Road Safety Audit: Final Report

US 17-92/SR 600/SR 15 (Orlando Avenue) from Monroe Avenue to the Seminole County Line

September 22, 2026

FINAL



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ACRONYMS

AADT	Average Annual Daily Traffic
ADA	Americans with Disabilities Act
BLTS	Bicycle Level of Traffic Stress
BPMP	Bicycle and Pedestrian Master Plan
CIP	Capital Improvement Program
CRA	Community Redevelopment Agency
DOR	Department of Revenue
DWS	Detectable Warning Surface
FDOT	Florida Department of Transportation
FLU	Future Land Use
FY	Fiscal Year
HIN	High Injury Network
KSI	Killed or Seriously Injured
LOS	Level of Service
LPI	Leading Pedestrian Interval
LTS	Level of Traffic Stress
MPH	Miles Per Hour
MTP	Metropolitan Transportation Plan
MUT	Multi-Use Trail
OCPA	Orange County Property Appraiser
PLTS	Pedestrian Level of Traffic Stress
POP	Pavement Only Project
PPL	Prioritized Project List
RIRO	Right In Right Out
RRFB	Rectangular Rapid Flashing Beacon
RSA	Road Safety Audit
SLD	Straight Line Diagram
SLR	Shared Lane Route
SR	State Road
TIP	Transportation Improvement Program
TMP	Transportation Master Plan
US	United States
VZAP	Vision Zero Action Plan

1 Introduction

1.1 ROAD SAFETY AUDIT (RSA) PURPOSE AND PROCESS

With the adoption of a Vision Zero Action Plan (VZAP) in May 2024, the City of Maitland made a commitment to achieve zero road fatalities and serious injuries on its transportation system. A primary means of achieving this goal is to continue monitoring high risk corridors, collectively defined as the High Injury Network (HIN), for crash trends that can be tied to proven safety countermeasures that, when implemented, can reduce instances of these crashes. US 17-92/SR 600/SR 15 (Orlando Avenue) from Monroe Avenue to the Seminole County line, is central to downtown Maitland and has a high crash rate (56.1 crashes per mile per year between 2018 and 2024). The corridor was ranked as the most dangerous corridor in the city when the Maitland VZAP was adopted.

The purpose of the RSA is to determine the potential contributing factors of this high crash rate, focusing on those leading to deaths or serious injuries, and to develop recommendations that can be implemented along Orlando Avenue to reduce instance of crashes on the study corridor. The RSA was led by an internal project team, with members including:

- Mark Reggentin, City of Maitland
- Alyssa Eide, City of Maitland
- Ryan Quinn, City of Maitland Police Department
- Matthew Cross, City of Maitland Fire Department
- Mighk Wilson, MetroPlan Orlando
- Laura Bouck, MetroPlan Orlando
- Adriana Rodriguez, MetroPlan Orlando
- Roberta Fennessy, VHB
- Kevin Freeman, VHB
- Katie Shannon, VHB
- Michael Zoellner, VHB
- William Anderson VHB
- Emily Porter, VHB
- Julianna Merotto, VHB
- Adrian Santiago, VHB

In addition to core staff, a multi-disciplinary team offers a formal safety performance evaluation, identifying safety concerns for all modes of transportation, including those walking, riding bicycles, using transit, and driving a motorcycle or vehicle. This evaluation is completed through the following steps:

1. **Data Collection and Document Review**: The project team compiles a selection of existing data sources and guiding documents to understand previous work and planning efforts that have been completed on or in proximity to the study area corridor. Data sources include crash reports, future and existing land use designations, bike routes and trails, transit lines, roadway characteristics, and the locations of key community destinations like parks, schools, libraries, and community centers. Guiding documents include two types of sources: work plans from entities such as the Florida Department of Transportation (FDOT), Metroplan Orlando, and the City of Maitland including planning documents such as the Comprehensive Plan, Downtown Maitland Master Plan, Maitland VZAP, and the Maitland Bike and Pedestrian Master Plan.
2. **Existing Conditions Report** The project team uses the data sources and guiding documents collected to create a snapshot of the study area corridor at the time the RSA is conducted. This snapshot aims to capture how the roadway looks and works, who uses it, and how safely it serves all roadway users. An important element of the existing conditions assessment is an analysis of all crashes that have occurred in the study area corridor. The existing conditions assessment is intended to gather relevant available information to

inform context-specific recommendations while allowing field review participants to focus their discussions on observations of the built environment during the site visit.

3. **Field Review**: The field review is conducted by a multi-disciplinary group of stakeholders that can include city staff, advisory board members, and first responder personnel. The field review provides the project team and stakeholders with the opportunity to physically walk the corridor, note observations and opportunities for safety improvements, and discuss their ideas with a broader group. Participants are encouraged to consider all roadway users, inclusive of different modes, abilities, and ages. This exercise is typically completed in morning, afternoon, and evening sessions so the project team can assess the conditions and operations of the roadway in different lighting and traffic conditions.
4. **Public Outreach**: Community members use the study area corridor daily to travel from work, school, community events, and personal gatherings. Whether they travel by foot, on a bike, on a motorcycle, or in a car, each person has valuable insight into the daily operations, conditions, and safety of the roadway. To gather these perspectives, the project team provides in-person and virtual means of engagement.
5. **Concept Plan**: Based on the findings from the existing conditions assessment, field review, and public outreach, the project team drafts a conceptual plan of the recommended safety improvements within the study area corridor. These recommendations are documented on a detailed exhibit of the roadway and are inclusive of improvements that benefit all roadway users.

1.2 STUDY AREA

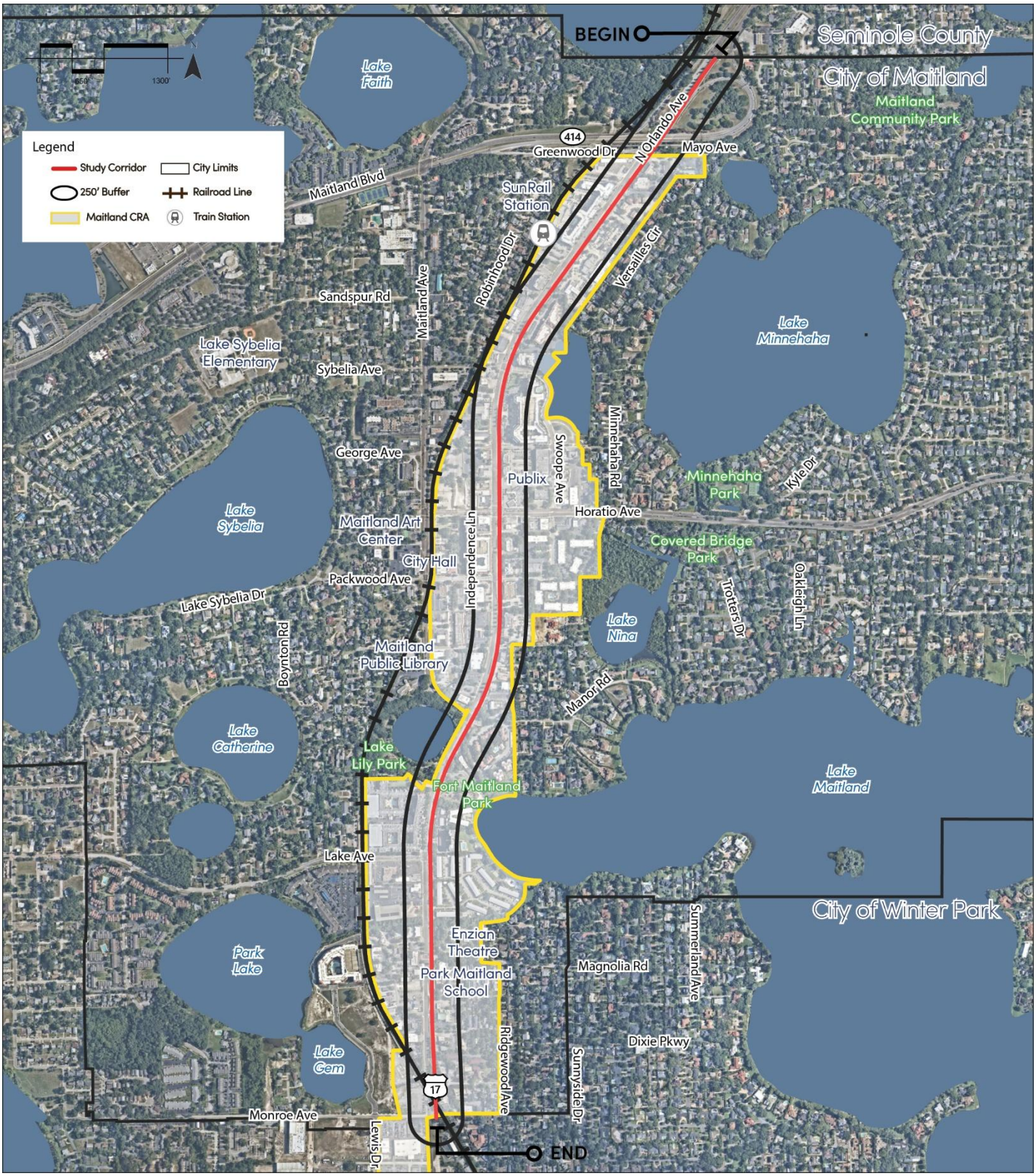
Orlando Avenue from Monroe Avenue to the Seminole County line is a 2.5-mile segment, central to the City of Maitland that provides key north-south connectivity for the Central Florida region. Existing roadway characteristics that are relevant to this study are shown inTable 1-1. The study area base map is shown in Figure 1-1. The relevant Straight-Line Diagram (SLD), which offers a linear inventory of roadway characteristics, is provided in Appendix B of this report.

Table 1-1 | Roadway Characteristics of US-17-92/SR 600/SR 15 (Orlando Avenue) Corridor

Characteristic	Observation
FDOT Roadway ID	75030000
Roadway Maintaining Agency	Florida Department of Transportation (FDOT)
Functional Classification	Principal Arterial - Urban
Posted Speed Limit	40 - 45 mph
Jurisdiction	City of Maitland, Orange County Florida
Signalized Study Intersections from north to south	▪ Mayo Avenue/Greenwood Drive ▪ Sybelia Avenue/Parkway ▪ Horatio Avenue ▪ Packwood Avenue ▪ Maitland Avenue/Manor Road ▪ Lake Avenue ▪ Magnolia Road ▪ Park Avenue
Pavement Width	Travel lanes between 10 and 12 feet wide
Land Uses	A mix of multi-family housing, parks, government, education, commercial, and office uses
Sidewalks	Sidewalks are on both sides of the roadway and are primarily between 3- 6 feet with some sections between 7-8 feet and 9-10 feet. There is variety between sidewalks with no barrier or those separated from the roadway by vegetation.

