



PALM RIVER RD

78TH ST

VISIONZERO

HILLSBOROUGH

Vision Zero Corridor Study

78th Street

FINAL REPORT

January 2021

78TH STREET VISION ZERO CORRIDOR STUDY

PREPARED FOR:



PREPARED BY:



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APPENDIX – CADD RENDERINGS



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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 78th Street in Hillsborough County, Florida from Causeway Boulevard to Palm River Road.

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, existing land use and transportation system, planned and programmed projects, and existing plans and studies.
- ◆ **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.



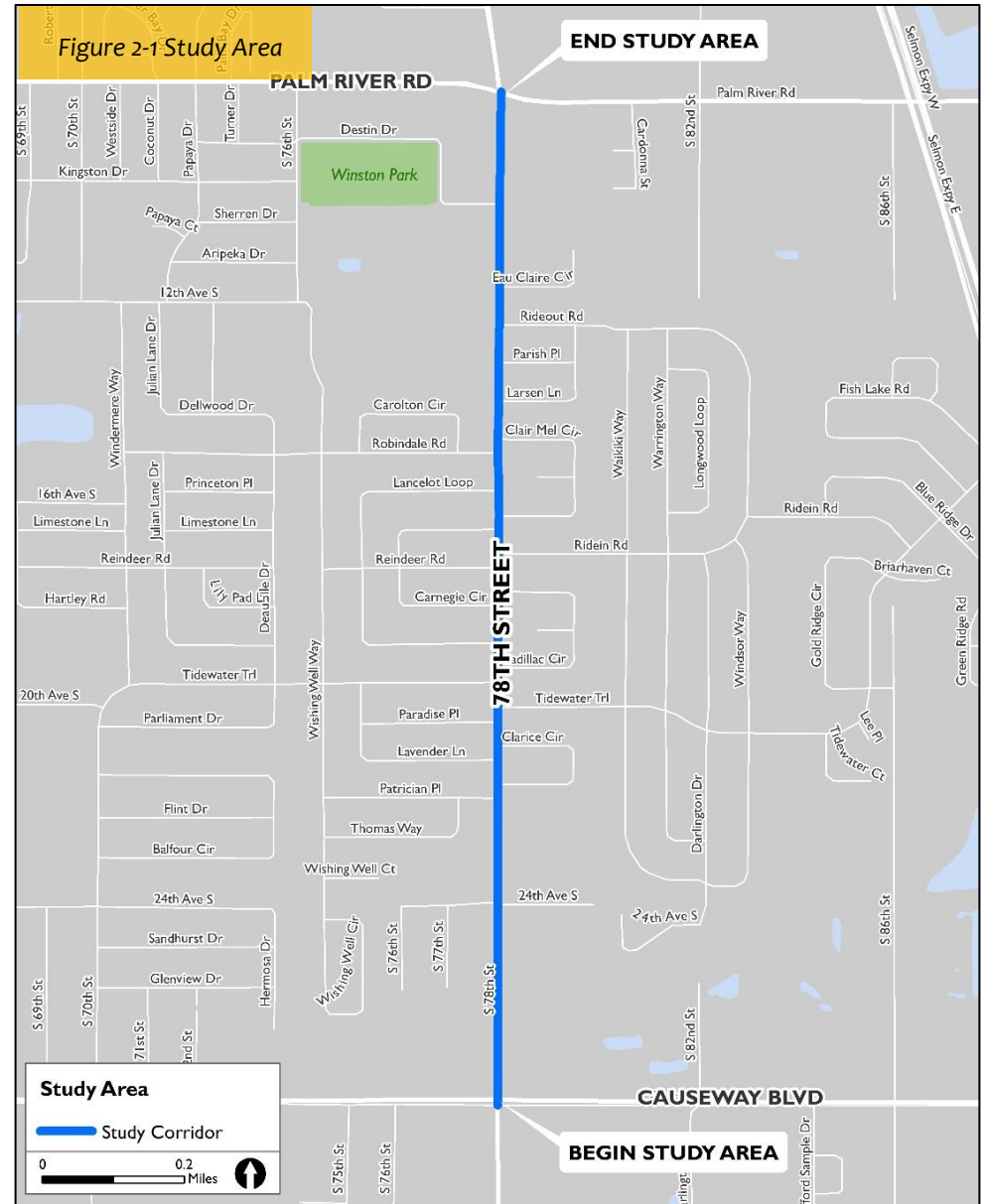
Field visit photo. Source: Project Team.



Field visit photo. Source: Project Team.

2.1 STUDY CORRIDOR DESCRIPTION

78th Street is a north-south roadway located in Hillsborough County, Florida. The study limits of the 78th Street corridor are from Causeway Boulevard to Palm River Road. It is functionally classified as an **Urban Collector** and is approximately **1.25 miles** long. The local jurisdiction for the 78th Street 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 78th Street Study corridor:

- ◆ The FDOT functional classification is **Urban Collector**.
- ◆ Within the **Urbanized Area** as classified by the Federal Highway Administration (FHWA).
- ◆ Within the **Urban Service Area** for Hillsborough County.
- ◆ 78th Street is a **four-lane** facility with a **center, two-way left turn lane**.
- ◆ The posted speed limit along the corridor is **45 mph**.
- ◆ **Sidewalks** are present along both sides throughout the length of the corridor.
- ◆ There are no **on- or off-street bicycle facilities**.
- ◆ **Street lighting** is present through portions of the corridor.
- ◆ There is **one school zone** located along the corridor.
- ◆ **Crosswalks** are present at three locations.

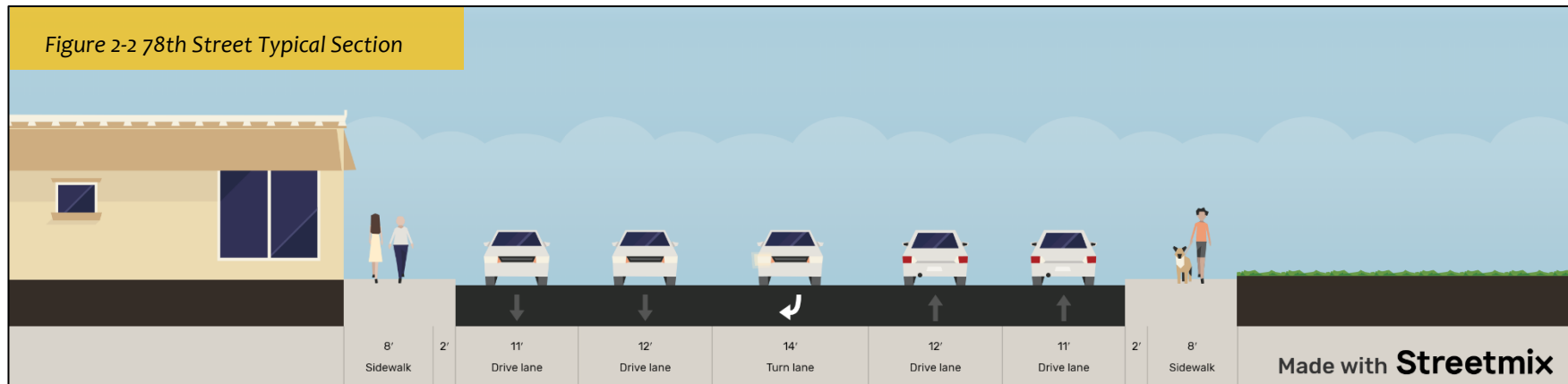
78TH STREET CORRIDOR TYPICAL SECTION

The existing roadway configuration consists of eight-foot sidewalks on both sides, 11 to 12-foot drive lanes, and a 14-foot center two-way left turn lane (See **Figure 2-2**).

STUDY INTERSECTIONS

The two signalized intersections within the study area are located on both ends of the corridor. They are listed and briefly described below. An analysis of these intersections is included in the Needs Analysis section of this report.

- ◆ **78th Street/Palm River Road:** Signalized intersection with dedicated left turn lanes with marked and signalized crosswalks on all four sides. Includes “Turning Traffic Must Yield to Pedestrians” signs on signal arms.
- ◆ **78th Street/Causeway Boulevard:** Signalized intersection with dedicated left turn lanes with marked and signalized crosswalks on all four sides.



2.3 BICYCLE AND PEDESTRIAN FACILITIES

Sidewalks are present on both sides along the length of the corridor. 78th Street sidewalks connect on both sides of the roadway along Causeway Boulevard and Palm River Road. Sidewalks are present only on the west side of 78th Street to the north and south of the corridor. There is an approximately three-foot strip of either grass or pavement between the sidewalk and the travel lanes.

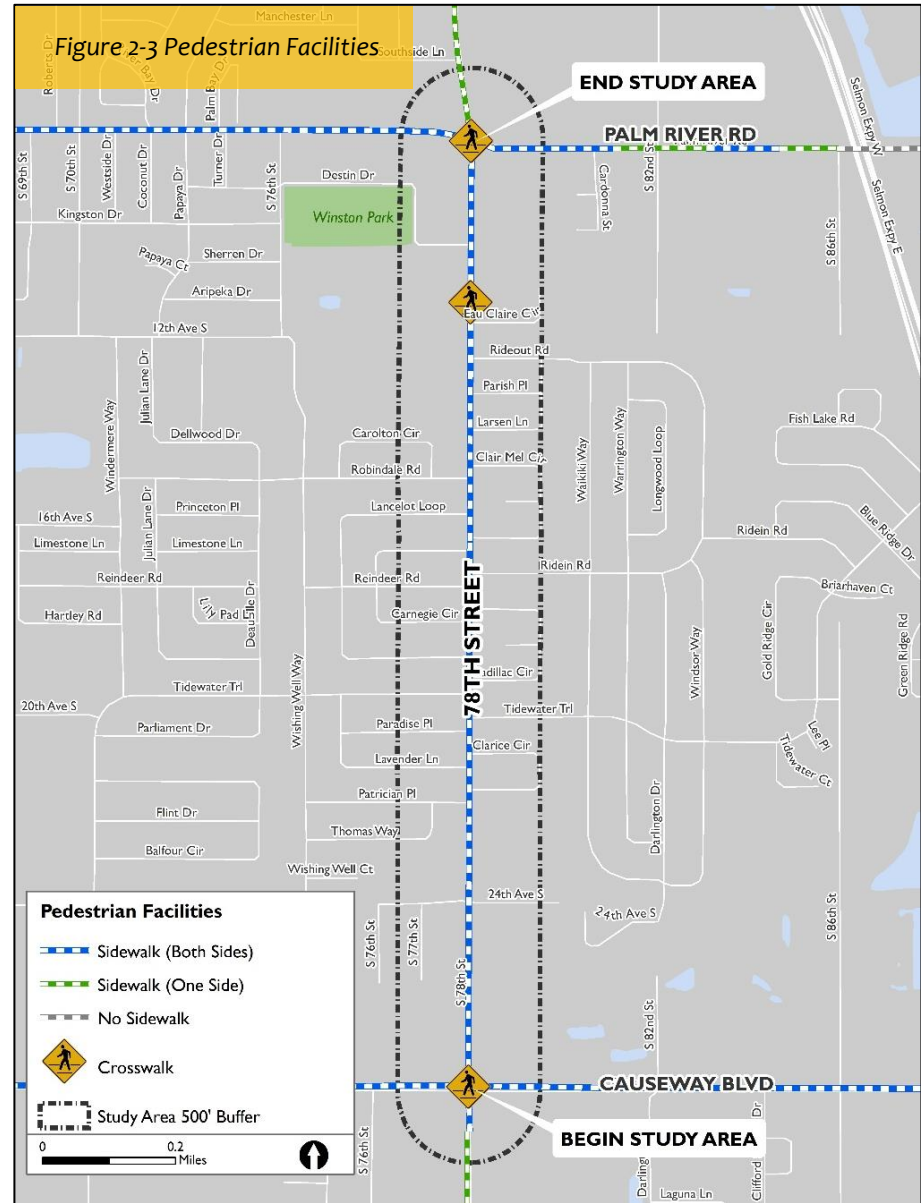
There are three marked and signalized pedestrian crossings along the corridor located at 78th Street and Palm River Road, 78th Street and Causeway Boulevard, and a midblock crossing in front of Clair Mel Elementary School and the Palm River Medical Center just north of Eau Claire Circle. The midblock crossing is approximately 0.25 miles south of Palm River Road and 1 mile north of Causeway Boulevard.

