figure 5-1 Proposed Cross Section

5.3 HOTSPOT COUNTERMEASURES

While crashes occur at many locations along the corridor, there are several intersections that have a disproportionate share of the overall corridor crashes as well as severe crashes. Based on the crash data analysis, those high-crash “hot spot” locations intersections with Gibsonton Drive are:

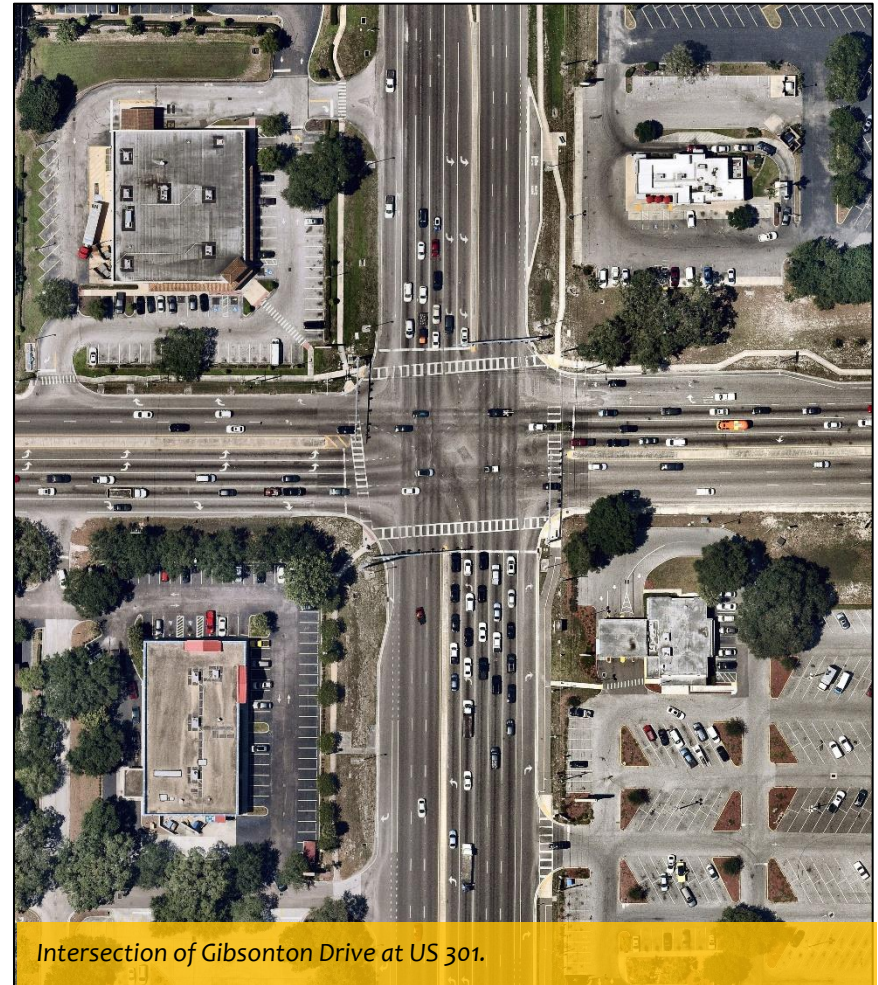
1. State Route 301
2. I-75 Interchange
3. Mathog Road
4. Fern Hill Road/Old Gibsonton Drive
5. Balm Riverview Road

This section delves deeper into the crash trends of these locations, to develop targeted countermeasures designed to reduce, and ultimately eliminate, traffic fatalities and severe injuries. A visualization of the proposed treatments at each location is included. The visualization is intended to reflect the potential treatment, irrespective of whether the countermeasure should be implemented in the near or long term. A phased action plan is presented in the next section of this report to lay out a timeline-based approach to the recommended countermeasures.