Shared Use Path and Bike Lanes	There are no bike lanes on the study area corridor. Horatio Avenue, Packwood Avenue, Swoope Avenue/Sybelia Parkway, and Lake Avenue which intersect Orlando Avenue have bike lanes or marked shared use lanes; and there is a bike/ped bridge that crosses over Orlando Avenue at Mayo Avenue/Greenwood Drive that connects to the Mayo Avenue Trail and Gamewell Avenue shared use lane.
Access Class	5
Annual Average Daily Traffic (AADT)	30,000 – 50,000, as collected by FDOT (2026)
Context Classification	C4 – Urban General

Figure 1-1 | Study Area Base Map



Source: City of Maitland, Orange County, and NearMap, 2026

2 Existing Conditions

2.1 STUDY AREA CHARACTERISTICS

Orlando Avenue from Monroe Avenue to the Seminole County line has a context classification of C4 (Urban General). Context classification offers a standardized understanding of roadway "context zones" (from rural to urban core) based on surrounding land use, density, and development patterns, so that roadway characteristics such as design speed and multimodal features are better matched to the place and its users. The C4 context classification is described as a mix of uses set within small blocks with a well-connected roadway network. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.

The study area corridor connects roadway users to a variety of key locations and major transportation routes. Orlando Avenue runs directly through downtown Maitland and, at the northern end, connects to SR 414 (Maitland Boulevard) which provides access to Interstate 4. The Maitland SunRail station is also located on the corridor, providing transit access throughout the Central Florida region. Travelling south on Orlando Avenue provides connection to the City of Winter Park and the City of Orlando. Along the corridor, key destinations include Fort Maitland Park, Lake Lily Park, the Enzian Theatre, and Park Maitland School. The corridor is also in proximity to other key destinations such as the Maitland Art Center, the Maitland Public Library, schools such as Lake Sybelia Elementary and the Gotlib Jewish Academy, and parks such as Minnehaha Park and Covered Bridge Park.

2.1.1 EXISTING LAND USE

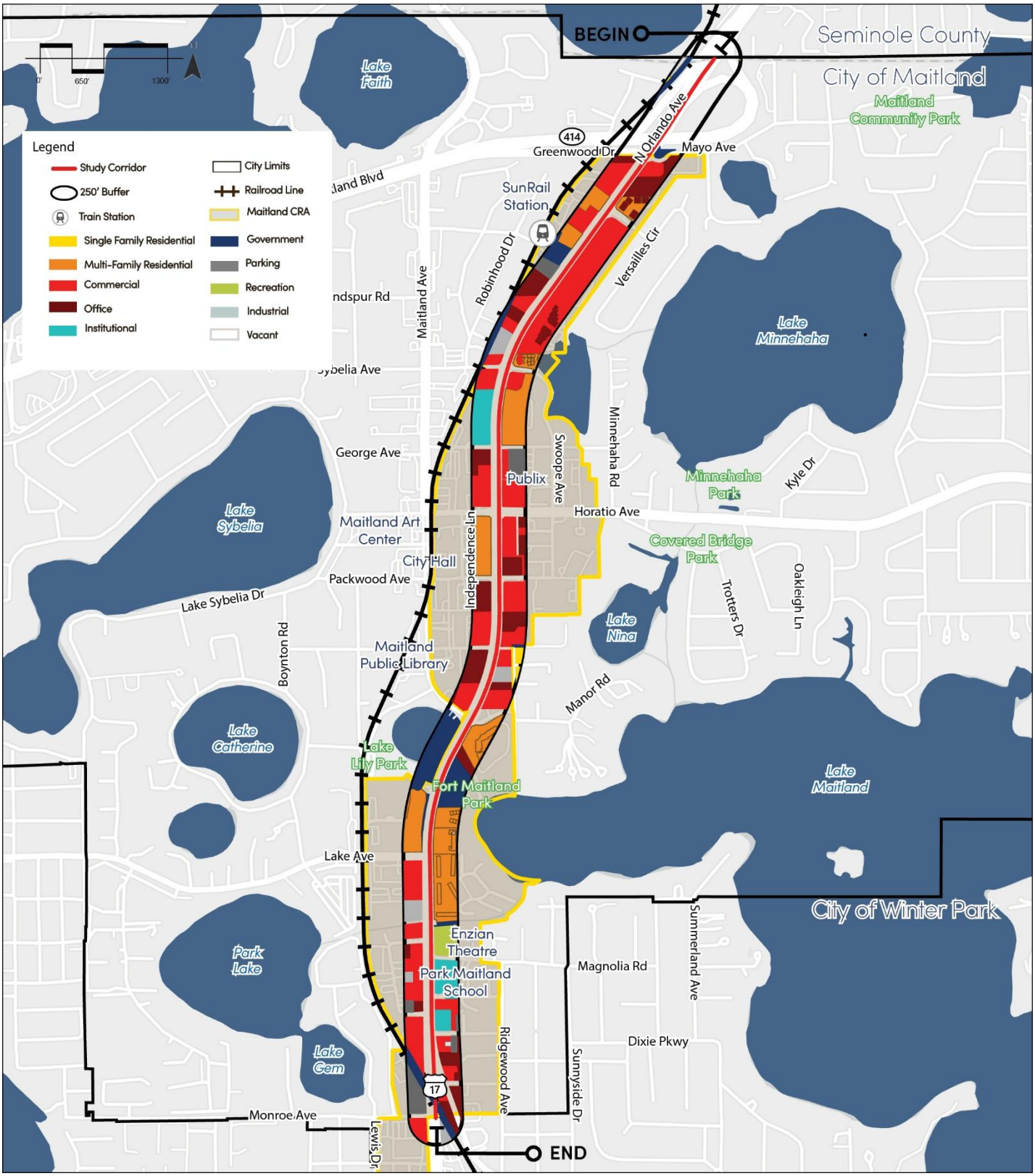
Existing land use data within 250 feet of the study area corridor was identified using Orange County Property Appraiser (OCPA) parcel data. This data was grouped into land use categories by using the Department of Revenue (DOR) code defined by the OCPA. The existing land uses are summarized in Table 2-1. A map of existing land use can be found in Figure 2-2.

The review of existing land use shows that the study corridor is most prominently surrounded by residential - multi-family and commercial uses with a general mix of other uses. Land uses outside of the right of way account for about 66% (85.2 acres) of the study area. Approximately 33% (42.6 acres) of the corridor accommodates right of way for transportation facilities.

Table 2-1 | Generalized Existing Land Use

General Land Use	Parcels	Acres (within 250')	Percent of Total Area
Single Family Residential	6	0.3	0.3%
Multi-Family Residential	241	19.6	15.3%
Commercial	41	31.4	24.5%
Office	71	13.0	10.1%
Institutional	4	4.5	3.6%
Government	16	9.1	7.1%
Parking	6	3.2	2.5%
Recreation	1	1.4	1.1%
Industrial	5	2.5	2%
Vacant	12	0.2	0.2%
Right of Way		42.6	33.3%
TOTAL	**403**	**127.8**	**100%**

Figure 2-2 | Existing Land Use



Source: Orange County Property Appraiser, 2026

2.1.2 FUTURE LAND USE

Future land use was identified using the City of Maitland's future land use (FLU) dataset. The future land uses within 250 feet of the study corridor are summarized in Table 2-2. A map of future land uses can be found in Figure 2-3. Nearly all of the study area corridor has a "Main Street" FLU designation. The Main Street FLU designation is focused on creating "a cohesive pedestrian-oriented mixed-use environment that is complementary and compatible with surrounding neighborhoods." The remaining area on the study area corridor has a "Traditional Neighborhood" FLU designation which is envisioned as primarily residential, established neighborhoods with access to parks, lakes, and other amenities.

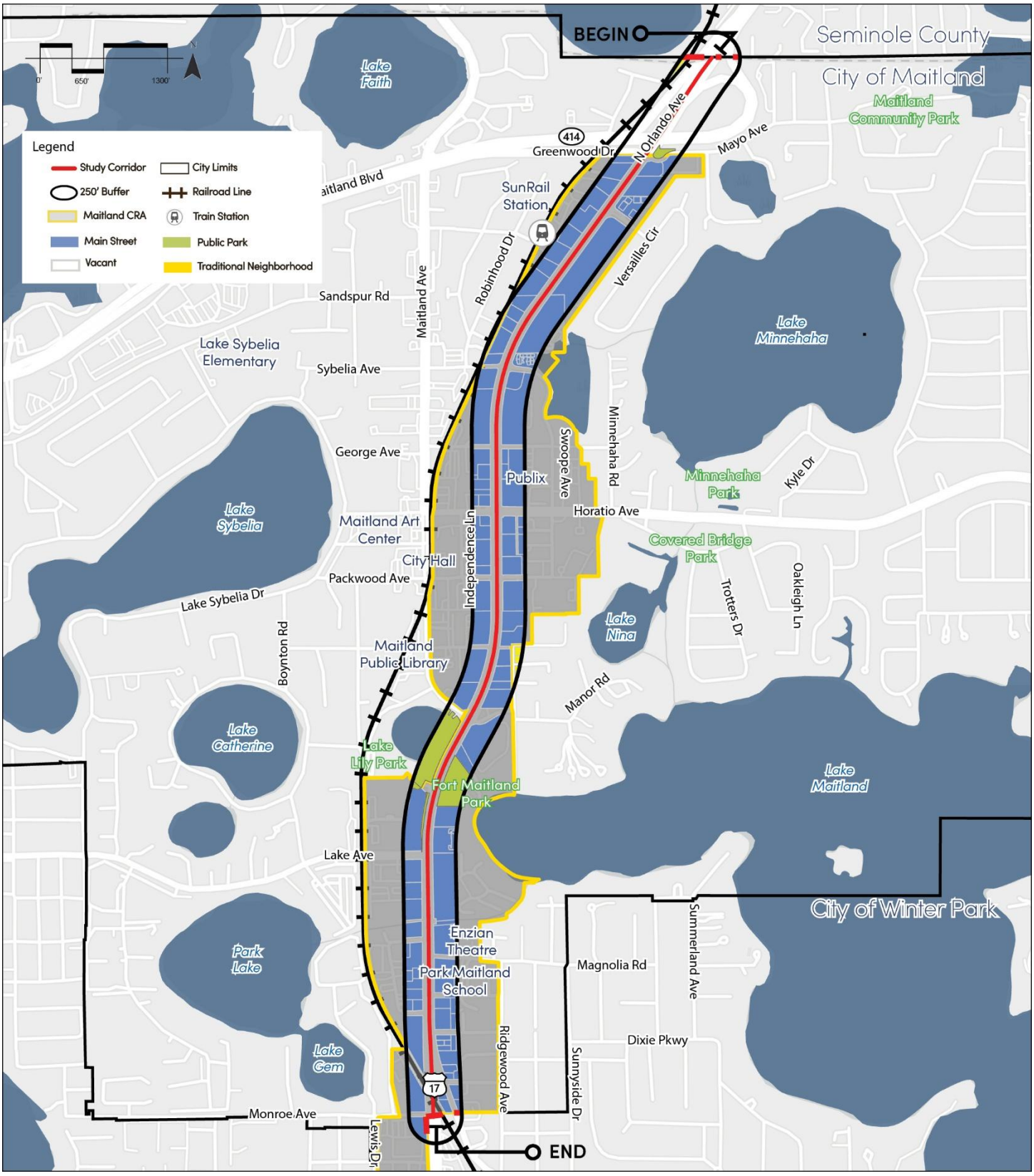
Further details regarding the definitions, densities, and intensities of each of these FLU designations can be found in the Existing Conditions Report in Appendix C.