There are no on-street bicycle facilities along the corridor.

Figure 2-3 displays the locations of the sidewalks and crosswalks along the corridor.



78th Street Midblock Crossing. Source: Google Street View, September 2019.



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 78th Street via **Route 8 Progress Village/Brandon** connecting to Downtown Tampa (Marion Transit Center). Route 8 connects Brandon to Southshore via Gibsonton/Apollo Beach (see **Figure 2-4**). Key destinations along this route include:

- ◆ Downtown Tampa
- ◆ Amalie Arena/Florida Aquarium
- ◆ Port Tampa Bay
- ◆ Ybor City and Centro Ybor
- ◆ HCC – Ybor Campus
- ◆ Palm River Recreation Center
- ◆ 78th Street Public Library
- ◆ Progress Village Sports Complex
- ◆ Westfield Brandon Mall

Weekday and weekend service is currently provided along Route 8 with headways of approximately 60 minutes starting from 6:15 a.m. to 9:15 p.m. eastbound from Downtown Tampa and from 6:35 a.m. to 10:35 p.m. westbound from Progress Village/Brandon.

The modified Covid-19 service includes transit stops for the 78th Street Community Library and the Tampa Family Health Center.

The transit stop for the community library is located north of Destin Drive and includes a shelter, benches, and a trash can.

The transit stop for the Tampa Family Health Center is located just north of Causeway Boulevard and is equipped with a bench and a trash can.

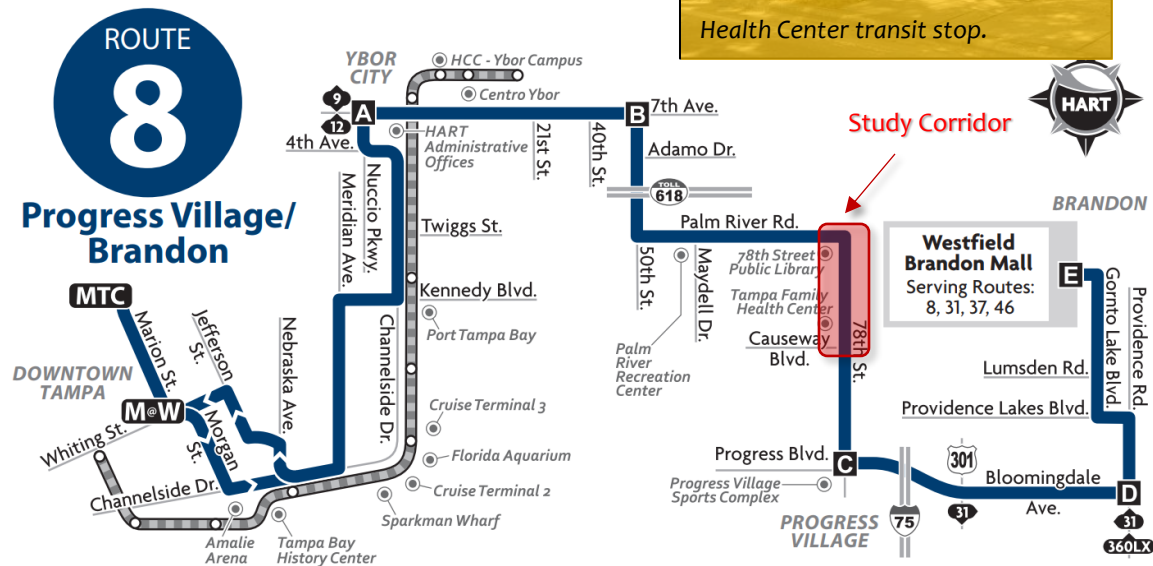


Library transit stop.



Health Center transit stop.

Figure 2-4 Transit Service



2.5 SCHOOL ZONES

There is one school zone located along the corridor for Clair Mel Elementary School from north of Rideout Road to north of Destin Drive. The approximate school zone limits are shown in red in Figure 2-5. The school zone limits are indicated by pavement markings on the northern and southern limits and timed, flashing beacons decreasing the speed limit to 20 mph.

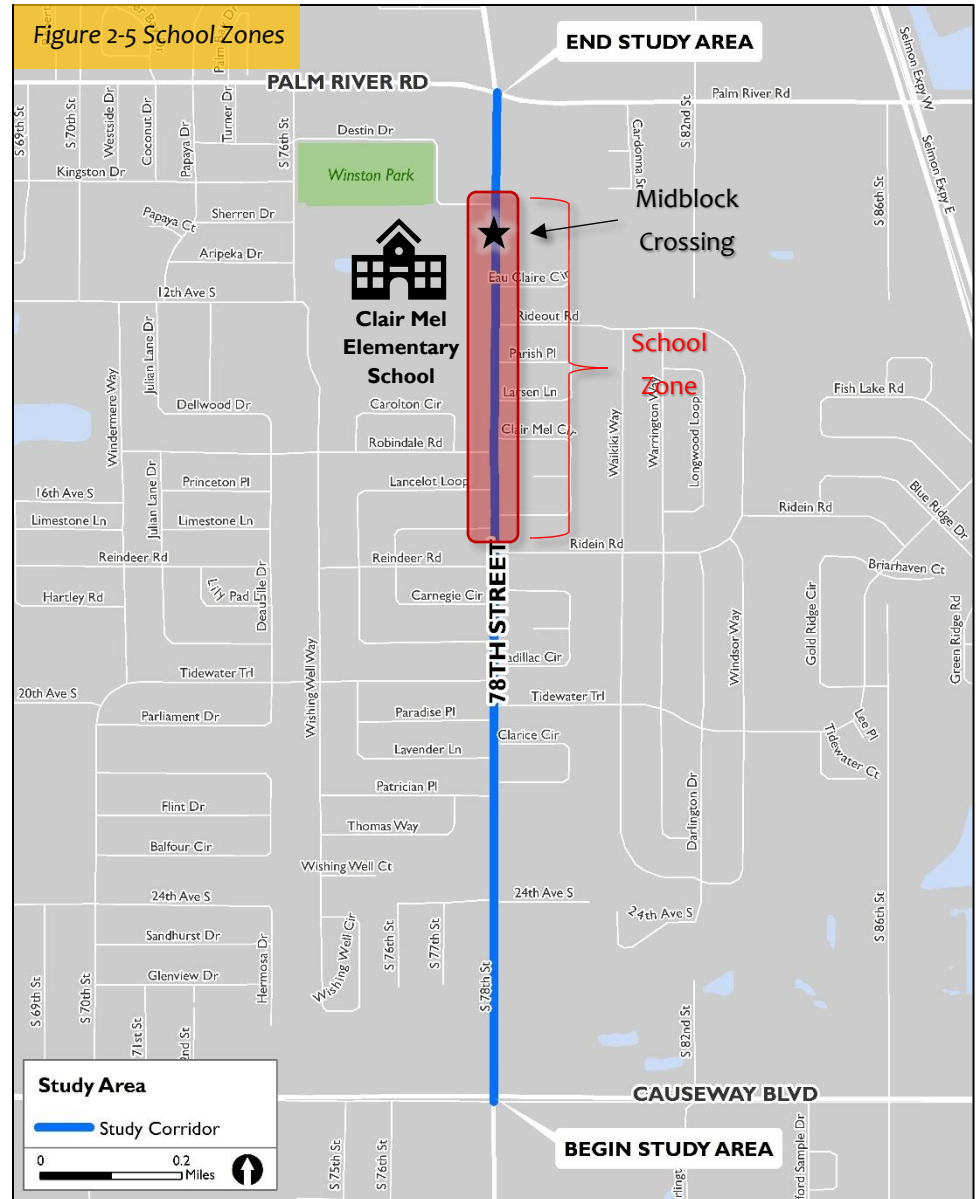


78th Street school zone flashing beacon.

The midblock crossing to access the school is located between Eau Claire Circle and Destin Drive. It is shown as a star in Figure 2-5.



School zone pavement markings along 78th Street. Source: Google Street view, January 2020.



2.6 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)

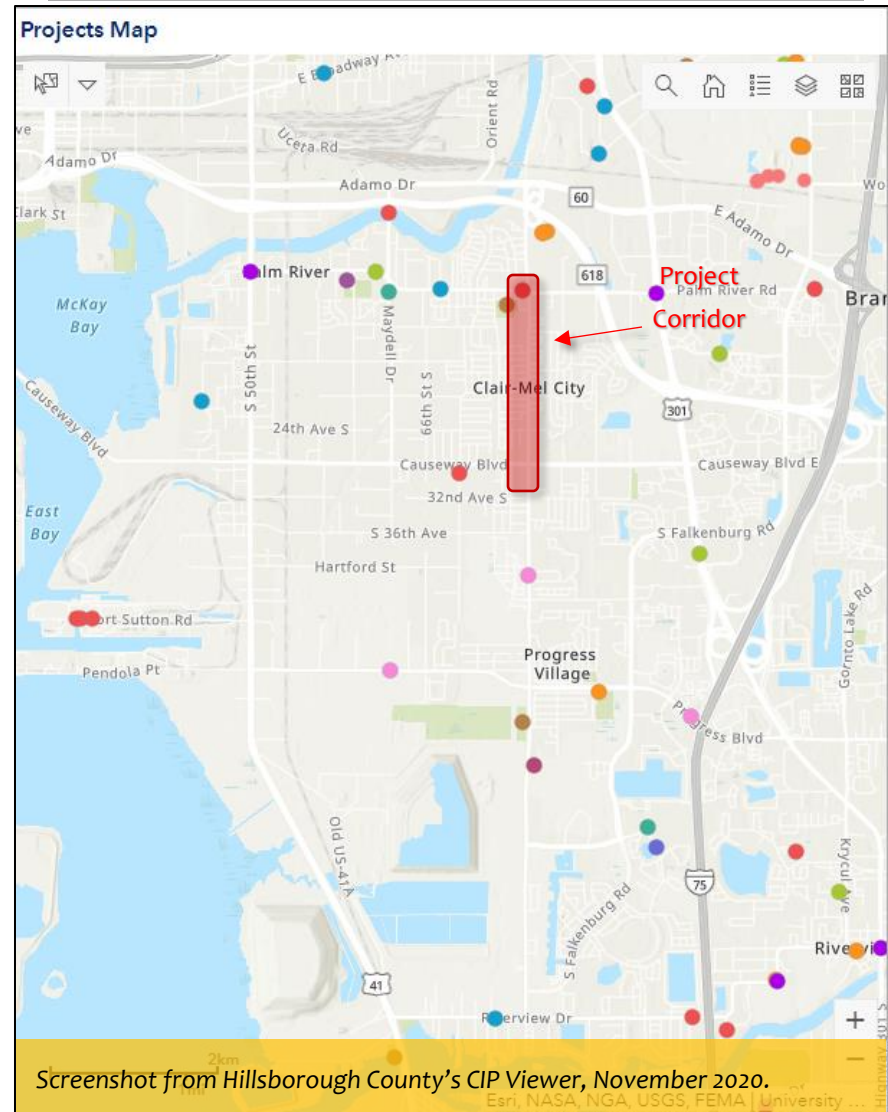
Using the Plan Hillsborough Mapping Tool for the TIP Projects for Fiscal Years (FY) 2019/20 through FY 2023/24, no TIP Projects were identified for the **78th Street Corridor**.