CRASH HOTSPOT #1: GIBSONTON DRIVE AT US 301

The intersection of Gibsonton Drive at US 301 consists of multiple travel lanes in each direction. There are dedicated right turn lanes in each direction, and dual left turn lanes in all directions with the exception of the westbound approach. There are two westbound dedicated right turn lanes. Protected left turn signals exist at all approaches. The intersection has high visibility crosswalks on all four legs, pedestrian signals, and curb ramps at each corner, and sidewalks lead up to the intersection. There is a multi-use path leading up to the intersection on the East side of US 301 and a standard bike lane along US 301.

A total of **414 crashes, one fatality, and 31 severe injuries occurred at this intersection over the last five years.** In evaluating the crash types at this intersection, 43% were rear-end collisions, 20% were left-turn related, and 20% occurred at nighttime. There were five crashes that involved bicyclists and pedestrians, one of which was a fatality.



To reduce these crash statistics, several treatments can be introduced to the intersection. The following is a summary of these safety enhancement solutions:

- ◆ Pedestrian refuge areas: The crosswalks across Gibsonton Drive are currently over 100 feet long, which presents a challenge for pedestrians attempting to cross the road. By slightly extending the median nose, while being mindful of left-turning vehicle paths, pedestrian refuge areas can be implemented to provide pedestrians a “refuge” point while crossing this large intersection.
- ◆ Adding a second westbound left turn lane by removing one of the two dedicated right turn lanes: this measure would match the left turning capacity of the other approaches of the intersection, which is congested, and may reduce left-turning movements.
- ◆ Skip pavement marking extensions: Given the large footprint of the intersection and the multiple turning movements, the proposed conditions include restriping and adding skip markings in the intersection to guide turning vehicles.
- ◆ Adding semi-permanent curb extensions: Curb extensions are a proven safety countermeasure² that enhances pedestrian safety and comfort at intersections. By reducing the speeds of turning vehicles, shortening the crossing distance, and increasing visibility, curb extensions also encourage pedestrians and bicyclists to cross at designated locations³. A semi-permanent curb-extension installation that provides a safer environment for pedestrians while allowing turning vehicle maneuvers can consist of stamped/painted asphalt, a raised concrete apron, as well as ceramic domes and/or bollards. The bollards can be placed so as to narrow the curb radius while allowing for a truck apron for larger vehicles to mount as needed.



Curb extension example.



Curb extension example.