Table 2-2 | Future Land Use

City of Maitland FLU	Parcels	Acres (within 250')	Percent Total Study Area
Main Street	396	84.7	66.2%
Traditional Neighborhood	6	0.5	0.4%
Corridor District	1	0.0	0.003%
Right of Way		42.6	33.3%
TOTAL	**403**	**127.8**	**100%**

Comparing the land uses shown in Table 2-1 and Table 2-2, existing land use is balanced between commercial spaces and multi-family residential uses with institutional, government, and recreation spaces intermingled throughout the area. The City of Maitland's future land use map illustrates that new development will offer a denser mix of uses befitting downtown's main street district, highlighting the city's focus on creating more comprehensive, intentional, pedestrian-oriented spaces.

Figure 2-3 | Future Land Use



Source: City of Maitland, 2026

2.1.3 KEY COMMUNITY DESTINATIONS

The Orlando Avenue study area corridor connects roadway users and community members to a variety of key community destinations, including the Maitland SunRail station, Lake Sybelia Elementary, the Maitland Art Center, the Maitland Public Library, City Hall, the Enzian Theatre, the Park Maitland School and outdoor spaces such as Lake Lily Park, Fort Maitland Park, Covered Bridge Park, and Minnehaha Park. Table 2-3 identifies key community locations in proximity to the study area corridor by type and name. For the location of each key community destination and proximity to the study area corridor, please see the Existing Conditions Report in Appendix C.

Table 2-3 | Key Destinations and Community Assets

Name	Asset Type
Maitland Art Center	Art Center
Maitland City Hall	City Hall
Shalom Orlando Roth JCC	Community Center
Maitland Senior Center	Community Center
Maitland Fire Station 45	Fire Station
Maitland Community Park	Park
Hill Recreation Center	Park
Minnehaha Park	Park
Lake Sybelia Beach Park	Park
Covered Bridge Park	Park
Lake Lily Park	Park
Fort Maitland Park	Park
Gotlib Jewish Academy	School
Lake Sybelia Elementary	School
Park Maitland School	School
Maitland Montessori School	School
Center Academy Maitland	School
Brooke House Academy - Maitland	School
Park School	School
Celandine Life Preparatory	School
Orangewood Christian School	School
Enzian Theatre	Theatre
Maitland SunRail Station	Train Station

2.2 CORRIDOR DATA AND CHARACTERISTICS

This section summarizes key physical and operational characteristics of the study corridor that directly influences safety for people driving, walking, biking, and using transit. The location of intersection types, lighting coverage, railroad crossings, and major structures provide a clear picture of where conflicts are most likely to occur, how visible those conflicts are under different conditions, and what constraints may affect potential treatments. The roadway characteristics described below—together with crash data, traffic volumes, and field observations—provide the foundation for the tailored safety improvements recommended as a part of the RSA process.

Figure 2-4 and Figure 2-5 display maps of roadway characteristics specific to the study area corridor.

2.2.1 ROADWAY CHARACTERISTICS

NUMBER OF TRAVEL LANES, TURN LANES, AND PRESENCE OF MEDIAN

From Monroe Avenue to Park Avenue there are five travel lanes (3 southbound and 2 northbound until the Park Avenue merge). North of Park Avenue to the Seminole County line, the corridor has a total of six travel lanes, with three in either direction. There is a total of 26 turn lanes on the corridor. Most are left turn lanes except for four dedicated right turn lanes: 1) for northbound traffic at Horatio Avenue, 2) for northbound traffic at the intersection of Versailles Drive, 3) for northbound traffic turning into Mercedes-Benz of Orlando, and 4) for northbound traffic turning into the Maitland Exchange office plaza. There is a near-continuous median along the study corridor that is either planted with vegetation or made of raised concrete. The median nose has been extended for left turns with painted yellow lines at two locations: 1) at the southbound left turn lane for Maitland Exchange across from the shopping plaza with the Papa Johns pizza shop and 2) at the southbound left turn lane to turn onto Mayo Avenue.

AVERAGE ANNUAL DAILY TRAFFIC (AADT) AND TRUCK VOLUME

The recorded AADT for 2026 along Orlando Avenue was approximately 30,000 to 50,000 users. Truck volume was approximately 7% of the total AADT for 2026. For truck volume in AADT please reference the Existing Conditions Report in Appendix C.

LEVEL OF SERVICE (LOS)

LOS is an FDOT performance measure that rates the quality of service a roadway provides. LOS is a letter grade from A to F used by FDOT to show how well a road is handling traffic, where A means free-flowing, comfortable travel and F means highly congested, stop-and-go conditions for vehicular traffic. As traffic volumes and delays increase, the LOS grade worsens from A (best) through E to F (worst).

The corridor has a LOS of C, demonstrating an opportunity to improve travel quality for all roadway users on the corridor.

LEVEL OF STRESS (LTS)

In addition to LOS, an analysis of level of stress for bicyclists and pedestrians is provided to offer context-specific information of the quality of travel for those not travelling the corridor in a vehicle. LTS for bicyclists (BLTS) and pedestrians (PLTS) is a way of rating how stressful or comfortable a street or crossing feels, using a scale from 1 (lowest stress) to 4 (highest stress). A Level 1 route feels very safe, calm, and comfortable for almost everyone; Level 2 is generally comfortable for most users; Level 3 is more stressful and mainly suited to experienced or confident users; and Level 4 reflects high-stress, uncomfortable, or intimidating conditions that only the most confident walkers and riders are likely to use.

Using guidance from FDOT's 2023 *Multimodal Quality/Level of Service Handbook*, Orlando Avenue between Winter Park and the Seminole County line would reasonably be characterized as:

- BLTS 4, meaning the route is tolerated only by those with limited route or mode choice or cycling enthusiasts that choose to ride under stressful conditions, and
- PLTS 3, meaning some users are willing to use this facility, but others may only use the facility when there are limited route and mode choices available.

SPEED LIMIT

The posted speed limit on Orlando Avenue is 40 mph from Monroe Avenue to milepost 8.015 south of the Sybelia Avenue/Parkway intersection, and transitions to 45 mph for the remainder of the corridor north.

INTERSECTIONS

There are 28 intersections along the corridor. The following locations are signalized:

- Mayo Avenue/Greenwood Drive (mast arm, four-way intersection)
- Sybelia Avenue/Parkway (mast arm, four-way intersection)
- Horatio Avenue (mast arm, four-way intersection)
- Packwood Avenue (mast arm, four-way intersection)
- Maitland Avenue/Manor Road (mast arm, four-way intersection)
- Lake Avenue (mast arm, t-intersection)
- Magnolia Road (span wire, t-intersection)
- Park Avenue (mast arm, two-way intersection)

The intersections at Lake Avenue and Horatio Avenue are the only intersections with a red-light running camera present.

LIGHTING

Lighting is present on both sides of the roadway for a majority of the study corridor and placed at regular intervals. Lighting is present at each corner of every signalized intersection.

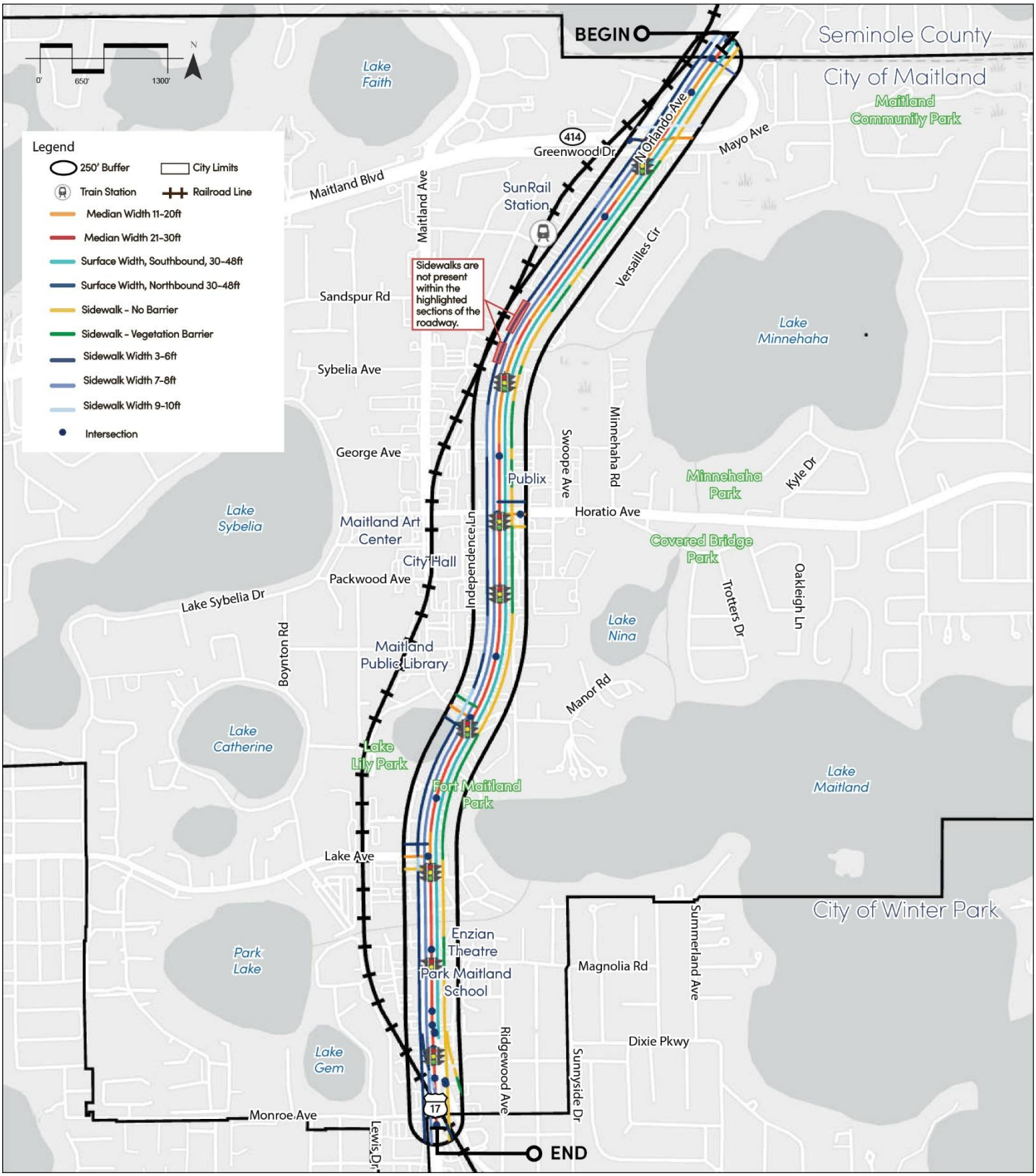
RAILROAD CROSSINGS

There are no railroad crossings that intersect at grade with the corridor. The railroad passes over the corridor via the Reverend Kenneth C Crossman Bridge between Park Avenue and Monroe Avenue. The Maitland SunRail station is also located at the north end of the corridor between Sybelia Avenue/Parkway and Versailles Drive, accessible directly from Orlando Avenue.