CAPITAL IMPROVEMENT PROGRAM (CIP)

Using the Hillsborough County interactive Capital Improvement Program (CIP) Viewer, the following projects were identified along the **78th Street Corridor**:

- ◆ **Palm River Road Resurfacing (CIP Number 6931101):** Includes the intersection at the northern limits of the 78th Street Corridor.
 - ◇ **Project Description:** Resurfacing of Palm River Road. Includes American Disabilities Act (ADA) ramp improvements and pedestrian push button rehab.
 - ◇ **Project Objectives:** Maintain the county's roads in a safe and serviceable condition for the lowest cost to the community. Improve reliability and efficiency of the existing roadway to support a multimodal system.
 - ◇ **Project Cost Estimate:** \$1,884,675

Hillsborough County Capital Improvement Program Viewer

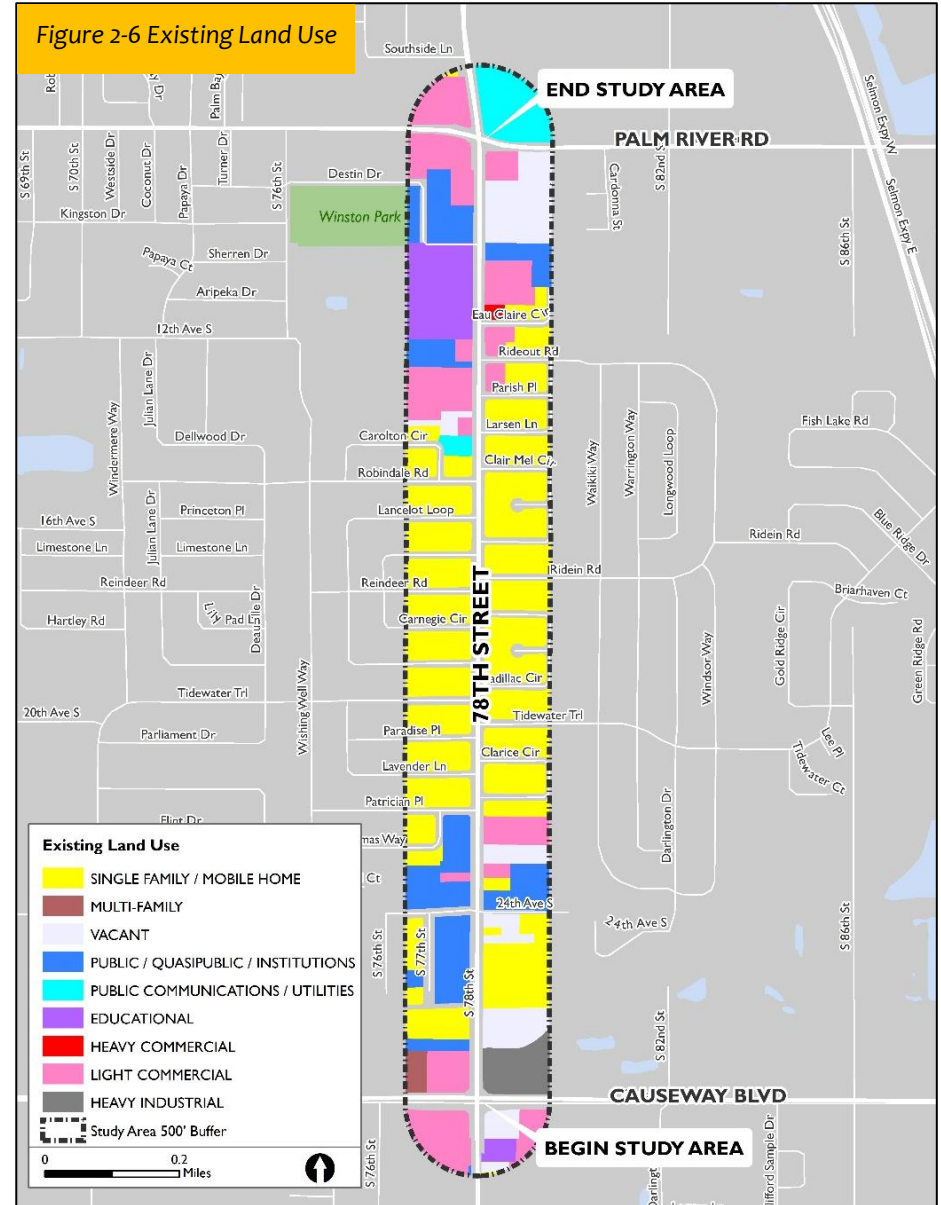


2.7 EXISTING LAND USE, ZONING, AND FUTURE LAND USE

EXISTING LAND USE

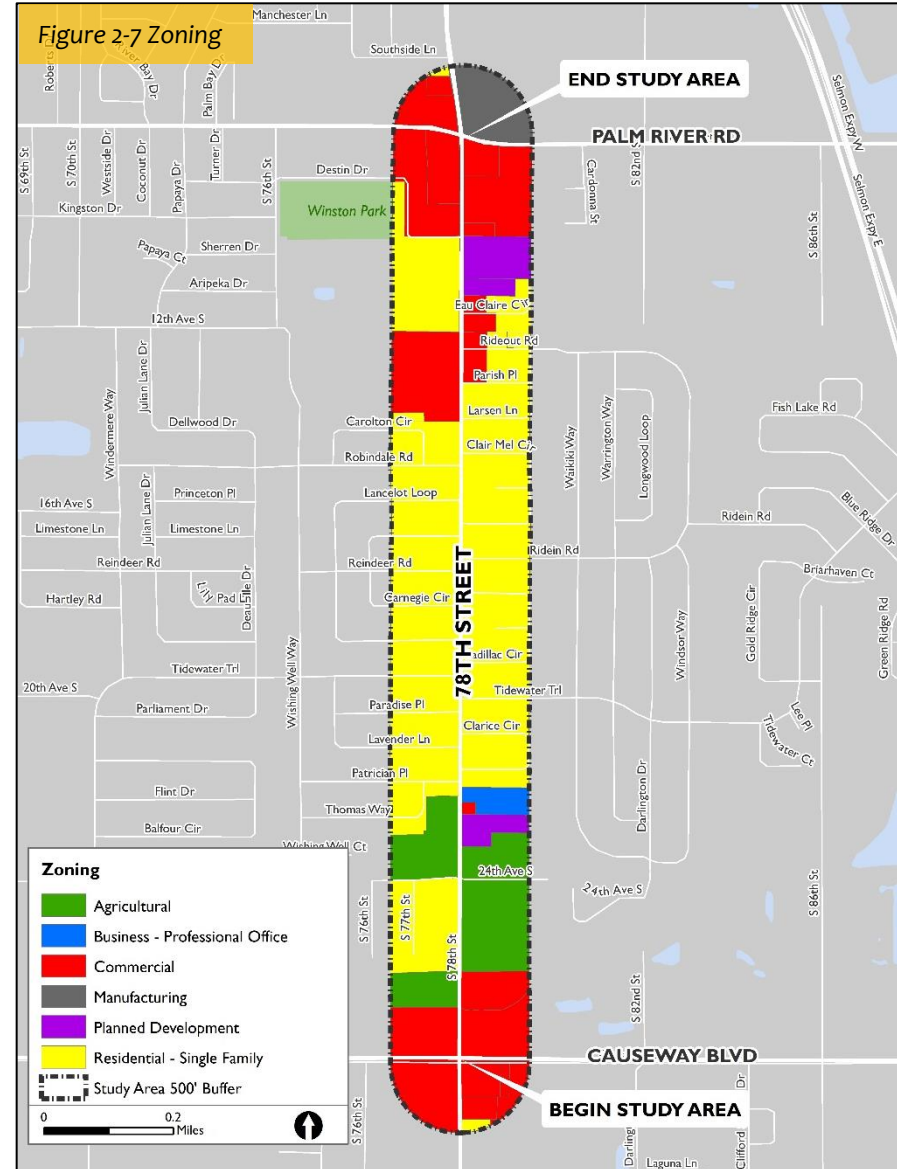
The generalized existing land use data was obtained from the Hillsborough MPO (dated March 2019). The dataset was derived from the Hillsborough County Property Appraiser parcels and Department of Revenue (DOR) NAL (real property) codes.

As displayed in **Figure 2-6**, much of the existing land use of the corridor is Single Family/Mobile Home (yellow) with Light Commercial (pink) and Public (blue) uses sprinkled throughout.



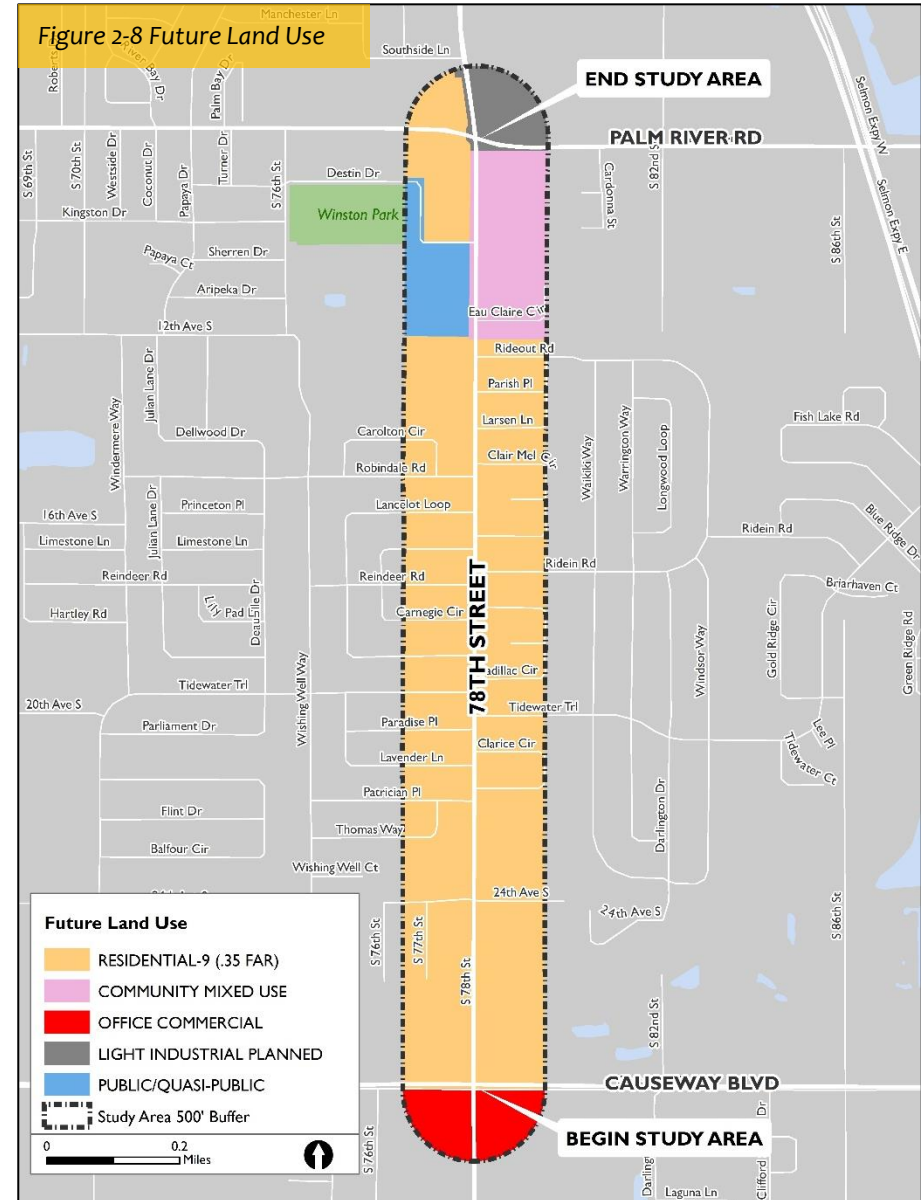
ZONING

The zoning data was obtained from Hillsborough County (dated October 2019) and displayed in **Figure 2-7** for the 500-foot buffer around the study area. The zoning along the corridor is generally either Residential – Single Family (yellow), Commercial (red), or Agriculture (green).