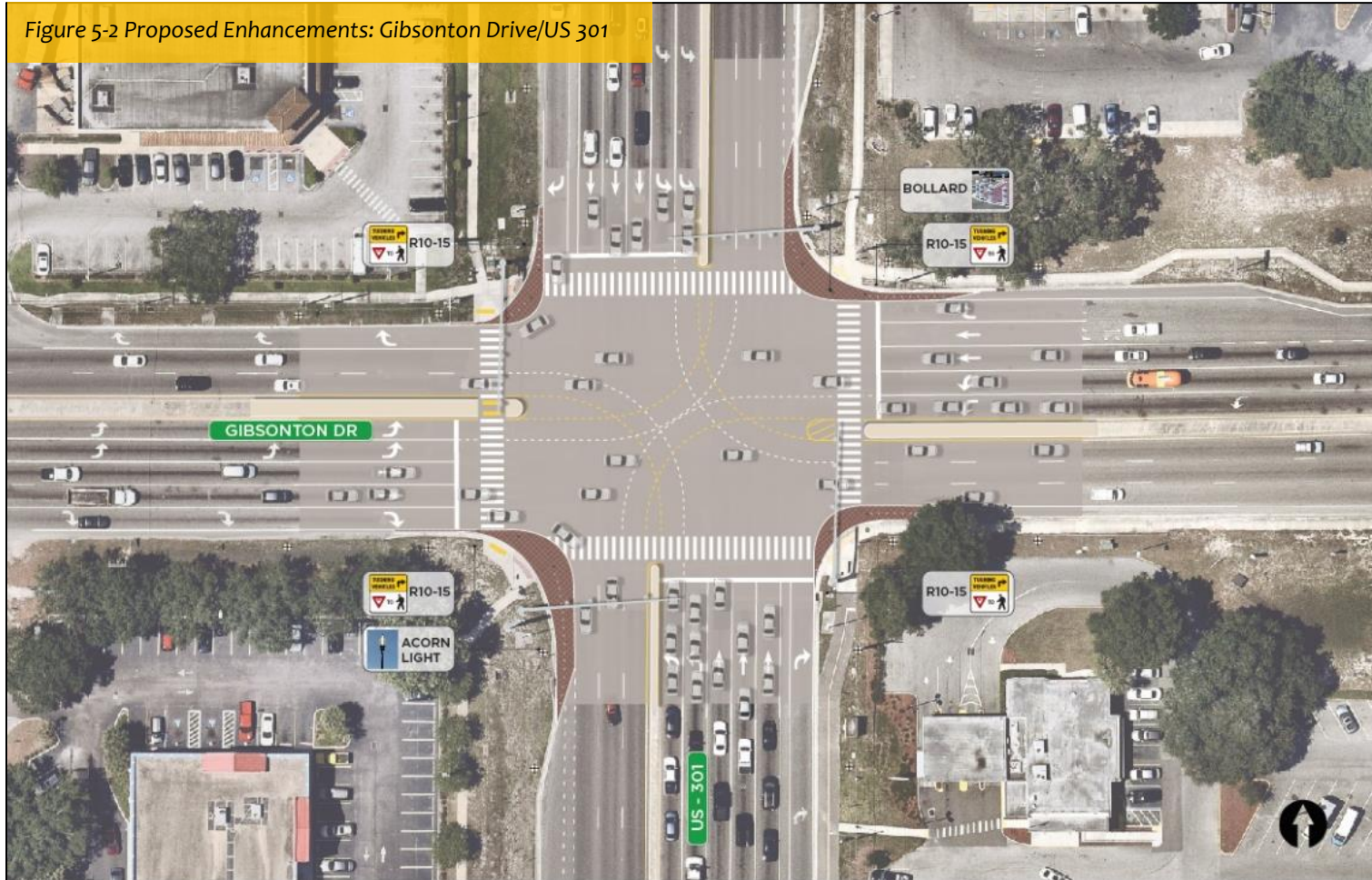
- ◆ Signage: To manage right turning vehicles and further protect people crossing at the intersection, it is recommended that MUTCD sign R10-15 “Turning Vehicles Yield to Pedestrian” signs are installed at all four corners. While these signs are depicted as post-mounted at each corner, however, overhead or blank out signs can also be considered.

² http://pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=5

³ https://altago.com/wp-content/uploads/Corner-Design-for-All-Users_Alta_Oct-2020.pdf

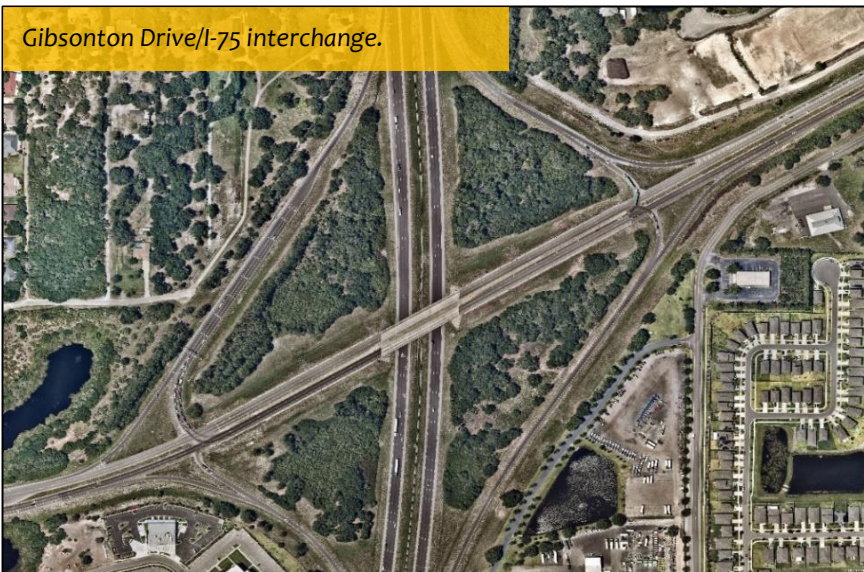
- ◆ **Lighting:** One fifth (20%) of all crashes that occurred at the intersection were during dark/unlit conditions. Therefore, it is recommended that lighting is enhanced at the intersection by installing pedestrian-scale street lighting at all corners of the intersection.