STRUCTURES

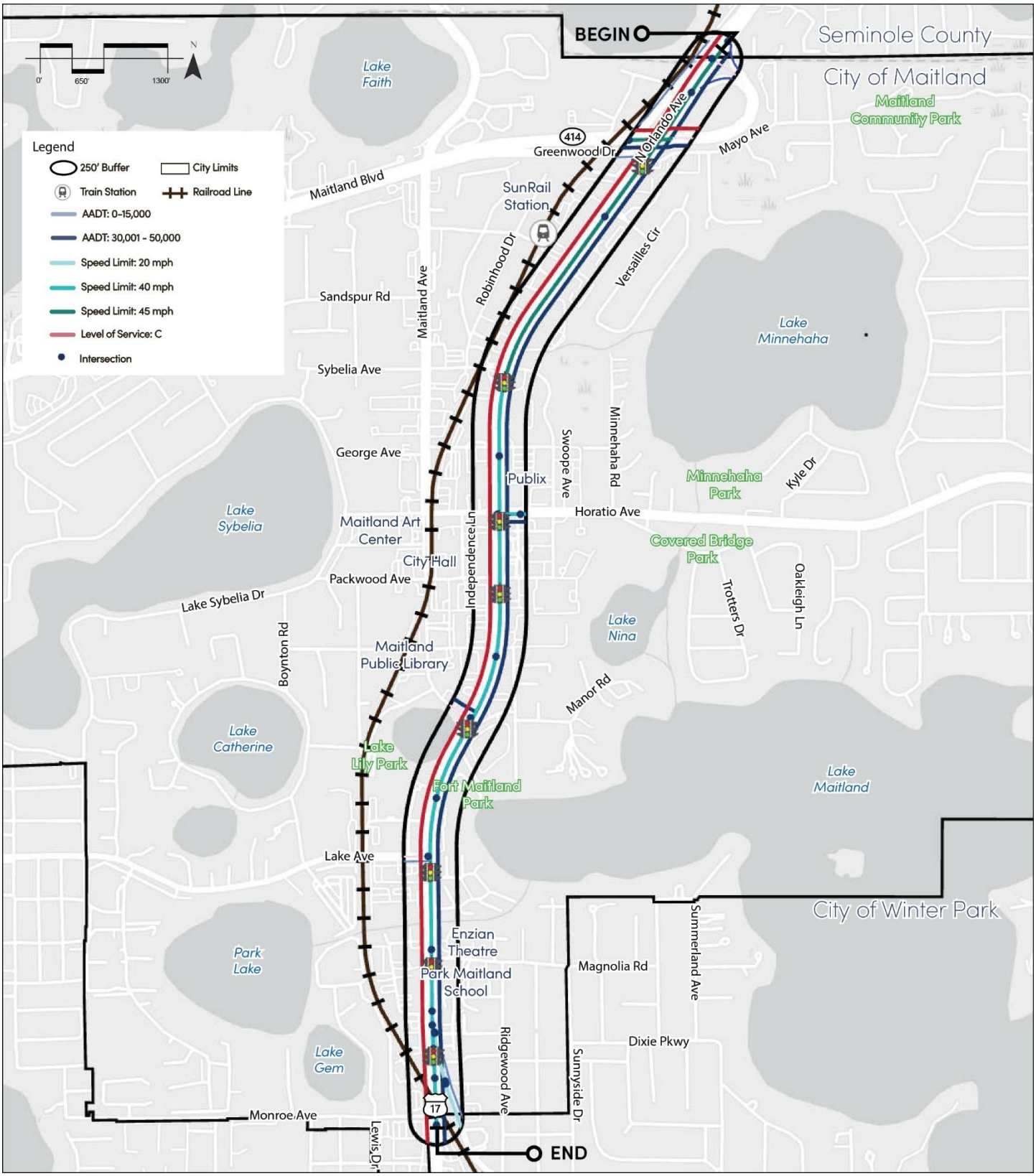
There are structures at either end of the study corridor. To the south is the Kenneth C. Crossman Bridge, which accommodates SunRail service and other forms of rail traffic. The SR 414/Maitland Boulevard overpass is at the north of the corridor, with the parallel trail facility of the bike/ped bridge that crosses over Orlando Avenue at Mayo Avenue/Greenwood Drive.

Figure 2-4 | Roadway Characteristics – Physical Features



Source: FDOT, 2026

Figure 2-5 | Roadway Characteristics – Volumes and Classifications



Source: FDOT, 2026

2.2.2 BICYCLE, PEDESTRIAN, AND TRANSIT INFRASTRUCTURE

Bicycle, pedestrian, and transit infrastructure within the study area corridor is illustrated in Figure 2-6.

BICYCLE FACILITIES

There are no bicycle facilities along the corridor. Connecting bicycle facilities can be found on the following roads:

- Horatio Avenue (bicycle lanes),
- Packwood Avenue (bicycle lanes west, shared use facility east),
- Swoope Avenue/Sybelia Parkway (shared use facility),
- Lake Avenue (bicycle lanes west of the railroad), and
- Bike/ped bridge that crosses over Orlando Avenue at Mayo Avenue/Greenwood Drive that connects to the Mayo Avenue Trail and Gamewell Avenue shared use facility.

Bicycle lanes are available on Orlando Avenue starting north of the Seminole County line at the SR 414/Maitland Boulevard overpass.

SIDEWALKS

There are sidewalks on both sides of the roadway for most of the study area corridor. The only segment without sidewalks is on the southbound side of Orlando Avenue from 105 Orlando Avenue to 685 Orlando Avenue (see Figure 2-4).

Sidewalks are between three and six feet wide for most of the corridor, however, sidewalks are between seven and eight feet wide from Versailles Drive to the north entrance of The Parker at Maitland Station Apartments and from south of George Avenue to south of Sybelia Avenue/Parkway. Sidewalks are between nine and ten feet wide from Maitland Avenue/Manor Road to east Ventris Avenue. Sidewalks are either not buffered from the roadway or have a vegetative buffer. There are several instances of curb cuts and driveways intersecting with sidewalks throughout the corridor, particularly in front of shopping centers.

Crosswalks at unsignalized intersections are generally marked in a standard format but most do not have the high-emphasis markings. Intersections at Monroe Avenue, Park Avenue, Lake Lily Drive, Ventris Avenue/Ventris Street, and west George Avenue do not have marked crosswalks but some have tactile pads for ADA compliance.

PEDESTRIAN ACCOMMODATION AT SIGNALIZED INTERSECTIONS

Except for the Park Avenue intersection, each signalized intersection has pedestrian crosswalks with pedestrian signals attached to an existing utility pole or standalone pole. As a three way intersection with merge lane, the Park Avenue intersection has pedestrian signals at the light, however, without a marked crosswalk; and to cross the third lane of travel (merge lane), you walk further north near the Hair Maden Salon to cross the merge lane, which is neither marked, nor has a pedestrian signal.

Not all have marked crosswalks on all legs of the intersection. The intersection of Greenwood Drive/Mayo Avenue only has crosswalks at-grade to accommodate northbound and southbound pedestrian traffic and no crosswalks to facilitate movement eastbound or westbound, where the bike/ped overpass is available. East Packwood Avenue does not have a crosswalk on the north leg of the intersection. Crosswalks markings are of varying quality, but most need some repainting and increased visibility improvements. Each crosswalk has curb ramps and textured surfaces at each signalized intersection.

MIDBLOCK CROSSINGS

There are no midblock crossings within the study area corridor.

TRANSIT ROUTES

Transit service along Orlando Avenue is operated by LYNX. The study area corridor is served directly by Route 102, Route 9, and Route 1. Route 102 runs the entire length of the corridor and provides connection north to Altamonte Springs, and south to Downtown Orlando, operating seven days a week with stops every 30 minutes. Route 9 intersects with the corridor at Lake Avenue and serves the southern section of the corridor, providing connection to Winter Park and Rosemont, operating seven days a week with stops every hour. Route 1 intersects the corridor at Lake Avenue and provides connection to Maitland Center and Downtown Winter Park with service to the SunRail station on weekdays, operating seven days a week with stops every hour.

For more details regarding the LYNX routes operating within the study area corridor, please see the Existing Conditions Report in Appendix C.