FUTURE LAND USE

The future land use data was obtained from the Hillsborough MPO (dated June 2020) and displayed in **Figure 2-8**. The future land use along the study corridor is predominantly Residential-9 (orange). Other future land uses along the corridor include Community Mixed Use (pink), Public/Quasi-Public (blue), Light Industrial Planned (grey), and Office Commercial (red).



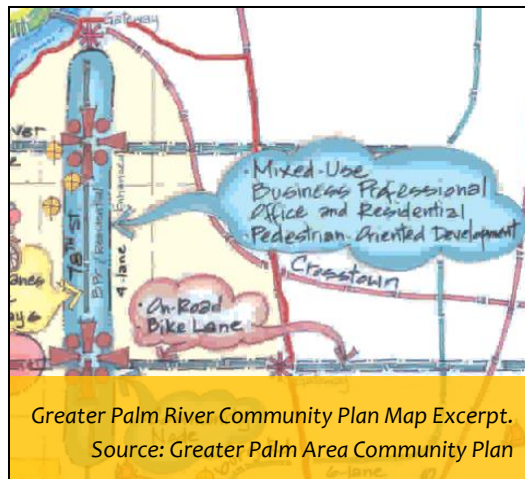
2.8 EXISTING PLANS AND STUDIES

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
 - ◆ Greater Palm River Community Plan (78th Street)

GREATER PALM RIVER COMMUNITY PLAN (2008)

Overview: The Greater Palm River Area has been transitioning from rural community. The area is well positioned with respect to markets and labor but is lacking in suburban-level services even though the area is the within Hillsborough County’s Urban Service Area. The vision of the area is retain a mixture of open spaces, large lots, and developed parcels; maintain high home ownership ratio, diverse multi-cultural Community assets and neighborhood and historic makeup; minimize through traffic on local roadways, focus trips to arterials; preserve and protect waterfronts, and recreational and environmentally-sensitive lands. The community vision is displayed in the Greater Palm Area Concept Map.



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

- ◆ Traffic/Transportation (Goal 3): Ensure balance for walking, bicycling and transit that serves the neighborhoods (Palm River Road area, Clair Mel and Progress Village), commercial, and industrial uses.
 - ◆ Provide intersections, turn lanes, bicycle lanes, traffic signalization, roadway maintenance, crosswalks, and landscape improvements that maintain adopted LOS and best practices of the Livable Roadways Guidelines.
 - ◆ Enforce existing truck route regulations.
 - ◆ Provide for and maintain roadway capacity through improvements to existing road network and road infrastructure.
 - ◆ Strengthen and enforce maintenance regulations regarding litter, noise, and roadway environment such as signs, landscape and lighting. Community specific sign standards should be developed for 78th Street.
 - ◆ Roadway safety, relating to accident rates and deaths, should also be improved.
 - ◆ Public transit that serves existing and future development should include more frequent service, adequate routes, extended hours of operation, bus stop enhancements, and safe sidewalk access.
- ◆ Planning and Growth/Economic Development (Goal 5a): 78th Street Overlay District
 - ◆ An overlay district will be adopted into the Land Development Code (LDC) for 78th Street to plan for the appropriate transition of business and professional office uses.
 - ◆ Develop gateways to create a sense of arrival using landscape features, public art, and signage at strategic areas including 78th Street/Crosstown Expressway.

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3.0 NEEDS ANALYSIS

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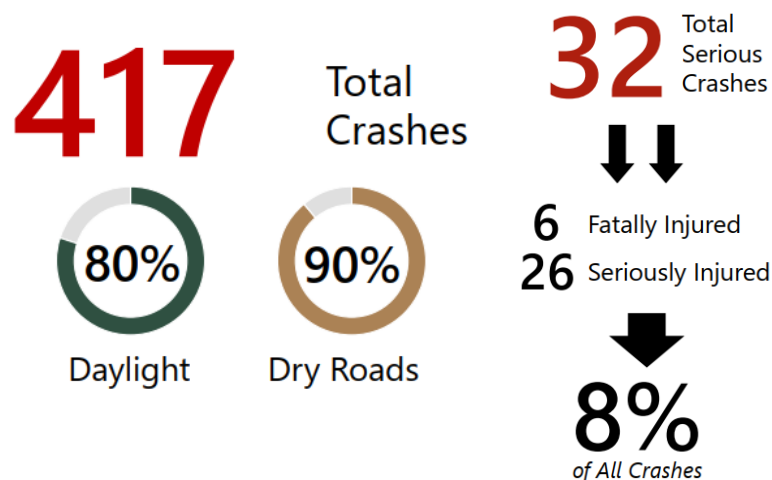
3.0 NEEDS ANALYSIS

A Needs Analysis was conducted to evaluate the mobility needs of the corridor. This analysis focused on an identification of operational and safety issues and bicycle and pedestrian needs.

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 417 total crashes.
- ◆ 32 crashes resulted in fatalities or serious injury.
- ◆ 20% of all crashes occurred in the evening. However, they accounted for 39% of all fatalities and severe injuries.
- ◆ 47% of fatal and severe injury crashes were left turning movement-related.
- ◆ 16% of fatalities and severe injuries were pedestrian and bicyclists. 62% of these occurred in the evening.



CRASH HOTSPOTS

Crash hotspots were identified at the intersections of 78th Street/Causeway Boulevard and 78th Street and Palm River Road, at the midblock crossing between Destin Drive and Rideout Road, and near transit stops. Crash trends involving these hotspots are summarized in this section. Countermeasures to combat future crashes are presented in the Proposed Corridor Solutions section.

78TH STREET/CAUSEWAY BOULEVARD

The intersection of 78th Street/Palm River Road had the following crash statistics:

- ◆ 156 total crashes (38% of all crashes along the corridor)
- ◆ There was 1 fatality and 6 severe injuries
- ◆ 30% of these crashes were distraction-related
- ◆ Crash type: 38% rear ends; 30% speeding/aggressive driving; 29% left turn-related



78TH STREET/PALM RIVER ROAD

The intersection of 78th Street/Palm River Road had the following crash statistics:

- ◆ 137 total crashes (32% of all crashes along the corridor)
- ◆ There was 1 fatality and 6 severe injuries
- ◆ 40% of these crashes were distraction-related
- ◆ Crash type: 39% left turn-related; 23% rear-ends; 20% speeding/aggressive driving

CRASHES NEAR TRANSIT STOPS

The following crash statistics occurred near transit stops along the 78th Street Corridor:

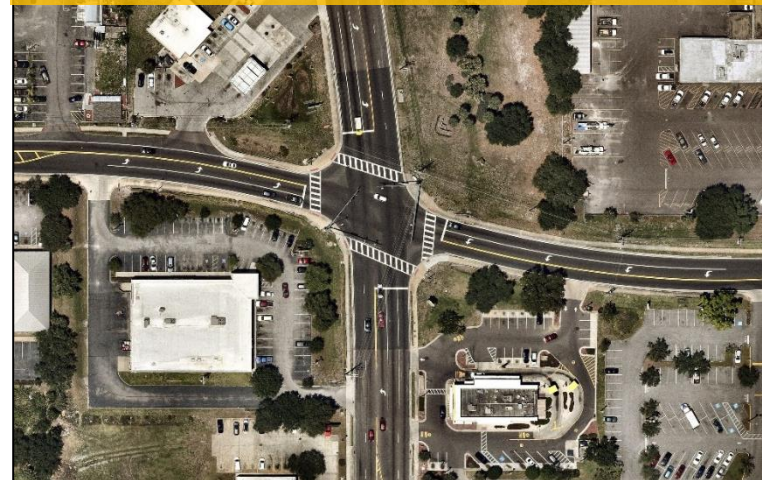
- ◆ 36 total crashes resulting in 1 fatality and 1 severe injury
- ◆ 13 were left-turn related
- ◆ 4 were related to aggressive driving/speeding
- ◆ 1 involved a bicyclist

MIDBLOCK CROSSING

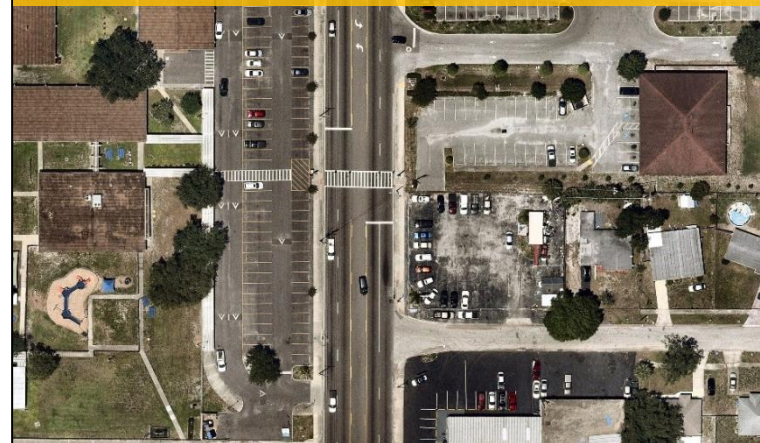
The following crash statistics correspond to the midblock crossing between Destin Drive and Rideout Road:

- ◆ 44 total crashes (11%) resulting in 1 fatality (involving a bicyclist)
- ◆ 60% were related to speeding/aggressive driving
- ◆ 2 crashes involved bicycles and 1 involved a pedestrian

78th Street/Palm River Road intersection. Source: Google Maps.



Midblock crossing between Destin Drive and Rideout Road. Source: Google Maps.



3.2 ISSUES AND OPPORTUNITIES IDENTIFICATION

Based on the Existing Conditions Analysis, preliminary issues and 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, 47% 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:

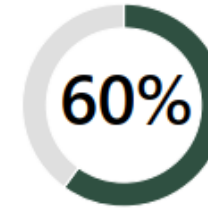
- ◆ Dangerous left-turns
- ◆ Top three crash locations:
 - ◇ 78th/Causeway Boulevard (22%)
 - ◇ 78th/Palm River Road (22%)
 - ◇ 78th/Tidewater Trail (16%)
- ◆ Poor and inconsistent lighting
- ◆ Speeding and aggressive driving

PEDESTRIAN AND BICYCLE MOBILITY

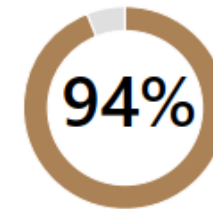
Adequate pedestrian and bicycle mobility is a core value of Vision Zero. The following issues were identified that currently impeded pedestrian and bicycle mobility along the corridor:

- ◆ Top crash locations involving people walking or biking were 78th Street/Eau Claire Circle and 78th Street/Ridein Road
- ◆ Lack of bike lanes and bicycle facilities
- ◆ Sidewalks and pedestrian crossings could be enhanced

Crash History – Fatal and Serious Injury Crashes



Daylight



Dry Roads

Top Locations

Causeway Blvd (22%)
Palm River Rd (22%)
Tidewater Tr (16%)

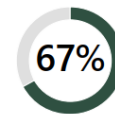
Peak Crashes

6-9 AM - 5 (16%)
1-4 PM - 5 (16%)
4-7 PM - 7 (22%)

Most Common Crash Type

Left Turn (47%)/Off Road (19%)

Crash History – People Walking or Biking



Daylight



Dry Roads

Top Location

Eau Claire Circle
Ridein Rd

Lighting Conditions

50% of crashes occurred between 8 PM and 6 AM



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**4.0 COMMUNITY
ENGAGEMENT**

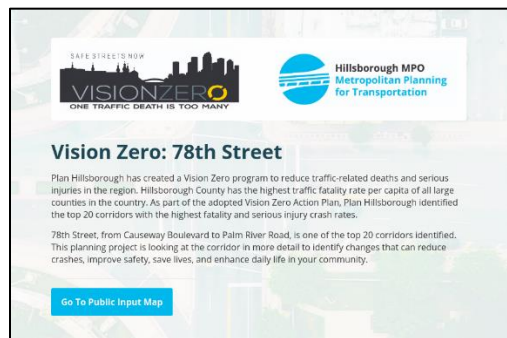
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4.0 COMMUNITY ENGAGEMENT

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 online survey and an interactive web map. Both the survey and web map were made available on the County’s website, www.PlanHillsborough.org. 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.