Figure 5-2 Proposed Enhancements: Gibsonton Drive/US 301



CRASH HOTSPOT #2: GIBSONTON DRIVE AT I-75 INTERCHANGE

Current conditions along Gibsonton Drive at the I-75 interchange pose safety challenges for all road users. Based on the crash analysis, **a total of 199 crashes occurred at the interchange over the last five years**. Over half of those crashes were rear-end collisions, and over a fifth were related to left turning movements. Approximately 21% occurred during dark/unlit conditions. **There were four crashes that involved pedestrians, out of which one resulted in a fatality**. Overall, there were a total of **23 severe injuries** as a result of crashes occurring at the interchange. Given I-75's utility as a regional connector, almost half (49%) of all crashes occurred during the morning and afternoon peak hours.



A review of County and state programs revealed that the I-75/Gibsonton Drive interchange is programmed for improvements that include enhancing signalization and reconfiguring the interchange ramps. For this reason, the consultant team proposes **design modifications that**

should be considered as part of the interchange redesign effort. These include:

- ◆ Signalizing all ramp access points
- ◆ Providing pedestrian crossings
- ◆ Enhancing lighting conditions
- ◆ Installing separated bike and pedestrian facilities

CRASH HOTSPOT #3: GIBSONTON DRIVE AT MATHOG ROAD

The intersection of Gibsonton Drive at Mathog Road is surrounded by several commercial and faith-based land uses, as well as a few single-family homes. While not surrounded by a dense land use makeup, the intersection saw a relatively and alarmingly high number of crashes. Out of the 121 crashes that occurred at the intersection over the last five years, 72% were classified as rear-end collisions, out of which 66% were eastbound on the east side of the intersection. A total of three fatalities and five severe injuries occurred at this intersection. To combat the frequency and severity of crashes at the intersection of Gibsonton Drive and Mathog Road, a number of countermeasures are needed; including:

- ◆ **Curb extensions:** the majority of the rear-end crashes occurred in the eastbound direction at the intersection. This is likely due to traffic congestion, and vehicles traveling in the eastbound right turn lane attempting to continue to go east and then merge into the through lanes. The County has already installed some improvements to mitigate these issues, such as installing a painted slip lane channelized island. To further enhance the situation and physically prohibit illegal maneuvers, the consultant team proposes installing curb extensions at the southwest and southeast corners of the intersection:
 - ◆ The painted curb extension with ceramic domes at the southwest corner would eliminate the free-flow movement of right turning vehicles, therefore reducing their speed.

- ◇ The painted curb extension with ceramic domes at the southeast corner would provide a vertical deterrent for vehicles to illegally continue straight onto the right turn lane.
- ◇ The two painted curb extensions will also reduce the crossing distance for pedestrians and bicyclists, and improve visibility.
- ◆ **Pedestrian refuge area:** after testing the medians at the intersections for design vehicle turning movements, it is possible to install a pedestrian refuge area at the eastern north-south crosswalk across Gibsonton Drive.
- ◆ **Signage:** an MUTCD R10-15 sign at all four corners would help with right turning vehicles' yield rate⁴.
- ◆ **Skip pavement marking extensions:** adding dashed guiding lines would help guide vehicles to turn through the intersection safely.
- ◆ **Lighting:** while only 12% of all crashes occurred during dark conditions, it is recommended that street lighting is installed at this intersection to further enhance safety conditions.



⁴ https://digitalscholarship.unlv.edu/fac_articles/234/

CRASH HOTSPOT #4: GIBSONTON DRIVE AT FERN HILL ROAD/OLD GIBSONTON DRIVE

Just east of the I-75 interchange along Gibsonton Drive is the intersection of Old Gibsonton Drive/Kenlake Drive/Fern Hill Road. This intersection poses many challenges due to its geometric configuration and close proximity to the I-75 interchange. One survey respondent commented that vehicles queue in the westbound taper area just west of the intersection to prematurely get onto the northbound ramp just east of the intersection.