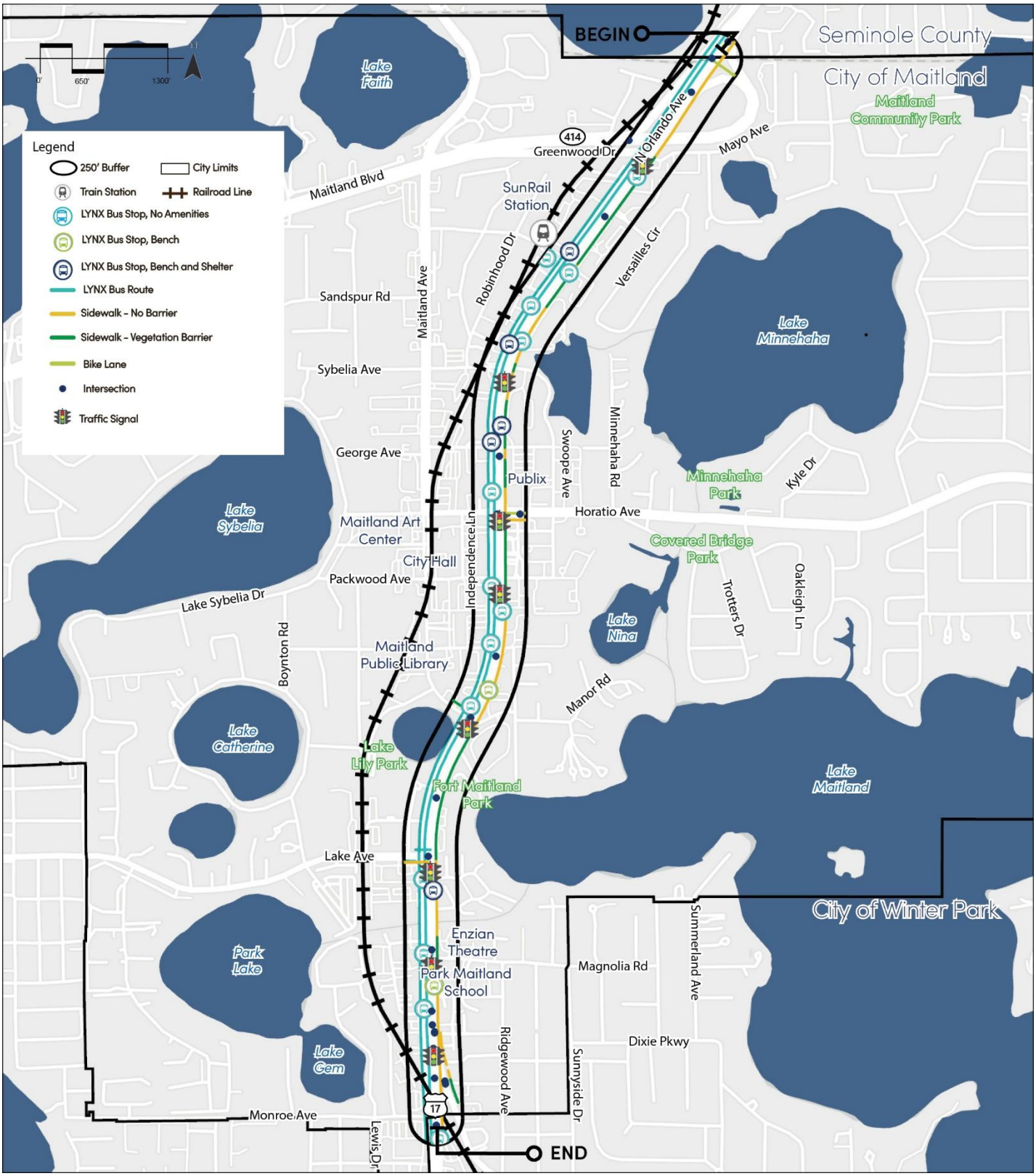
TRANSIT STOPS

There are a total of 18 transit stops within the study corridor. Each stop is designated with a transit stop sign attached to a lighting pole or separate pole. As shown in Figure 2-6, there are a variety of amenities available at each bus stop, varying between those with bus shelter and benches, those with bench but no shelter, and those with no such amenities. Bus stop 3086 (located outside of the Parker Apartments on the northbound side), 7052 (just north of Sybelia Avenue on the southbound side), 3084 (just north of George Avenue on the northbound side), 3088 (at the George Avenue intersection on the northbound side), and 3061 (south of Lake Avenue on the northbound side) have both shelters and benches. Stops 3082 (located between Ventris Avenue and Maitland Avenue on the southbound side) and 3060 (north of Tangerine Place on the southbound side) have benches for transit riders but no shelters. The remaining transit stops on the corridor do not have transit stop amenities available. Table 2-4 details the boardings and alightings for each transit stop within the study area corridor to describe ridership.

Table 2-4 | LYNX Bus Stop Boardings and Alightings (B/A)

Bus Stop ID	Routes Served	Weekday (B/A)	Saturday (B/A)	Sunday (B/A)
3096	102	1/2	0/2	0/1
3086	102	4/6	3/1	3/1
3085	102	2/2	1/2	1/2
9217	102	3/3	2/1	2/2
7052	102	4/3	4/2	2/1
3084	102	10/10	6/8	4/7
3088	102	10/4	8/4	5/2
3089	102	0/0	0/0	0/0
3090	102	0/0	0/0	0/0
3083	102	3/6	3/4	1/3
3091	102	6/4	4/4	3/1
3082	102	3/5	2/4	1/3
3092	102	2/2	2/1	2/1
3079	1,9,102	12/30	11/18	6/10
3061	102	16/12	10/12	6/10
3080	1, 9, 102	2/2	2/1	1/1
3060	102	2/3	1/3	1/2
3081	1, 9, 102	2/3	2/2	1/1

Figure 2-6 | Bicycle, Pedestrian, and Transit Infrastructure



Source: LYNX, FDOT, 2026

2.3 RELEVANT PLANNING DOCUMENTS

The following documents were reviewed to understand planned and programmed relevant projects:

- Maitland Capital Improvements Program (CIP)
- MetroPlan Orlando Prioritized Project List (PPL)
- MetroPlan Orlando 2050 Metropolitan Transportation Plan (MTP), Cost Feasible Plan
- FDOT District 5 Work Program
- Downtown Maitland Master Plan
- MetroPlan Orlando FY25/26-FY29/30 Transportation Improvement Program (TIP)
- City of Maitland Bike and Pedestrian Master Plan (BPMP)

In addition, to understand long-range planning within and surrounding the study area corridor, the following were reviewed:

- City of Maitland 2050 Comprehensive Development Plan, Transportation Element, Future Land Use Element, and Intergovernmental Coordination Element
- City of Maitland Community Redevelopment Agency (CRA) Report

Finally, to build upon previous recommendations and determine if other existing published studies have addressed pedestrian and bicyclist safety within the Orlando Avenue study corridor, the team reviewed the following:

- City of Maitland Vision Zero Action Plan (VZAP)

FDOT, in partnership with the City of Maitland, is planning to complete significant work within the study area corridor. This project (452910-1) is currently in the design phase and focuses on Orlando Avenue from Lee Road to the Seminole County line, extending approximately one-half mile farther south than the RSA study area. The purpose of this effort is to resurface the roadway along the corridor and upgrade pedestrian curb ramps and crosswalk markings to maintain ADA compliance on Orlando Avenue.

Resurfacing efforts will span the entire study area. However, improvements at the intersections of Greenwood Drive/Mayo Avenue, Sybelia Avenue/Parkway/Parkway, Horatio Avenue, Packwood Avenue, Maitland Avenue/Manor Road, Lake Avenue, and Magnolia Road, provide important recommendations for the Orlando Avenue RSA. Proposed improvements at these intersections include the addition of high emphasis crosswalks where absent, the addition of left turn striping, and repainting of directional pavement markings. Together with the planned pedestrian curb ramp upgrades, these improvements demonstrate ongoing efforts by FDOT and the City of Maitland to enhance safety and accessibility for all roadway users.

A comprehensive review of each relevant planning document was completed to support final recommendations that align with and build from existing planned and programmed improvements within the study area corridor. For further details regarding each relevant planning document please reference the Existing Conditions Report in Appendix C.

2.3.1 PLANNED AND PROGRAMMED IMPROVEMENTS

SPEED MANAGEMENT IMPROVEMENTS

The relevant planning documents were reviewed to identify current and upcoming improvements that address speed management on and surrounding the study area corridor. The projects in Table 2-5 | Planned and Programmed Speed Management Improvementswere identified:

Table 2-5 | Planned and Programmed Speed Management Improvements

Project Name	Document Name	Project Type	Location	Description	Timeline
962200-1	FODT District 5 Work Program	Areawide Existing Operations Study	On the corridor	Evaluates the existing operations for all modes of travel including vehicle, pedestrian, bicycle, transit, and rail in the City of Maitland, exploring options to strengthen safety and mobility for all roadway users, which may include speed management improvements	Project is currently underway and is in the planning phase
Maitland Avenue Complete Street	Downtown Maitland Master Plan	Consolidation of travel lanes	Intersects with the corridor	Reconfiguring Maitland Avenue from a four-lane roadway to two lanes to accommodate the addition of on-street parking and on-street multi-use path from Lake Lily Park to Sandspur Road. While not the Orlando Avenue study corridor, this parallel roadway facility offers additional multimodal options that may affect future traffic patterns on the study corridor.	At time of publication in 2017, the first phase of design and construction were designated as short- and medium-term projects respectively. The second design and construction phases were both designated as long-term actions. Both the first and second phases required future capital funding from the CIP.

SAFER TURNING MOVEMENTS AND ACCESS MANAGEMENT

Each of the relevant planning documents were reviewed to identify current and upcoming improvements that address safer turning movements and access management on and surrounding the study area corridor. The projects in Table 2-6 were identified:

Table 2-6 | Planned and Programmed Safer Turning and Access Management Improvements

Project Name	Document Name	Project Type	Location	Description	Timeline
MTP ID: EC296/452910-1/: SR 15/US 17-92	2050 MTP Cost Feasible Plan/FDOT District 5 Work Program/MetroPlan Orlando TIP	Signage and Pavement Marking Improvements	On the corridor	Improvement of signage and pavement markings within the study area corridor, specifically at Park Avenue, Lake Avenue, Lake Lily Drive, Maitland Avenue, Horatio Avenue, and	Project has dedicated funding for professional engineering services in the 2050 MTP Cost Feasible Plan at time of December 2025 adoption. FDOT has

				Greenwood Drive/Mayo Avenue intersections.	moved the project forward to the design phase and is currently working on signage and pavement marking improvements. The MetroPlan Orlando TIP indicates that funding for construction extends to FY2027.
TR001 – 821-00 (Priority 4:US 17-92 at SunRail)	City of Maitland Capital Improvement Plan	Signal Additions and Improvements	On the corridor	Complete design and installation of new traffic signal on US 17-92 at SunRail station, dependent on traffic warrants	Project originally scheduled for FY2024 with funding allocated until FY2026

BICYCLE AND PEDESTRIAN SAFETY IMPROVEMENTS AND CONNECTIVITY

Each of the relevant planning documents were reviewed to identify current and upcoming improvements that address bicycle safety and connectivity on and surrounding the study area corridor. The projects in Table 2-7 were identified:

Table 2-7 | Planned and Programmed Bicycle Safety and Connectivity Improvements

Project Name	Document Name	Project Type	Location	Description	Timeline
Maitland Avenue Complete Street	Downtown Maitland Master Plan	Bike facility improvements	West of the corridor	Planning-level road diet project to assess opportunity to reduce the road from 4 travel lanes to 2 travel lanes with center turn lane, while providing on-street parking, and an on-street cycle track/multi-use pathway from Lake Lily to Sandspur. The complete street opportunity would need to be reassessed for feasibility given ongoing development and growth in the Orlando Avenue study area.	At time of publication in 2017, the first phase of design and construction were designated as short- and medium-term projects respectively; however, the project would need to be re-assessed for potential construction. The second design and construction phases were both designated as long-term actions. Both the first and second phases required future capital funding from the CIP.
Horatio Avenue Bike Lane Improvements	Downtown Maitland Master Plan	Bike facility improvements	Intersects with the corridor	Widen bike lanes and extend bike lanes to U.S. 17/92. Horatio Avenue is an Orange County-owned and -operated facility, so would need to be assessed by County staff.	At time of publication in 2017, the project was designated as a medium-term resurfacing, restoration, and rehabilitation (3R) project.
Proposed Bike Network	City of Maitland BPMP	Bike facility improvements	On and intersects	A Multi-Use Trail (MUT) is planned at the north and	The projects highlighted in the

			with the corridor	south ends of the corridor to connect the existing MUT parallel to Orlando Avenue and across from Fort Maitland Park. An enhanced bike lane is also proposed to connect to Orlando Avenue at Lake Lily Drive. A Shared-Lane Route (SLR) is also proposed on Monroe Avenue, intersecting with the study corridor.	2019 BPMP were ranked and prioritized on a scale of A-D to determine relative implementation phasing. All proposed SLRs, bike lanes, and enhanced bike lanes received a priority score of an A or B. MUTs were also primarily ranked as an A or a B, however, some projects scored at a C or D due to feasibility given existing conditions and/or anticipated cost. Beyond this prioritized ranking, no implementation timeline was specified, and the planning horizon was also unspecified.
452910-1	FDOT District 5 Work Program	Maintenance Resurfacing and Pedestrian Improvements, Lane Closure Analysis. Signage and Pavement markings	On the corridor	Installation and repair of pedestrian curb ramps at intersection crossings within the study area corridor and the addition of a high-visibility crosswalk at the northern end of the Packwood Avenue intersection. Intersections with existing high emphasis crosswalks are planned to be refreshed and repainted, improving visibility.	FDOT has moved the project forward to the design phase and is currently working on implementing pedestrian improvements. No anticipated completion date has been shared with the public.