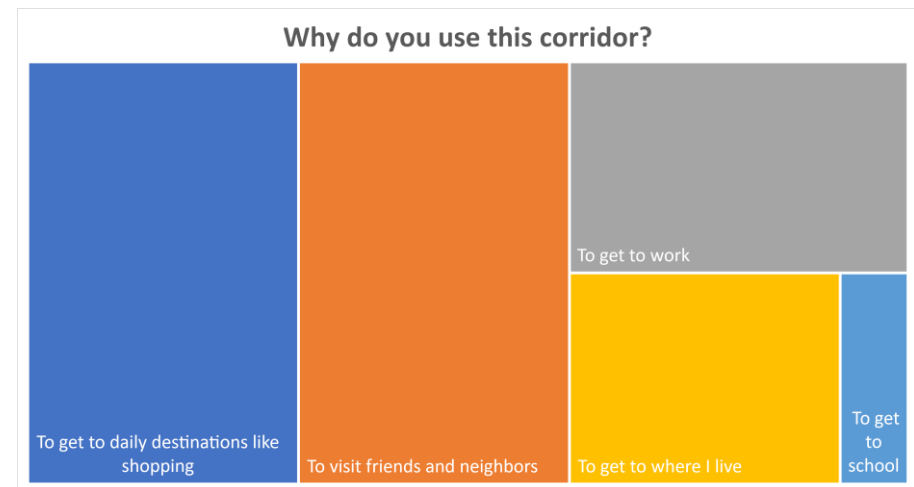
4.2 ONLINE SURVEY

The 78th Street Survey received 24 form submissions between September 1, 2020 and September 30, 2020. Not every respondent answered each question, therefore totals vary by question. Three questions were asked of the survey takers. A summary of the results is presented in this section.

QUESTION 1: WHY DO YOU USE THIS CORRIDOR?

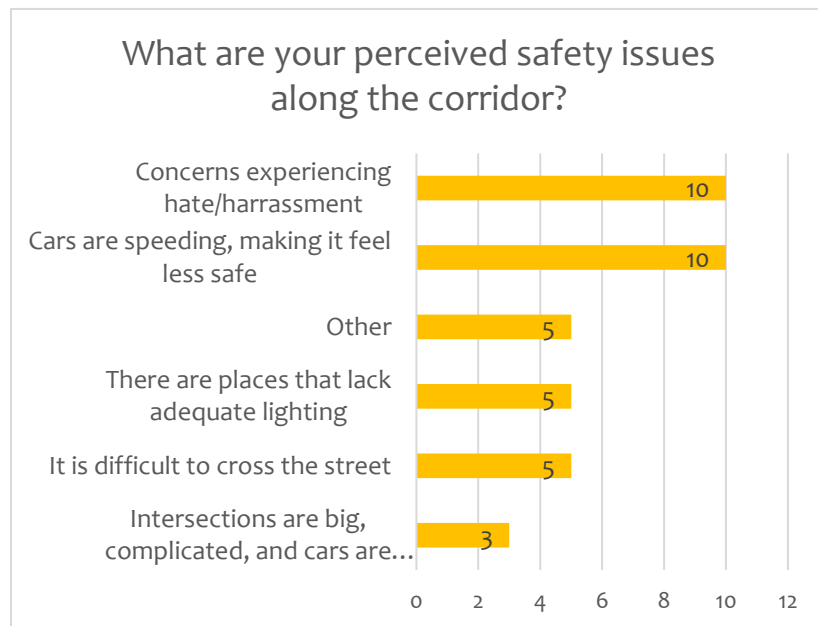
Respondents mainly utilized the corridors to reach daily destinations and to visit friends and neighbors. Other responses included the following:

- ◆ To get to work
- ◆ To get to where I live
- ◆ To get to school



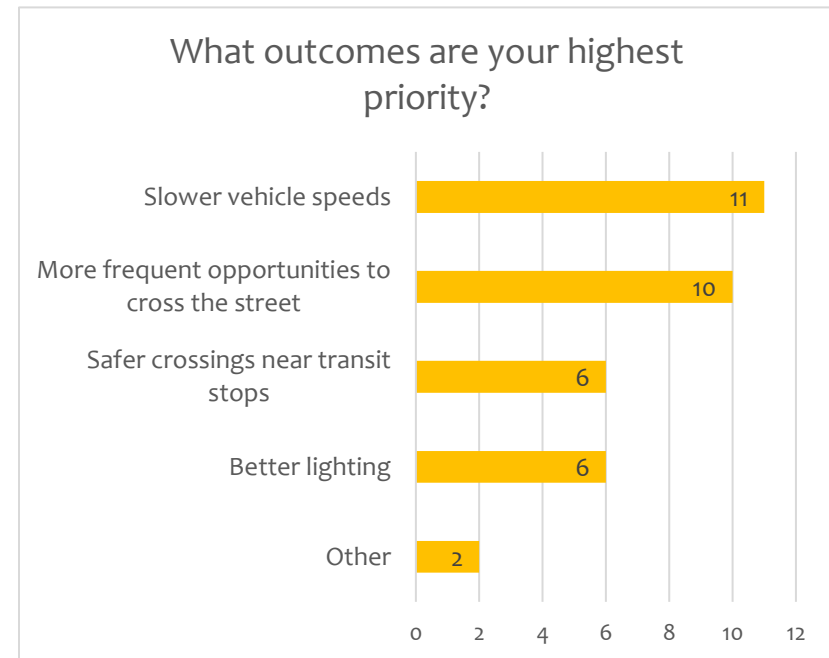
QUESTION 2: WHAT ARE YOUR PERCEIVED SAFETY ISSUES ALONG THE CORRIDOR?

Survey participants were asked about the main perceived safety issues along 78th Street. Based on the responses received, top safety concerns are the threat of experiencing hate and/or harassment and the speed of cars along the corridor. Speeding cars create a general safety concern for many pedestrians, but particular gender, racial, and ethnic identities have a heightened concern of harassment in public spaces.¹ Lack of adequate lighting and difficulty crossing the street were also top concerns expressed by the public.



QUESTION 3: WHAT OUTCOMES ARE YOUR HIGHEST PRIORITY?

In identifying the highest priority safety improvements, respondents would like to see slower vehicle speeds and more frequent opportunities to cross the street. Over a quarter of respondents identified the need for safer crossings near transit, as well as better lighting.



¹ Kearn, Holly. 2014. Unsafe and Harassed in Public Spaces: A National Street Harassment Report. <https://www.stopstreetharassment.org/wp-content/uploads/2012/08/2014-National-SSH-Street-Harassment-Report.pdf>

4.3 PUBLIC INPUT MAP

For South 78th Street, the 5 individuals provided 6 comments. For clarity, these comments will be discussed from North to South along the corridor.

Some felt that the traffic signal at the intersection of 78th Street and Palm River Road is causing confusion. The McDonald's parking lot exit at the southeast corner of the intersection may be causing additional conflict.

Other comments expressed concern that turning onto the residential streets such as Lancelot Loop and Cadillac Circle was unsafe due to reduced visibility – especially for drivers turning left from the northbound direction.

Other comments identified the intersection of Causeway Boulevard as a concern. Respondents noted lack of adequate lighting, inadequate sidewalks and crosswalks, and inappropriately programmed traffic signal times for turning movements as potential issues.

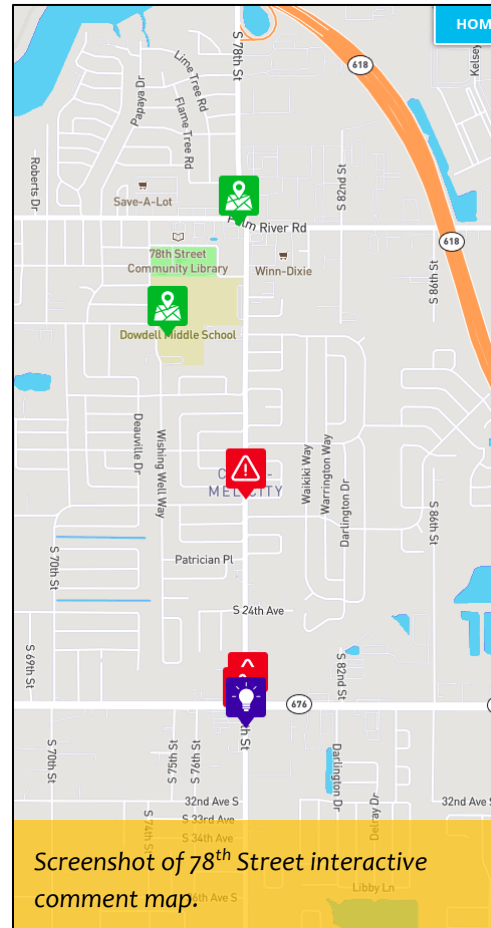
4.4 COMMUNITY OUTREACH OUTCOMES

Overall, the collected comments reinforced the information gleaned from the crash analysis. The following represents the highlights of the public input received:

- ◆ **Speeding** is highlighted in many of the comments.
- ◆ There is a critical need to provide **safer and more frequent crossing opportunities**.
- ◆ Enhancing current **street lighting** conditions is needed.

It is also worth noting that a portion of survey respondents (10) indicated they are concerned using 78th Street due to **potential harassment** based on their race, ethnicity, and/or gender identity. Historically, public surveys soliciting opinions regarding transportation safety have not always broached this issue directly. However, recent research has found that asking the question brings to light inherent issues that should be tackled in tandem with implementing safety treatments; particularly in low-income and minority neighborhoods².

The public input received through this community outreach effort was integrated into developing countermeasures that directly spoke to community concerns. By consolidating the quantitative crash data analysis process with the qualitative and experience-driven public input, the countermeasures developed for 78th Street were more representative of the context and needs.



² http://njbikeped.org/wp-content/uploads/2016/09/Fear_A-Silent-Barrier-to-Bicycling-in-Black-and-Hispanic-Communities_Sept2016.pdf



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CAUSEWAY BLVD

78TH ST

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5.0 PROPOSED CORRIDOR SOLUTIONS


5.0 PROPOSED CORRIDOR SOLUTIONS

South 78th Street between Causeway Boulevard/SR 676 and Palm River 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 78th Street 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 78th Street within the study area.

The land use context observed along 78th Street helped shape the safety countermeasures for the corridor. While the street's existing conditions are not conducive to a comfortable walking and biking environment, the corridor is lined by pedestrian origins and destinations. Residences, neighborhood shops, and places of worship are present along the corridor, prompting people to cross the street in spite of unsafe conditions. Additionally, many transit stops are present on both sides of 78th Street, prompting users to cross even if there is not a marked crosswalk at the stop. Therefore, the consultant team was focused on providing context-sensitive safety solutions along 78th Street for all road users.

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, and crashes involving pedestrians and bicyclists. The following table identifies appropriate countermeasures associated with the prevailing crash types. The system-level crash trends observed for 78th Street 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.



Red light running cameras are an effective safety tool in reducing speeds and serious injury crashes, while also offering consistent enforcement.

Crash Type	System-Level Trend	Countermeasures
Left-turning movements	<ul style="list-style-type: none"> 47% of all crashes were related to left-turning movements, including left-turns along signalized and unsignalized intersections. Left turn-related crashes resulted in 1 fatality and 15 severe injuries. 	<ul style="list-style-type: none"> Restrict turning movements at unsignalized intersections. Evaluate left-turning offset at intersections.
Nighttime/unlit conditions	<ul style="list-style-type: none"> One fifth (20%) of all crashes occurred at nighttime. Nighttime crashes caused 3 fatalities and 10 severe injuries. 	<ul style="list-style-type: none"> Enhance street lighting. Install oversized, illuminated, and/or flashing advance warning signs.
Pedestrian and Bike involved crashes	<ul style="list-style-type: none"> While pedestrian and bike involved crashes contributed to 4% of all crashes along the corridor, they constitute 16% of all fatalities and severe injuries. 62% of those severe crashes occurred at night. 	<ul style="list-style-type: none"> Implement access management strategies. Install curb extensions at intersections. Provide pedestrian refuge islands. Prohibit right turn on red. Reduce the posted speed limit. Implement a lane elimination.