As a result, **at least 10% (111) of all crashes along the 3.3-mile corridor occurred at this intersection.** Over a quarter (26%) of all crashes were related to left turns. About 21% were rear-end collisions, and 20% were angle crashes. Dark and unlit conditions were related to 18% of all crashes at this intersection. There was a total of **14 severe injuries over the last five years**, out of which one was a bicyclist.

The intersection provides access to multifamily residential complexes to the north, and single-family homes to the south, both of which use this intersection to access Gibsonton Drive, the only signalized intersection they have access to.

To correct some of the geometric challenges, and to provide vertical elements that physically prohibit illegal vehicle movements, the following safety countermeasures are recommended for this intersection:

- ◆ **High emphasis crosswalks at all approaches:** currently, no pedestrian crosswalks exist. It is important to define the pedestrian space at the intersection and provide adequate traffic operations accommodations to create a safer pedestrian environment. Adding high-emphasis crosswalks would further define this pedestrian treatment.

- ◆ **Curb extensions:** Proposed curb extensions at this intersection have multiple purposes:
 - ◆ The proposed painted asphalt with ceramic domes' curb extension at the southwest corner of the intersection reclaims some of the extra asphalt towards the pedestrian space, to provide bicyclists and pedestrians with more buffer and shortened crossing distance. It also helps slow right turning cars down, and provides a more defined vehicle path for them to head south on Fern Hill Drive.
 - ◆ Southeast corner: The consultant team proposes to transfer the existing buffer between the eastbound right turn lane and the through lanes into the edge of pavement to utilize it for the painted asphalt area that protects vulnerable road users. This curb extension also reduces the radius at that corner, thereby lowering speed and enhancing visibility.



- ◇ The proposed curb extension at the northeast corner of the intersection aims to reduce the turning radius, add more buffer protecting bicyclists and pedestrians, and reducing the crossing distance.
- ◇ The proposed curb extension at the northwest corner of the intersection serves two distinct purposes:
 - To reduce turning radius, provide protection to vulnerable road users, and reduce speeds.
 - To act as a physical barrier to vehicles attempting to make an illegal through movement just east of the intersection.

- ◇ Widened median along the southern leg: Currently, there is significant excess asphalt along the southern leg of the intersection, partially striped. To enhance safety and further define vehicle paths south of the intersection, and in addition to the expanded curb extension at the southwest corner, this study proposes to widen the concrete median. This provides two main benefits:

- ◇ Create a maximum of 12-foot travel lanes to reduce vehicle speeds and encroachment into pedestrian space.
- ◇ Provide for a pedestrian refuge area.

- ◇ Pedestrian refuge areas: The existing medians at the eastern, western, and southern legs of the intersection were modified to

include pedestrian refuge areas that provide additional crossing safety measures, and further define the pedestrian space at the intersection.

- ◇ Signage: An MUTCD R10-15 sign at all four corners would help with right turning vehicles' yield rate.
- ◇ Skip pavement marking extensions: Adding dashed guiding lines would help guide vehicles to turn through the intersection safely.
- ◇ Lighting: The significant rate (20%) of crashes that occurred during dark conditions warrants enhancing street lighting conditions at this intersection.