3 Analysis

3.1 CRASH DATA ANALYSIS

Crash data was obtained from Signal Four Analytics (SS4A) for the previous seven years (January 01, 2018 – to December 31, 2024) along Orlando Avenue from Monroe Avenue to the Seminole County Line. Crashes on the corridor, within 250 feet, were included in the analysis. Crashes that occurred in parking lots or on interstates were not included. A map illustrating the density of all crashes and KSI crashes by mode can be found in Figure 3-3.

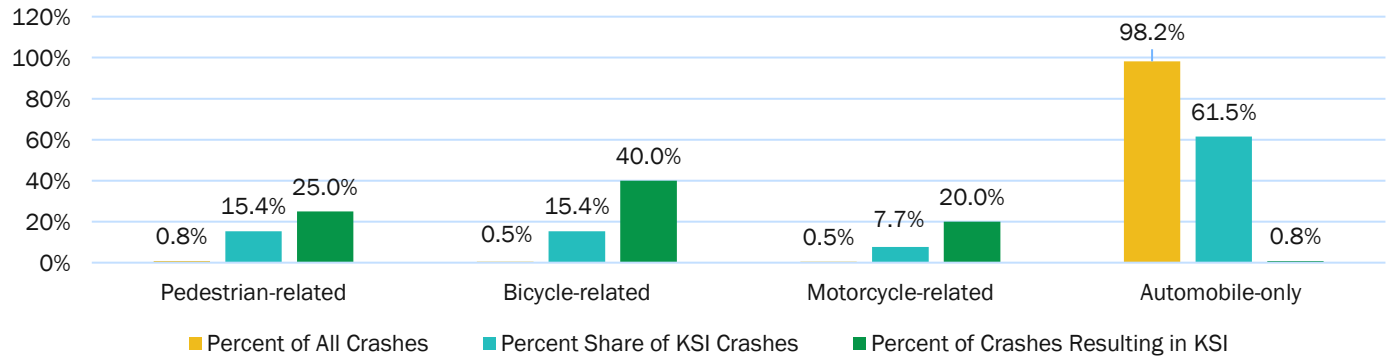
A total of 982 crashes, including 10 crashes that resulted in a serious injury and 3 crashes that resulted in a fatality were reported in the study limits over the seven-year period. As seen in Table 3-1, total reported crashes were highest in 2018 and reached their lowest point in 2020. KSI crashes were highest in 2018 and 2020, but zero KSI crashes were reported in 2023. The average number of crashes per year is 140.

Table 3-1 | Crash Analysis 2018 - 2024

Year	Fatal Crash	Serious Injury Crash	Total	KSI
2018	1	2	184	3
2019	0	2	152	2
2020	0	3	115	3
2021	1	1	138	2
2022	1	1	139	2
2023	0	0	124	0
2024	0	1	130	1
TOTAL	**3**	**10**	**982**	**13**

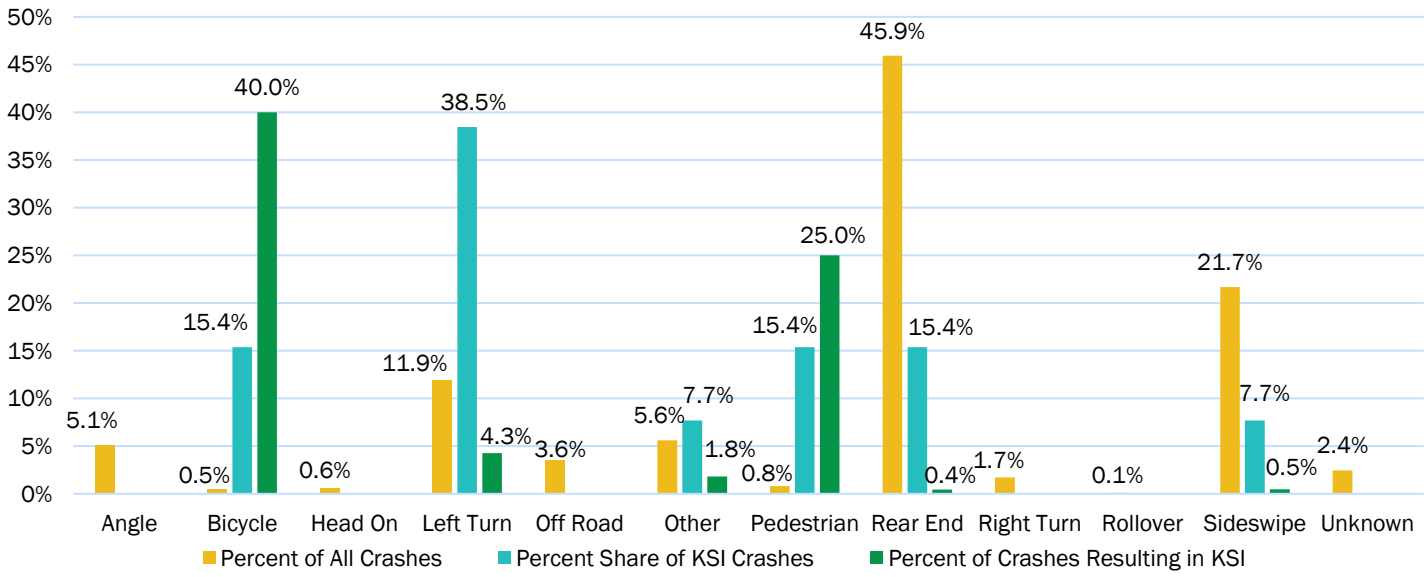
As shown in Figure 3-1, most of the reported crashes involved motor vehicles. However, 25% of pedestrian crashes, 40% of bicycle crashes, and 20% of motorcycle crashes resulted in a serious injury or fatality. While a smaller portion of the total, crashes related to these modes were more likely to result in a serious injury or fatality in comparison to those driving cars, revealing a disproportionate share of negative outcomes.

Figure 3-1 | All Crashes and KSI Crashes by Mode within Study Area Corridor (2018-2024)



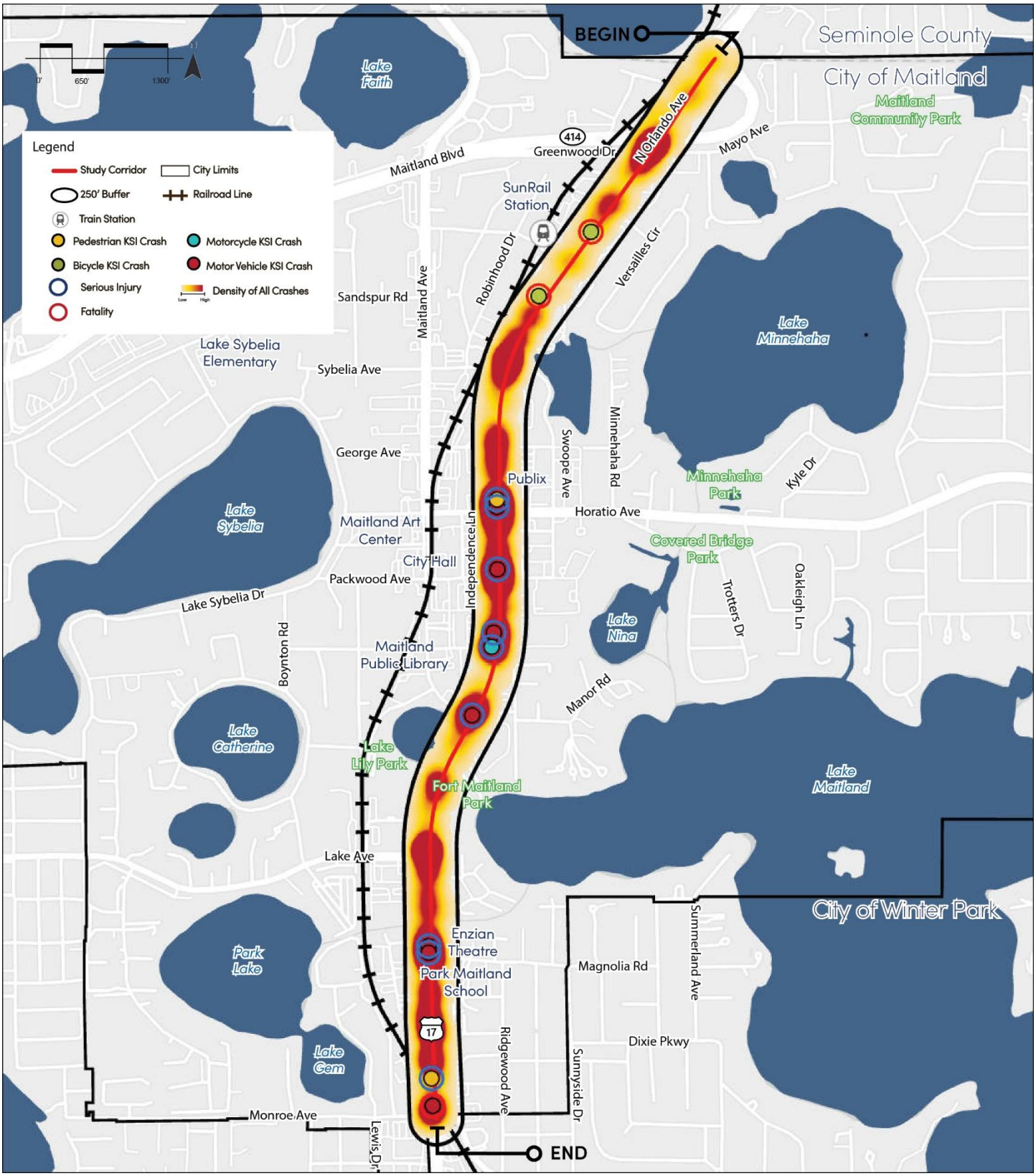
A similar analysis focused on crash type, shown in **Error! Reference source not found.**, provides further detail of c rash trends along the Orlando Avenue study corridor. Rear end and sideswipe crashes make up a significant portion of all crashes reported, at approximately 46% and 22%, respectively. However, left turn crashes accounted for the greatest share of all KSI crashes. Bicycle and pedestrian crashes were the most likely crash types to result in a serious injury or fatality.

Figure 3-2 | All Crashes and KSI Crashes by Type within Study Area Corridor (2018-2024)



Additional analysis has been completed describing the location, contributing factors, day of week, and time of day for all crashes and KSI crashes and can be found in Appendix C as a part of the Existing Conditions Report in Appendix C. Analysis describing the lighting conditions and weather conditions attributed to all crashes and KSI crashes can be found in Appendix D as a part of the Field Review Guide.

Figure 3-3 | KSI Crashes by Mode and Density of All Crashes (2018-2024)



Source: Signal 4 Analytics, 2026

3.2 OPERATIONS

3.2.1 SPEED

Several statistical measures are used to establish the regulatory speed limit on a roadway. The 85th-percentile speed is the speed at or below which 85% of vehicles are traveling. The 10-mph pace, which represents the speed range recorded by the highest number of vehicles along the corridor, is the basis for setting the posted speed limit on a road segment. Speed limits are generally set at or near the 85th percentile speed recorded under free-flowing traffic conditions away from any impediments. Reducing the posted speeds most likely would not change the operating speeds significantly but can cause complacency among motorists to disregard speed zones and other traffic control devices.