5.2 CONCEPT LAYOUT

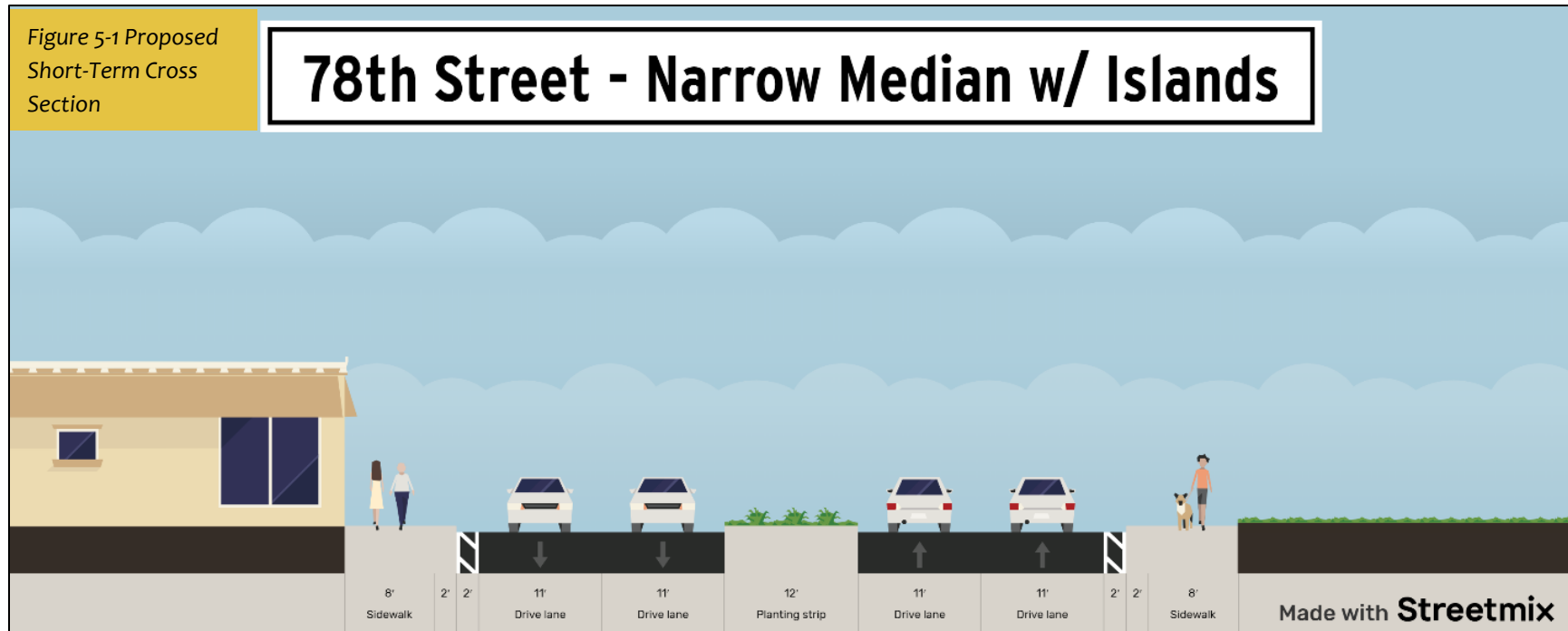
These system-level countermeasure recommendations helped to frame recommendations for a corridor-wide safety improvement plan. The plan, which is articulated through a recommended typical cross-section and corridor-wide conceptual layout, also includes short-term improvements that help reduce crashes and their severity.

The countermeasures integrated into the plan focus on low-cost, high-impact treatments such as restriping and channelization median islands.

ALTERNATIVE 1 CROSS SECTION

The proposed cross-section shown in **Figure 5-1** for the corridor includes narrowing travel lanes to 11 feet, maintaining the center two-way left turn lane but implementing intermittent median islands, and adding a 2-foot paved shoulder on each side.

The proposed typical cross section was used as a prototype for developing the conceptual layout for the whole 78th Street corridor. The concept demonstrates the proposed restriping within the existing pavement width, proposed sidewalk gap installations, and median changes such as channelization islands. The plan view concept can be found in the appendix.



ALTERNATIVE 2 CROSS SECTION

As an alternative to incrementally improving the pedestrian and bike environment, and based on the review of traffic data and consulting with agency partners, **a lane elimination along 78th Street may be a viable option to enhancing safety for all road users**, including pedestrians, bicyclists, and motorists.

The typical section shown in **Figure 5-2** illustrates what the lane elimination would look like. By eliminating a lane in each direction, a wider planted median and buffered bike lanes can be installed, creating a corridor design that is safer and more consistent with the surrounding

land uses, which are mostly residential and neighborhood stores and places of worship.

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.



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 78th Street are:

1. Causeway Boulevard
2. Palm River Road
3. Midblock crossing
4. Locations near transit stops; including:
 - a. Tidewater Trail/Paradise Place
 - b. 24th Avenue
 - c. Parish Place/Larsen Lane

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: 78TH STREET AT CAUSEWAY BOULEVARD

Out of the total 417 crashes that occurred along the 78th Street corridor over the last five years, over 37% (156) occurred at the intersection with Causeway Boulevard. About 38% of these crashes were rear-end collisions, 30% were related to speeding and aggressive driving, and 29% were related to left-turning movements. The crashes at this intersection resulted in one fatality and six severe injuries.

The intersection consists of two through lanes in each direction along Causeway Boulevard, and one lane in each direction along 78th Street. There are dedicated left turn lanes at all approaches of the intersection. There are also dedicated right turn lanes at the northern, eastern and southern legs of the intersection. East-west bike lanes exist along Causeway Boulevard.



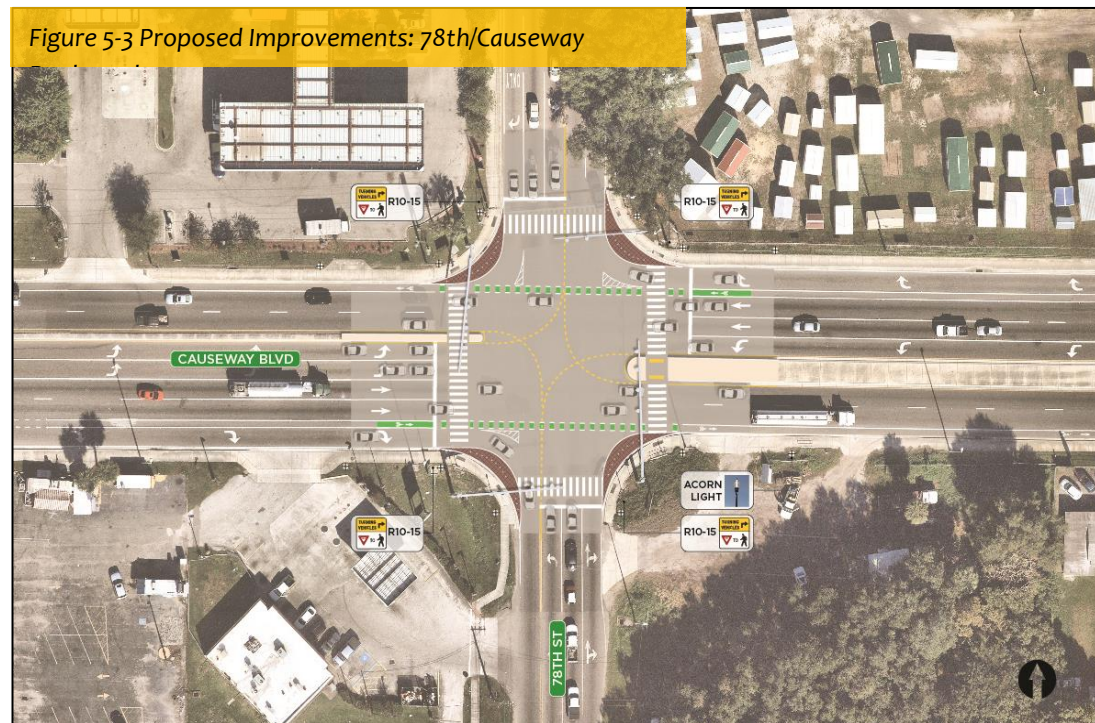
Intersection of 78th Street and Causeway Boulevard.

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

- ◆ **Bike lane extensions:** To minimize vehicle encroachment into the path of bicyclists, dashed green bike lane extensions are proposed through the intersection.
- ◆ **Pedestrian refuge areas:** The intersection approaches along Causeway Boulevard include concrete medians. By extending the median closer into the intersection, while being mindful of the design vehicle path, pedestrian refuge areas can be provided. An additional enhancement to the median at the eastern approach would be to consider a two-stage crossing with pedestrian countdown signals in the median. While the concrete median at the western approach of Causeway is too narrow to implement a full pedestrian refuge, the median nose has been extended beyond the sidewalk to delineate the turning vehicle path and provide separation from crossing pedestrians.
- ◆ **Skip pavement marking extensions:** Adding skip markings in the intersection will help guide turning vehicles and reduce confusion.
- ◆ **Semi-permanent curb extensions:** Curb extensions are a proven safety countermeasure³ 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 locations⁴. 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.

- ◆ **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. Figure 5-3 depicts these signs as post-mounted at each corner, however, overhead or blank out signs can also be considered.



³ http://pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=5

⁴ https://altago.com/wp-content/uploads/Corner-Design-for-All-Users_Alta_Oct-2020.pdf

CRASH HOTSPOT #2: 78TH STREET AT PALM RIVER ROAD

A total of 137 crashes occurred at the intersection of 78th Street and Palm River Road over the last five years. About 39% of these crashes were related to left turning movements, 23% were rear-end collisions, and 18% occurred during dark and unlit conditions. The crashes at this intersection resulted in a fatality and six severe injuries. The intersection of 78th Street at Palm River Road is geometrically skewed, which may be presenting some offset and visibility challenges. In developing safety countermeasures, there are low-cost, high-impact treatments that can be implemented to alleviate this. Given this challenge, it is also important to implement treatments that enhance pedestrian and bike safety.

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

- ◆ **Skip pavement marking extensions:** Adding skip markings to this intersection is especially needed given its skewed geometry.
- ◆ **Curb extensions:** Curb extensions should be installed at all corners of this intersection to alleviate the offsets created by the skewed geometry. With the proposed configurations, pedestrians are expected to wait at the existing curb ramps, with the curb extensions and bollards serving as additional buffer from turning vehicles. Existing curb ramp conditions should be further evaluated for ADA compliance.

- ◆ **Signage:** Installing the MUTCD sign R10-15 all four corners of the intersection would help increase right turning vehicle yielding rate to pedestrians.
- ◆ **Lighting:** a significant number of crashes (18%) occurred during nighttime; therefore, it is important to evaluate and enhance street lighting. Adequate street lighting should be evaluated for appropriate street light type installation.



CRASH HOTSPOT #3: 78TH STREET AT MIDBLOCK CROSSING

The unaligned side street intersections are another element of the 78th Street corridor that pose additional safety challenges to road users. The corridor exhibits a high number of closely-spaced intersections on both sides of the street making it unsafe for pedestrians and bicyclists to cross and for vehicles to safely make turning movements. Therefore, it is critical to provide signalized pedestrian crossings along 78th Street. Currently, there is one existing signalized pedestrian crossing, located within a school zone just north of Eau Claire Circle. Given the land use makeup surrounding 78th Street, and in conversations with the MPO and the County, additional controlled midblock

crossing opportunities will be evaluated.