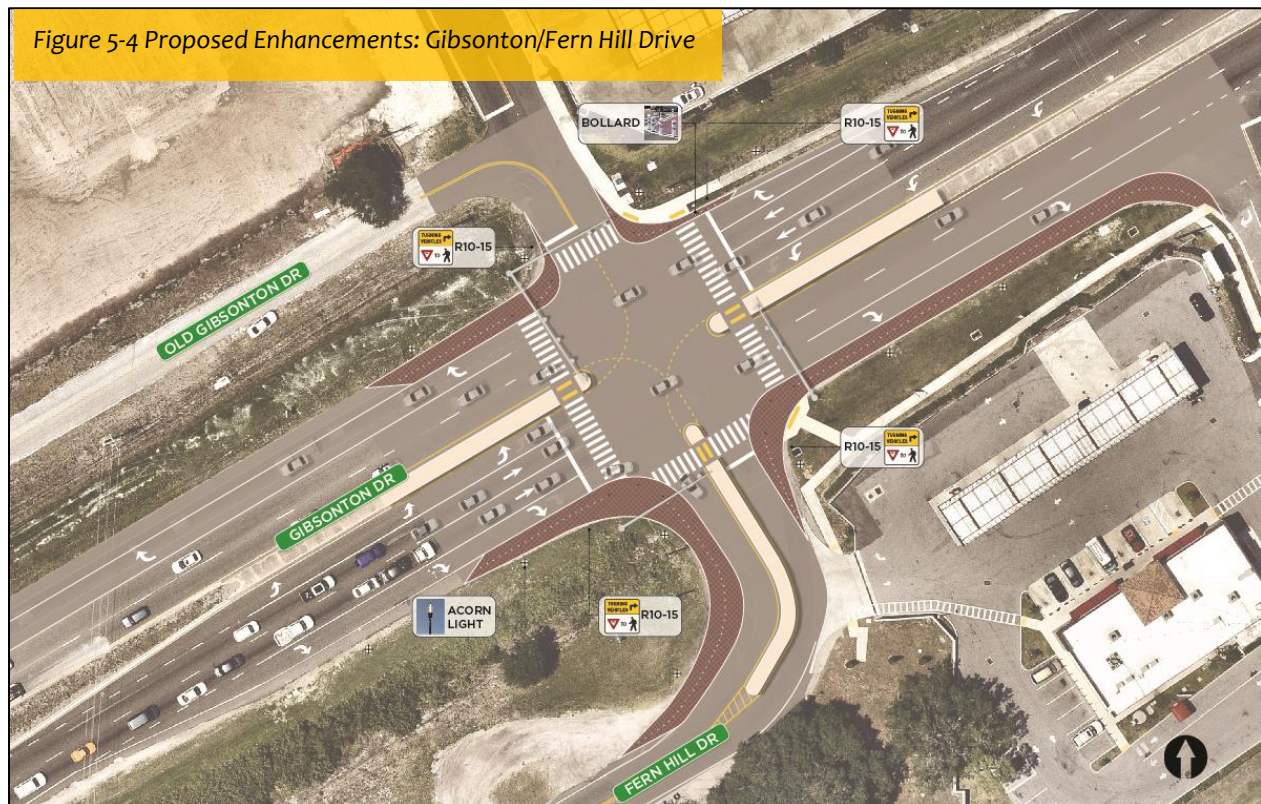


Figure 5-4 Proposed Enhancements: Gibsonton/Fern Hill Drive

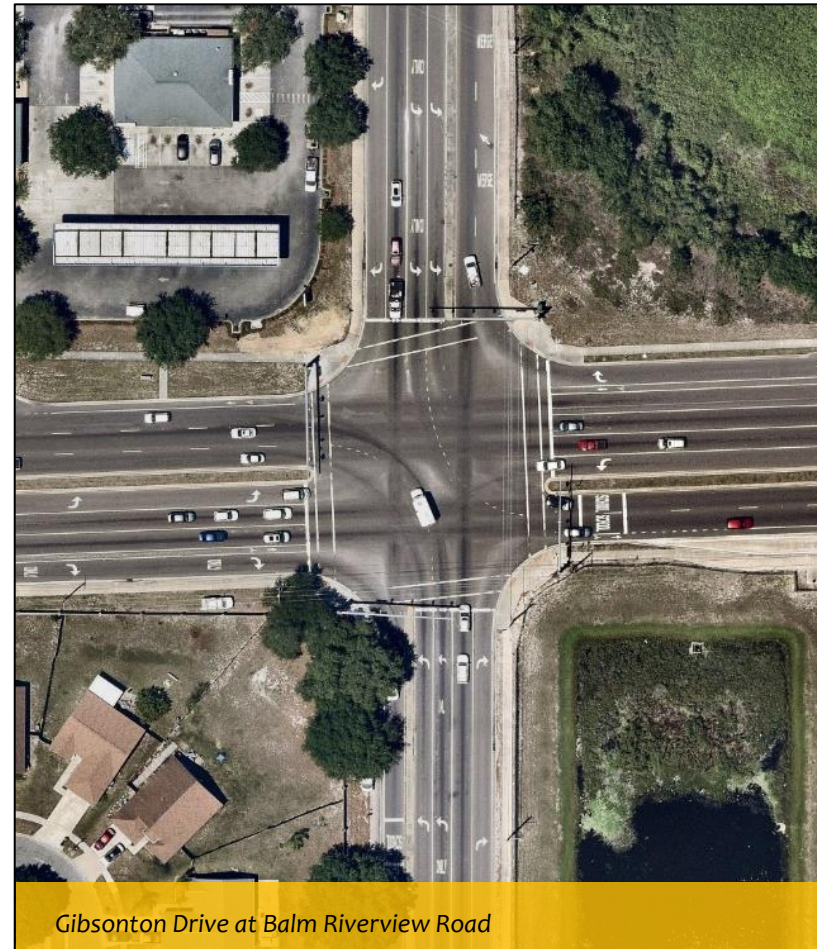
CRASH HOTSPOT #5: GIBSONTON DRIVE AT BALM RIVERVIEW ROAD

A total of **107 crashes** occurred at the intersection of Gibsonton Drive and Balm Riverview Road. About 42% were rear end collisions, 19% were related to left turns, and 27% occurred during dark/unlit conditions. There were two crashes that involved pedestrians and bicyclists, one fatality, and **six severe injuries**.

The following safety countermeasures are recommended for this intersection:

- ◆ **High-emphasis Crosswalks:** While there are currently marked crosswalks at all legs of the intersection, they are faded and not marked as “ladder” crosswalks. While providing high-emphasis crosswalks is not required at signalized intersections, providing them is recommended to further define the pedestrian space to enhance their visibility and safety.
- ◆ **Pedestrian Refuge Areas:** Turning design vehicle paths should be tested to evaluate whether pedestrian refuge areas can be installed in the medians at all approaches.
- ◆ **Curb Extensions:** Another pedestrian safety treatment that should be considered is a curb extension at the northeast corner of the intersection. This would slow turning vehicle speeds and provide additional buffer for pedestrians at that corner. Temporary painted asphalt with ceramic domes’ could be applied to the corner as an interim solution for a longer-term reconstruction effort as funding becomes available.