Speed data was collected through a spot speed study conducted over a 48-hour period involving weekday conditions in April 2026 at the following two locations along Orlando Avenue:

- South of Versailles Drive
- North of Lake Lily Drive

Table 3-2 and Table 3-3 summarize the speed data statistics for the two locations along Orlando Avenue. The raw speed data is included in Appendix E.

Table 3-2 | Speed Data Summary for Orlando Avenue South of Versailles Drive

Speed Data Summary	Northbound	Southbound	Both Directions
Posted Speed Limit (mph)	45	45	45
85th Percentile Speed (mph)	55	46	52
10-mph Pace	45 to 54	37 to 46	39 to 48
Total Vehicles Observed	13,977	13,218	27,195
Speed Range (mph)	30 to 67	26 to 56	26 to 67
Number of Vehicles within 10-mph pace	8,811	9,490	15,497
Percentage of Vehicles within 10-mph pace	63%	72%	57%
50th Percentile Speed (mph)	49	42	45
Average Speed (mph)	49	41	45
Minimum Speed Criteria	51	43	45
Maximum Speed Criteria	57	49	51

** Speed data outside of 3-standard deviations were removed from the data set.*

The speed data for the segment of Orlando Avenue south of Versailles Drive shows that the 85th-percentile speed in the northbound and southbound directions is 55 mph and 46 mph, respectively, and 52 mph for both directions combined. The 10-mph pace in both directions is 39-48 mph. The combined (both directions) speed data suggests that the 45-mph posted speed limit is lower than the 85th-percentile speed and the upper limit of the 10-mph pace by 3 mph or more.

Table 3-3 | Speed Data Summary for Orlando Avenue North of Lake Lily Drive

Speed Data Summary	Northbound	Southbound	Both Directions
Posted Speed Limit (mph)	40	40	40
85th Percentile Speed (mph)	46	40	44
10-mph Pace	37 to 46	31 to 40	34 to 43
Total Vehicles Observed	18,447	17,778	36,225
Speed Range (mph)	20 to 60	19 to 51	19 to 60
Number of Vehicles within 10-mph pace	11,515	12,561	21,999
Percentage of Vehicles within 10-mph pace	62%	71%	61%
50th Percentile Speed (mph)	41	35	38
Average Speed (mph)	40	35	38
Minimum Speed Criteria	43	37	40
Maximum Speed Criteria	49	43	46

** Speed data outside of 3-standard deviations were removed from the data set.*

The speed data for the segment of Orlando Avenue North of Lake Lily Drive shows that the 85th-percentile speed in the northbound and southbound directions is 46 mph and 40 mph, respectively, and 44 mph for both directions combined. The 10-mph pace in both directions is 34-43 mph. The combined (both directions) speed data suggests that the 40-mph posted speed limit is lower than the 85th-percentile speed and the upper limit of the 10-mph pace by 3 mph or more.

The variation in driver speeds between the two speed study locations can likely be attributed to differences in adjacent land uses, driveway density, building setbacks, posted speed limits, and signal spacing along the corridor. The southern portion of the study corridor (including the speed study location north of Lake Lily Drive) generally features commercial buildings located closer to the roadway, with sidewalks immediately adjacent to the curb. These roadside elements create a more constrained driving environment and provide visual cues that encourage lower operating speeds. In contrast, the northern portion of the corridor (including the speed study location south of Versailles Drive) is characterized by greater building setbacks, sidewalks separated from the roadway by utility strips, and a more open roadway environment, particularly north of Versailles Drive near the SR 414 interchange. These conditions tend to promote higher operating speeds. Additionally, longer signal spacing along the northern portion of the corridor allows drivers to maintain higher free-flow speeds compared to the southern portion, where more closely spaced signals contribute to lower operating speeds.

4 Outreach

4.1 OUTREACH ACTIVITIES

As part of the Orlando Avenue RSA, the City of Maitland sought to solicit feedback from the public on safety concerns and recommendations for improvement along Orlando Avenue. The public engagement process included one in-person event and a public survey distributed online.

The project team hosted a table at the Maitland Bike Safety Day and Trail Ride on May 16th, 2026, to inform the public of the Orlando Avenue RSA and to provide an opportunity for residents and frequent users of the roadway to document their feedback, perspectives, and experience as a part of the planning process. The project team brought materials including a crash map of the study area corridor, RSA introductory materials, and comment cards for members of the public to directly provide feedback. A selection of these materials is shown in Figure 4-1. Several families visited the table and four residents signed up to be added to the project contact list.

Figure 4-1 | Maitland Bike Safety Day and Trail Ride Engagement Materials





The virtual public survey was distributed through City of Maitland channels to gather feedback from the community on locations of concern along the Orlando Avenue corridor and provide an opportunity for members of the public to suggest recommendations for safety improvements. The public survey was also available for attendees at the Maitland Bike Safety Day and Trail Ride to take by scanning a QR code displayed at the table. The survey consisted of two open-ended questions, received 81 responses, and took approximately 20 minutes to complete.

All physical and virtual materials used in both outreach activities can be found in Appendix F as a part of the RSA Engagement Summary.

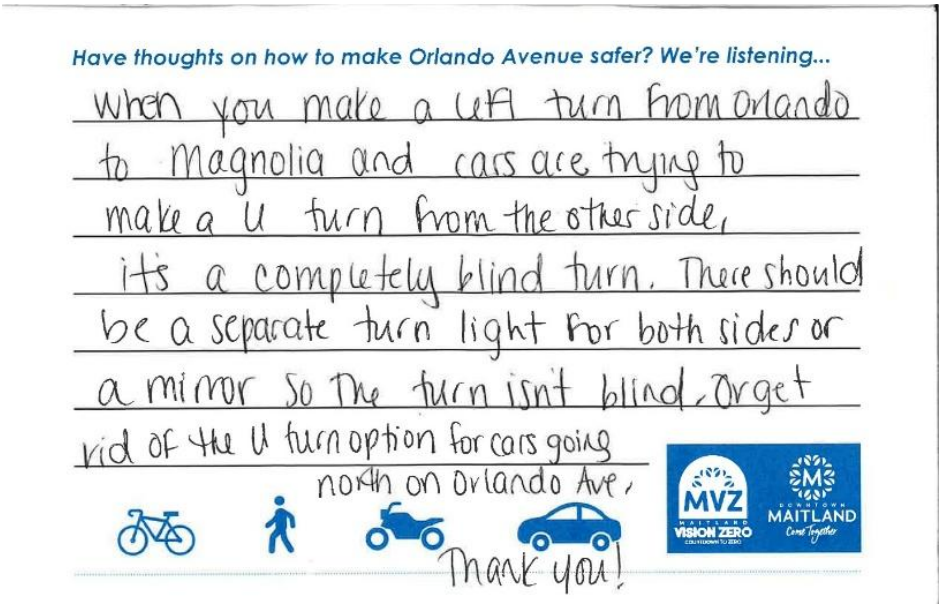
4.2 COMMUNITY FEEDBACK

Overall, the public was interested in improving safety along Orlando Avenue to support all roadway users. Through the feedback received in both activities, respondents felt that current conditions are particularly unsafe for pedestrians and cyclists due to high-speed traffic and limited infrastructure supporting these users.

Top areas of concern include the intersections at Horatio Avenue, Packwood Avenue, Greenwood Drive/Mayo Avenue, and near the SunRail station. Respondents recommended improving safety features along the corridor including increased bicycle and multi-modal infrastructure, adding parallel trail routes on lower volume roads, increasing safety features at pedestrian crossings, increased enforcement measures, more frequent pedestrian crossings, and removing obstructions from sidewalks.

Figure 4-2 displays one of the comment cards received from an attendee at the Maitland Bike Safety Day and Trail Ride event, recommending improvements that would help improve sightlines and visibility at the left turn from Orlando Avenue onto Magnolia Road. All community feedback received physically or virtually has been documented as a part of the RSA Engagement Summary and can be found in Appendix F.

Figure 4-2 | Comment Card from the Maitland Bike Safety Day and Trail Ride



5 Audit Findings

5.1 FIELD REVIEW

The field review is an opportunity for the project team and a multi-disciplinary group of stakeholders to physically travel the corridor and make additional observations based on real-time conditions that ultimately improve the quality and relevance of the final safety recommendations in addition to the information and insight gathered as a part of the Existing Conditions Report (see Appendix C). The field review provides the project team with the opportunity to learn and hear from stakeholders across disciplines including emergency management, stormwater management, transit, and community planning to consider and include an array of safety perspectives into the

planning process. Observations made during the field review can include specifics on roadway operations like signal timing, actual use like midblock pedestrian crossings, and visibility and accessibility considerations like the quality of pavement markings, the quality of sightlines, and the condition of ADA curb ramps. These observations and others, as documented in the attached Field Review Summary in Appendix D, expand upon the data gathered as a part of the Existing Conditions Report with tangible insights into daily operations.

The following segments were covered as a part of the morning, afternoon, and evening field review sessions. All three sessions took place on June 9th, 2026. Table 5-1 describes the extents of each segment, length of each segment, and the time spent by the field review team at each segment during the morning session. The afternoon and evening sessions were completed by only the project team. The afternoon session was also conducted on foot and included a review of potential upcoming development plans with the city's team to provide additional context, while the evening session was completed by driving the length of the corridor.

Table 5-1 | Orlando Avenue Field Review Itinerary

Segment Order	Segment Extents	Segment Length (One-way)	Time	Intersections
1	Horatio Avenue to Greenwood Drive/Mayo Avenue	0.7 miles	8:30 AM – 10:30 AM	▪ Horatio Avenue ▪ George Avenue ▪ Sybelia Avenue ▪ Versailles Drive ▪ Greenwood Drive/Mayo Avenue
2	Packwood Avenue to Monroe Avenue	1 mile	10:45 AM – 12:30 PM	▪ Packwood Avenue ▪ Ventris Avenue ▪ Maitland Avenue/Manor Road ▪ Lake Avenue ▪ Circle Drive (N) ▪ Magnolia Road ▪ Tangerine Place ▪ Circle Drive (S) ▪ Orange Place ▪ Park Avenue ▪ Monroe Avenue

5.1.1 PROCESS

The segments visited by the field review team were selected as a result of the existing conditions assessment, specifically the analysis of crash data within the study area corridor. The project team identified hot spots of reported crashes and considered the locations of all reported KSI crashes when selecting the segments. A map of each segment can be found as a part of the Field Review Guide in Appendix D. The entire corridor was evaluated from a vehicle as a part of the afternoon and evening sessions.

In advance of the RSA, the project team drafted a pre-briefing presentation and a field review guide (attached as Appendix D). The pre-briefing presentation was held the Thursday before the field review session on June 4th, 2026, and was intended to prepare participants for the planned activities. Information in the presentation included the purpose and intent of a field review, the study area's existing conditions, the session's itinerary, and the types of observations participants could anticipate documenting during the session. The pre-briefing presentation also

provided participants with the opportunity to ask any questions, clarify logistics related to timing and parking, and understand how their contributions would add to the overall RSA process.