In spite of being equipped with a traffic signal and high-emphasis crosswalk, **44 crashes took place at this location**, out of which involved a pedestrian, and one caused a bicyclist fatality. Three crashes occurred at night, and about 60% were related to speeding and aggressive driving.

Several treatments can be implemented to enhance the crossing safety, including:

Concrete median: The current five-lane undivided section of 78th Street is not conducive to a safe pedestrian crossing environment. While the turn lane is needed to facilitate turning onto side streets, designated pedestrian crossings along 78th Street would benefit from a raised concrete or landscaped median.

- ◆ **Pedestrian refuge area:** In conjunction with the median island, a pedestrian refuge area should be installed across the median. To facilitate visibility and eye contact between motorists and pedestrians, the pedestrian refuge area can be diagonal.
- ◆ **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.



Current 78th Street midblock crossing.



Figure 5-5 Proposed Improvements: 78th Street Midblock Crossing

CRASH HOTSPOT #4: CRASHES NEAR TRANSIT STOPS

A total of 36 crashes took place at locations near transit stops. One crash involved a bicyclist, and another involved a pedestrian fatality. Most (24) took place during midday hours (noon-6:00 pm). Thirteen of all crashes were related to left-turning movements.

In addition to the aforementioned issue of the unaligned street crossings, many transit stops along 78th Street are placed in tandem with the stops in the opposite direction. However, these stops are not always directly across from each other, and there are no pedestrian crossings between the stop locations. In observing public input received from the community outreach conducted for this effort, **respondents indicated the need for safer crossings near transit, as well as the desire for more frequent opportunities to cross safely and easily.**

There are a number of safety solutions that can be implemented near transit stops along 78th Street, including:

- ◆ **Adding controlled, high-emphases crosswalks** would designate pedestrian crossings at locations that anticipate frequent pedestrian crossings.
- ◆ **Pedestrian countdown signals:** As pedestrians gauge safely crossing the corridor, installing pedestrian countdown signals would help communicate the time available to cross.
- ◆ **Concrete median:** Placing a concrete median where transit stops are located along the corridor has several benefits, including:
 - ◆ It manages left-turning movements from occurring where bicyclists and pedestrians are likely to cross.
 - ◆ It provides a narrowing effect that will slow cars down.
 - ◆ It designates transit stop space along the corridor, making it easier to recognize and yield to.

- ◆ It provides a refuge area across the five-lane roadway section.
- ◆ It can also serve as an aesthetic treatment with low-hedge landscaping that provides more neighborhood context to the corridor.
- ◆ **Collaboration with transit agencies:** In conversation with agency partners, there is an opportunity to discuss consolidating and aligning bus stops along the corridor with the Hillsborough Area Regional Transit Authority. Consolidating, designating, and enhancing transit stops would be beneficial to all road users.

Transit stops along 78th Street





Corridor Study

78th Street



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. The proposed lane elimination for 78th Street can be considered a long-term improvement, as it requires additional analysis, community input, and alternatives analysis. 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 78th Street 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 South 78th Street 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. Most of the proposed safety enhancements help reduce several crash types.

Specific cost estimates for the proposed enhancements have not been developed at this time. However, generalized costs published by FDOT can be used as a guide for some of the larger, physical improvements outlined in this study. **Figure 6-2** depicts these cost estimates.

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						
	Install bike lane extension through intersection	Short-Term						
	Install buffered bike lanes	Mid-Term						
	Install intermittent medians at midblock crossings	Short-Term						
	Install curb extensions	Short-Term						
	Install dedicated right and/or left turn lanes	Mid-Term						
	Install oversized, illuminated, and/or flashing advance warning signs	Short-Term						
	Install pedestrian refuge areas	Short-Term						
	Install skip pavement markings at intersections	Short-Term						
	Lane Elimination	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						
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	Short-Term
Mid-Term	Mid-Term
Long-Term	Long-Term
Addresses Crash Type	Addresses Crash Type

Figure 6-2 Generalized Costs

Improvement	Cost	Unit of Measure
Mill and Resurface 4-lane undivided urban roadway with bike lanes	\$1,033,900	Per Mile
Add 5' sidewalk, one side	\$170,900	Per Mile
Midblock crossing	\$153,000	Per location

Source: FDOT Cost Per Mile for Long Range Estimating, January 2021.

It is important to note that some of the proposed improvements, such as narrowing of lanes, can be accomplished through restriping and would not require a full mill and resurface effort.

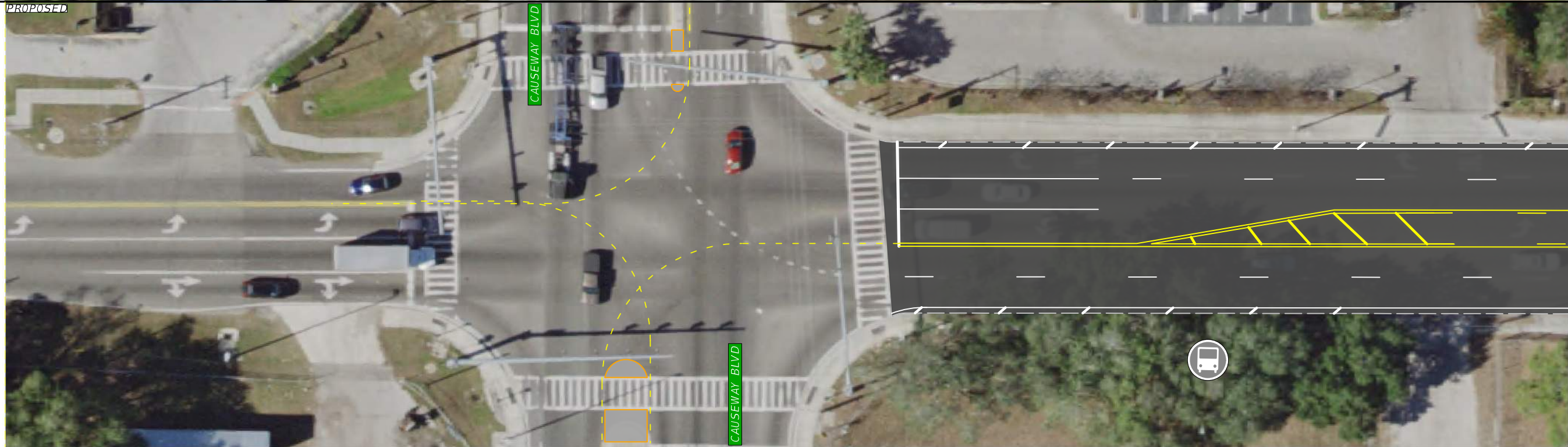
The enhancements developed through this data-driven, targeted, and systematic safety approach aim to collectively improve safety conditions for all road users. Once efforts are mobilized to implement these

improvements, a monitoring plan that includes before and after studies would help inform safety improvements at similar and other locations. This list of safety enhancements 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.

EXISTING



PROPOSED



- MILLING & RESURFACING
- NEW RAISED CURB MEDIAN
- NEW SIDEWALK
- NEW RAISED CURB LANDSCAPE MEDIAN
- POTENTIAL BUS STOP LOCATION
- EXISTING BUS STOP LOCATION TO BE RELOCATED
- EXISTING BUS STOP LOCATION

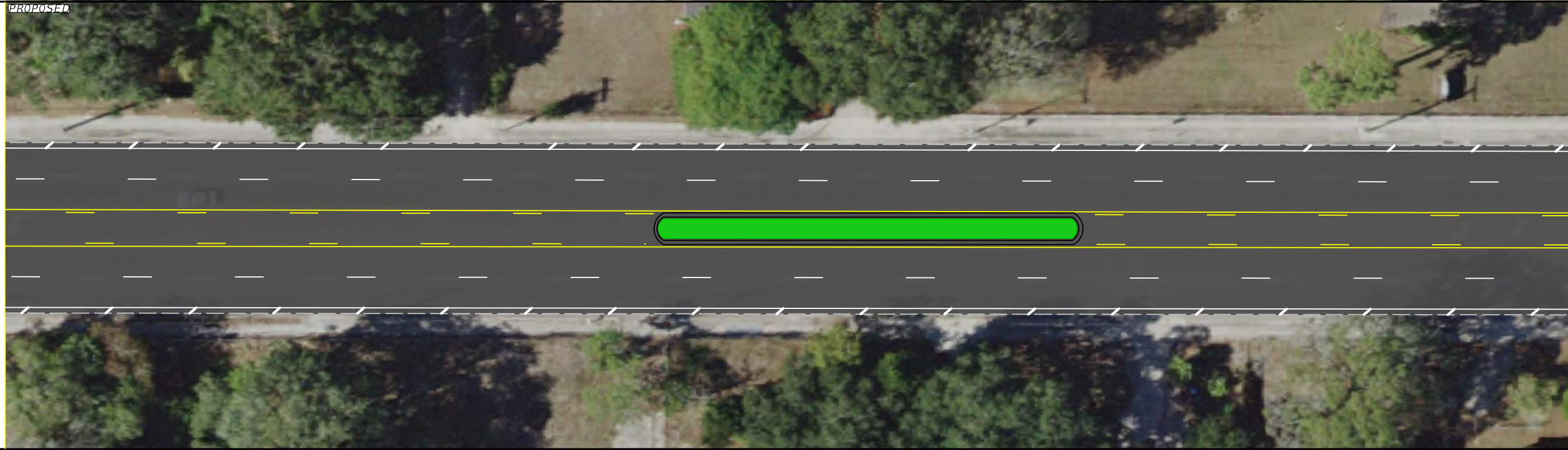
PRELIMINARY CONCEPT - FOR DISCUSSION ONLY

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		1
					78th ST	HILLSBOROUGH			