- ◆ **Bicycle Facility Improvements:** This section of Gibsonton Drive (Boyette Road) includes bike lanes. Two elements that would help further enhance bicyclist safety along Gibsonton Drive, in addition to systemically reducing the posted speed limit, include:
 - ◆ Reduce travel lanes to provide buffered bike lanes.

- ◆ Demarcate the extension of the bike lanes through the intersection to prevent vehicle through movements from encroaching into the bicycle path.
- ◆ **Lighting:** This intersection experienced a high rate of crashes that occurred during dark, unlit conditions. A street light evaluation should be conducted to install the appropriate scale, amount, and intensity of lighting at the intersection. Street lighting should be installed at all corners.





Corridor Study

Gibson Drive



6.0 ACTION PLAN

HILLSBOROUGH

6.0 ACTION PLAN

The recommendations presented in the previous section outline both system-level and crash hotspot improvements that can improve safety conditions for road users. The consultant team developed an action plan that ties these improvements to an implementation timeline. The timeline assumes that safety countermeasures can be implemented in the short-, mid-, and long-term time horizons:

Short-term improvements are defined as enhancements that could be implemented **within 1-2 years**. This includes pavement marking striping/restriping and signage improvements. Some traffic signal operational improvements, such as signal retiming and rephasing, also fall within this category. Most programmatic efforts can also begin within the short-term timeframe and continue.