EXISTING



PROPOSED



- MILLING & RESURFACING
- NEW RAISED CURB MEDIAN
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EXISTING



PROPOSED



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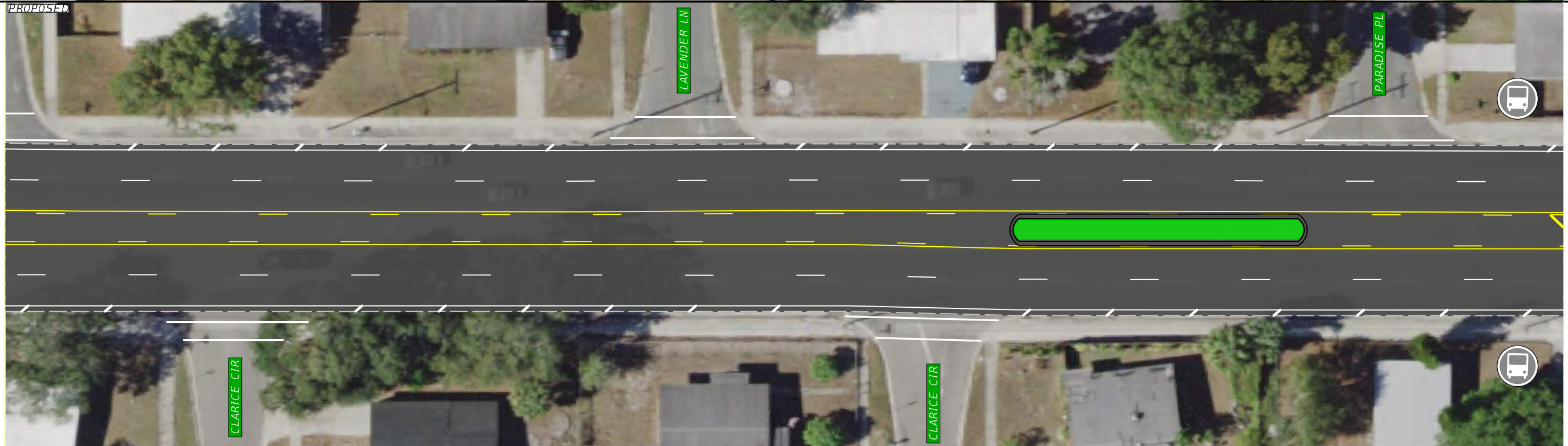
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-  MILLING & RESURFACING
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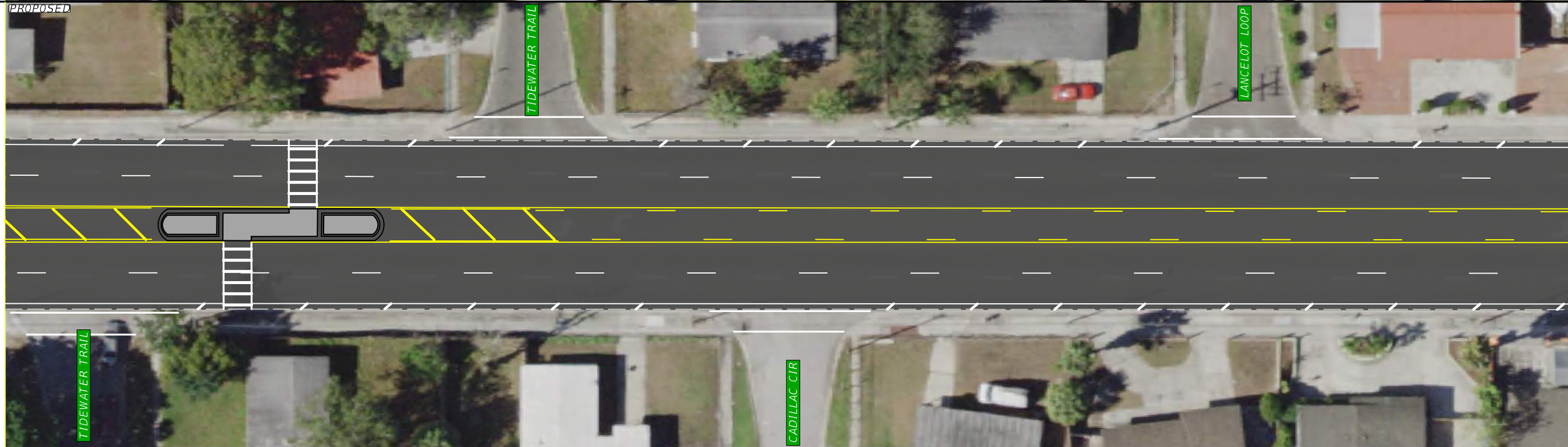
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- MILLING & RESURFACING
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- MILLING & RESURFACING
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- MILLING & RESURFACING
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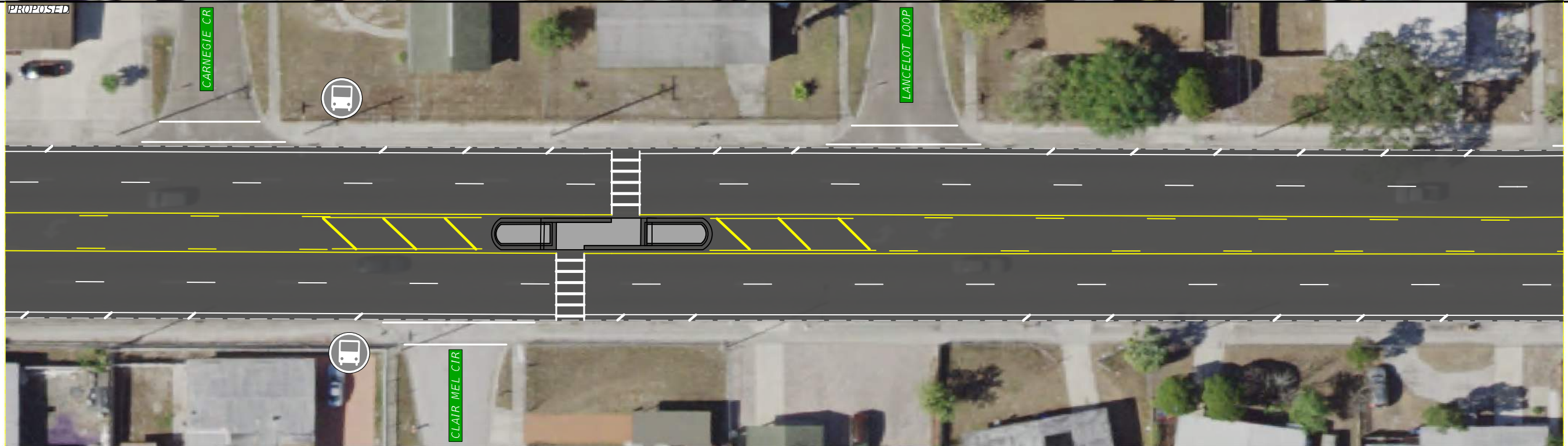
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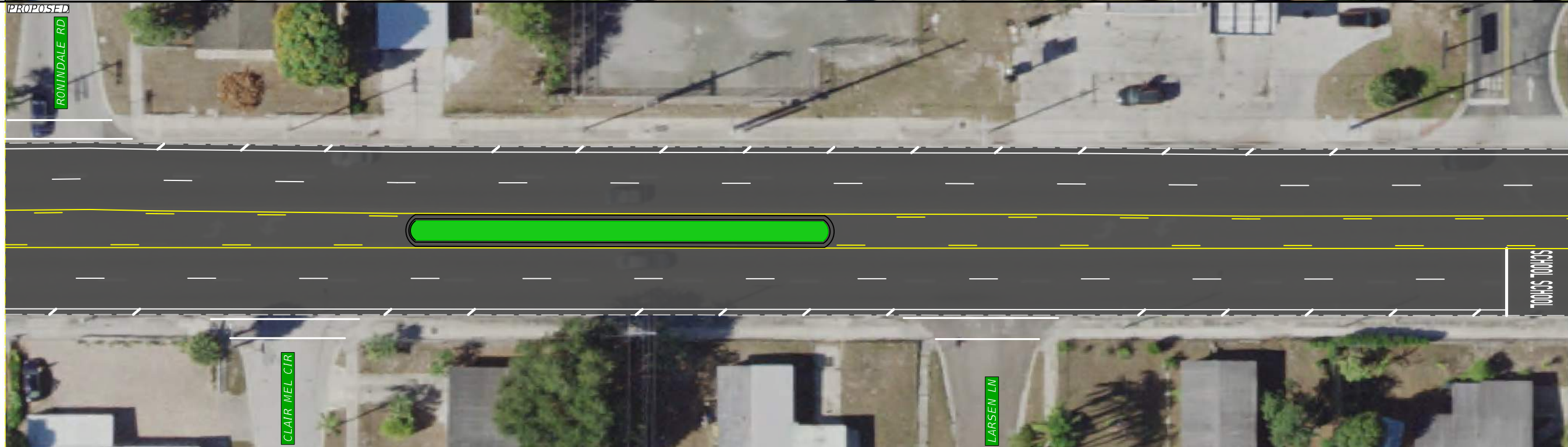
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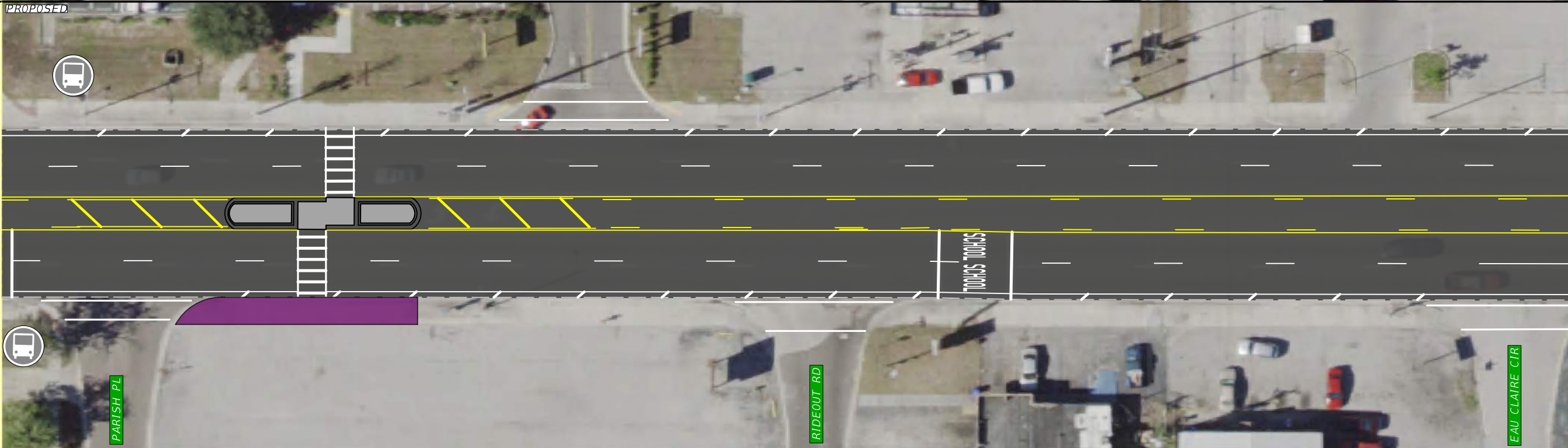
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EXISTING



PROPOSED



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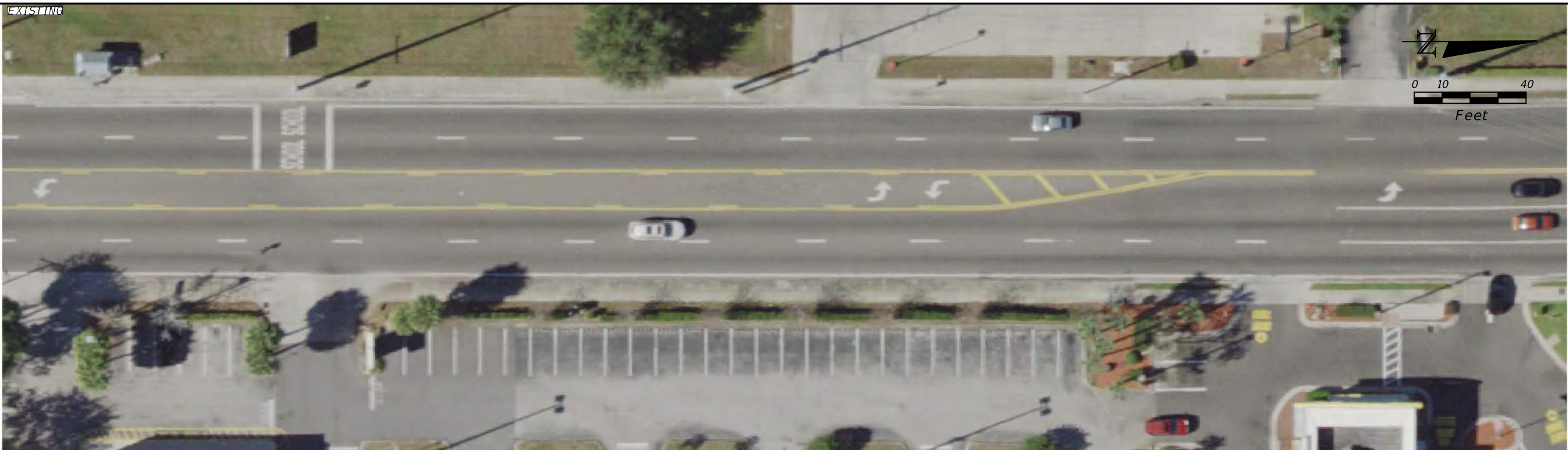
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- MILLING & RESURFACING
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-  MILLING & RESURFACING
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EXISTING



PROPOSED



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PRELIMINARY CONCEPT - FOR DISCUSSION ONLY

REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>78TH ST CORRIDOR STUDY CAUSWAY BLVD TO PALM RIVER RD</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		13
				78th ST	HILLSBOROUGH			