Mid-term improvements are enhancements that are fairly simple to implement from a design, operational, and/or political will perspective; however, they may need additional time for acquiring funding and/or completing design and construction. This includes installing street lighting, adjusting intersection alignments, and narrowing travel lanes. Mid-term improvements are expected to be implemented **within 5 years**.

Long-term improvements, which are anticipated to be implemented in the **next 10 years or later**, include enhancements that require extensive public outreach, analysis, and redesign. This could include implementing a new shared use path, reconfiguring the I-75 Interchange, or changing existing median access. The proposed timeline for these types of improvements may shift if a funding opportunity or an overlapping project need arises.

The recommended improvements are also categorized by type: design, operational, or programmatic.

- ◆ **Design improvements** include those that include physical and geometric enhancements, such as pavement markings, signage, curb extensions, and channelization islands.
- ◆ **Operational improvements** are enhancements that require traffic signal modifications or installations. The provision of reducing the posted speed limit also falls within this category, as it involves conducting an operations analysis of the corridor and analyzing benefits and impacts.
- ◆ **Programmatic improvements** are ones that require coordinating efforts within the agency or with partner agencies to mobilize safety initiatives. This includes working with partners on programmed improvements along Gibsonton Drive, coordinating with law enforcement agencies on positive enforcement strategies, and implementing systematic and proactive safety-focused efforts such as road safety audits.

The table in [Error! Reference source not found.](#) outlines the safety enhancements recommended for Gibsonton Drive by category. The table depicts improvements that can be implemented in the short-, mid-, and long-term. It also demonstrates the types of crashes that are mitigated by the specific improvement. As shown, most of the proposed safety enhancements help reduce several crash types.

The enhancements developed through this data-driven, targeted, and systematic safety approach aim to collectively improve safety conditions for all road users. Once efforts are mobilized to implement these improvements, a monitoring plan that includes before and after studies would help inform safety improvements at similar and other locations. This list should be viewed as a living document, rather than an exhaustive list of solutions, where additional improvements can be integrated as a result of changing corridor dynamics or advances in technology.

Figure 6-1 Proposed Safety Enhancements

Countermeasure Type	Countermeasure	Timeline	Crash Type(s) Addressed (all severities)					
			Left-Turns	Dark/Unlit Conditions	Speeding/Aggressive Driving	Rear-End	Pedestrians	Bicyclists
Design	Add high emphasis crosswalks	Short-Term						
	Add new travel lanes	Mid-Term						
	Enhance street lighting	Mid-Term						
	Implement access management techniques	Mid-Term						
	Improve left-turn offset at intersections	Mid-Term						
	Improve right turn slip lane design	Mid-Term						
	Install bike lane extension through intersection	Short-Term						
	Install buffered bike lanes	Mid-Term						
	Install channelized median island at unsignalized intersections	Short-Term						
	Install curb extensions	Short-Term						
	Install dedicated right and/or left turn lanes	Mid-Term						
	Install median	Mid-Term						
	Install oversized, illuminated, and/or flashing advance warning signs	Short-Term						
	Install pedestrian refuge areas	Short-Term						
	Install shared use path	Mid-Term						
	Install skip pavement markings at intersections	Short-Term						
	Reconfigure I-75 Interchange	Mid-Term						
	Narrow travel lanes	Mid-Term						
Operational	Consider flashing yellow arrow	Mid-Term						
	Consolidate median openings	Mid-Term						
	Evaluate traffic signal phase modifications	Short-Term						
	Evaluate yellow change interval	Mid-Term						
	Implement adaptive traffic signal control and signal retiming strategies	Short-Term						
	Install red-light cameras	Mid-Term						
	Investigate the need for new traffic signals at unsignalized intersections	Mid-Term						
	Prohibit right turn on red	Mid-Term						
	Reduce the posted speed limit	Mid-Term						
Programmatic	Conduct a roadway safety audit	Short-Term						
	Coordinate improvement efforts with partner agencies	Short-Term						
	Work with law enforcement agencies on targeted enforcement	Short-Term						
	Work with property owners to consolidate driveways	Mid-Term						

Legend			
Short-Term	Mid-Term	Long-Term	Addresses Crash Type