The field packet was provided to the field review team on the morning of the field review and explained in the half-hour before the Segment 1 session began. The field packet included information regarding the existing conditions of the study area corridor, an analysis of the reported crash data, maps of each segment that detailed extents, specific KSI information, the location of intersections and signals, and a selection of prompts to further drive detailed observations and collaborative conversation. Ample room to take notes as the group moved through each segment was also provided.

Following the completion of the morning field review session and the third segment, each participant gave their notes to a member of the project team to be catalogued within the Field Review Materials, attached in Appendix D.

5.1.2 ACTIVITIES

On each of the identified segments, the project team completed a variety of activities, at intersections, on sidewalks, and in the roadway, when necessary, to evaluate safety. The intersections evaluated can be found in **Error! Reference source not found.**. West and east sidewalks were evaluated on all segments as a part of either t he morning or afternoon review sessions. These activities are grouped by location and listed below:

- Intersections
    - Checking sightlines for people walking, riding bikes, and driving cars and/or motorcycles
    - Test pedestrian push buttons and document time waiting for crossing, if applicable
    - Document time provided to cross, if applicable
    - Note the visibility/presence of necessary pavement markings like high-visibility crosswalks and or left-turn lane striping, if applicable
    - Note the presence/visibility of appropriate signage
    - Observe actual use by pedestrians, bicyclists, motorcycles, and motor vehicles
    - Observe roadway operations, specifically the timing of signals, if applicable
    - Note any turning movement restrictions
    - Observe existing lighting conditions
    - Document any ADA compliance concerns
- Sidewalks
    - Note the width of the sidewalk/ability to walk as a group
    - Document sidewalk obstructions such as landscaping, utility boxes/poles, and uneven or missing utility covers
    - Note any uneven sidewalk surfaces, unnecessary curb cuts, or unmarked crossings at driveways
    - Observe actual use by pedestrians or bicyclists
    - Document any ADA compliance concerns
    - Confirm sidewalk width by measuring with a surveyor's wheel
    - Note level of comfort as a pedestrian
    - Note any pedestrian-scale lighting
- Roadway
    - Confirm roadway width where needed with a surveyor's wheel
    - Observe actual use by those driving a motorcycle or motor vehicle

- Observe day-to-day operations including visible congestion and/or conflicts
- Note lighting conditions on the corridor
- Observe condition and presence of needed warning and directional signage

5.1.3 PARTICIPANTS

Table 5-2 details the list of stakeholders who participated in the RSA field review. All participants attended the morning session while those denoted with an "*" were also present at the afternoon session. A "**" indicates participation at the evening session in addition to the morning and afternoon sessions, and a "***" indicates participation in the evening session only.

Table 5-2 | RSA Participants

Name	Organization
Alyssa G. Eide*	City of Maitland
Ryan Quinn	City of Maitland Police Department
Matthew Cross*	City of Maitland Fire Department
Lara Bouck	MetroPlan Orlando
Mighk Wilson	MetroPlan Orlando
Jamie McMillan	MetroPlan Orlando
Steven Buck	FDOT
Anthony Nosse	FDOT
Conner Schuler	SunRail/FDOT District 5
Dennis Edwards	Transportation Advisory Board
Julian Cordova	Transportation Advisory Board
Roberta Fennessy*	VHB (consultant team)
Katie Shannon*	VHB (consultant team)
Kevin Freeman**	VHB (consultant team)
Julianna Merotto*	VHB (consultant team)
Adrian Santiago*	VHB (consultant team)
Emily Porter*	VHB (consultant team)
William Anderson***	VHB (consultant team)

5.2 POSITIVE DESIGN FEATURES

During a road safety audit, participants are asked to help identify safety concerns, opportunities for improvement, and existing positive design features that can serve to exemplify what the future of safety could look like within the study area corridor. Overall, participants observed and highlighted positive design features such as existing pedestrian infrastructure, specifically wider sidewalk sections with landscaped buffering in some locations, parallel street connectivity, and upcoming improvements led by FDOT and the City of Maitland across the corridor. Upcoming projects and improvements on the Orlando Avenue corridor plan to expand crossing opportunities, improve ADA-compliant access, strengthen visibility, and increase the space and comfort provided for people walking and biking. Feedback and findings from all three field review sessions are organized below by time of day. For a comprehensive catalogue of all participant observations, please see the Field Review Materials in Appendix D.

5.2.1 MORNING/AFTERNOON SESSION

Throughout the daytime and afternoon field review sessions, participants were able to observe changes in roadway operations and use by pedestrians and bicyclists during different times of day, including peak travel times. Overall, participants discussed how upcoming FDOT projects would positively impact the study area corridor's daytime operations by improving ADA access, visibility, and crossing opportunities at existing signalized intersections. The field review team also highlighted upcoming redevelopment on the corridor and emphasized how pedestrian improvements and access management improvements have been prioritized in each of these efforts.

On Segment 1, participants discussed proposed FDOT improvements at the intersections of Greenwood Drive/Mayo Avenue, Sybelia Parkway/Sybelia Avenue, and Horatio Avenue. These intersection improvements are expected to include positive design features like the implementation or restriping of high emphasis crosswalks and repairs to ADA accommodations. The field review team also discussed a potential redevelopment project on the western side of Orlando Avenue, north of Sybelia Avenue and just south of the Maitland SunRail Station that could improve connection to the SunRail station and enhance existing pedestrian conditions.

On Segment 2, in partnership with the City of Maitland, FDOT will be completing improvements at the intersections of Packwood Avenue, Maitland Avenue/Manor Road, Lake Avenue, and Magnolia Road. These improvements will include the implementation or restriping of high emphasis crosswalks, repairs to ADA accommodations, and refreshed left turn guidelines on the roadway. Participants also documented ample shade as a positive design feature surrounding Lake Lily Park.

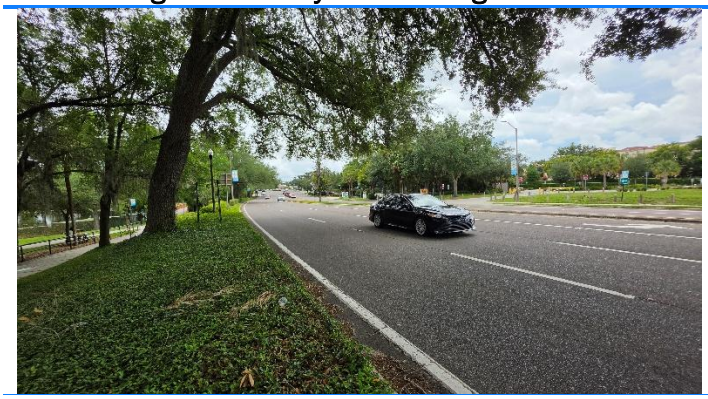
5.2.2 EVENING SESSION

Across the Orlando Avenue corridor, the field review team identified positive existing and planned design features that support safety and visibility for roadway users in unlit conditions. Generally, the field review team documented light levels of pedestrian traffic during the evening session. The existing lighting across the corridor was noted to be in good condition. Reflective pavement markings were also documented to be in good condition and visible across the corridor. Specifically, Greenwood Drive was noted to have ample lighting, providing good visibility in darker conditions.

5.2.3 PHOTOS

Table 5-3 provides a selection of photos that speak to the positive design features identified during the field review sessions. All field review photos can be found in the Field Review Materials in Appendix D.

Table 5-3 | Example of Identified Positive Design Features

Location: Western sidewalk of Orlando Avenue on the eastern edge of Lake Lily Park looking northbound	Location: Northwestern corner at the intersection of Horatio Avenue looking southeast
	
Ample shade available from street tree canopy and Lake Lily Park improved the pedestrian level of comfort on this segment.	Site of upcoming FDOT improvement project will refresh crosswalks, add left turn striping, and enhance ADA accommodations.

5.3 OBSERVATIONS AND IDENTIFIED SAFETY RISKS

In addition to positive design features, the field review team documented a range of safety concerns along the Orlando Avenue corridor that affect people walking, biking, using transit, and driving. Across the corridor, the recorded observations generally point to challenges related to incomplete and damaged sidewalks, worn crosswalks, ADA accessibility issues, speeding, high levels of reported congestion, and sightline concerns.

General observations and safety risks identified in the daytime, afternoon, and nighttime sessions are described below. For a comprehensive catalogue of all participant observations, please see the Field Review Materials in Appendix D.

5.3.1 MORNING/AFTERNOON SESSION

In the daytime and afternoon sessions, the field review team was able to gain a first-hand understanding of pedestrian and bicyclist conditions throughout the corridor while observing typical roadway operations and use.

On Segment 1, field review participants repeatedly observed and documented safety concerns like poor sightlines, faded pedestrian signage, a lack of high emphasis crosswalks, sidewalk obstructions, and gaps in sidewalk connectivity. Speeding was also observed and anecdotally discussed among the field review team on this segment.

Key site-specific safety risks at intersections along Segment 1 include:

- At the Greenwood Drive/Mayo Avenue intersection, participants noted poor sightlines for vehicles turning southbound onto the Orlando Avenue corridor. Crosswalks are also not currently present on all four legs of the intersection and current crossings were documented to have narrow pedestrian curb ramps.
- At Versailles Drive, crosswalk visibility could be improved.
- There are no additional crossing options between the Sybelia Parkway/Sybelia Avenue and the Greenwood Drive/Mayo Avenue intersections.

- At the Sybelia Parkway/Sybelia Avenue intersection, pedestrian signage could be refreshed and improved, and crossings could be repainted to improve visibility.
- At George Avenue, a high visibility crosswalk is needed at the eastern and western crossings.
- At Horatio Avenue, the field review team largely discussed traffic and roadway operations. This intersection regularly experiences significant congestion during peak travel hours. During these times, members of the field review team describe drivers continuing west across the intersection from the southbound left turn-only lane. The field review team also reported significant queuing at the eastbound left turn lane. The current wall at the northeast corner also creates a narrow pedestrian curb ramp, putting pedestrians close to traffic.

Key site-specific safety risks on sidewalks along Segment 1 include:

- A northbound right turn lane that begins across from First Colony Bank and extends to Versailles Drive encroaches on the sidewalk creating a narrow space for pedestrians that is close to traffic.
- Pedestrian connection from LYNX stop #3086 to the Maitland SunRail station could be better connected via direct sidewalk.
- Between the First Colony Bank and Artco Paint and Pool Supply, no sidewalk connectivity was available, and multiple utility lines and poles were documented to be blocking connectivity.
- At Kappy's Subs, there is no connection to the existing sidewalk to the north and no connection to the pedestrian curb ramps on the northwest corner of the Sybelia Avenue intersection.
- The driveway providing drivers access to the 7-Eleven is unmarked for pedestrians and lacks a stop bar.
- A portion of the sidewalk from Maitland Tire Co to Luna Furniture Upholstery is a continuous curb cut, creating a slanted surface that may not be ADA compliant.

On Segment 2, the field review team observed narrow sidewalks, sidewalk obstructions and tripping hazards, poor sightlines, long distances with no crossing opportunities, and intersections without crossings available on all four legs. This segment also prompted the field review team to discuss school-year congestion given the presence of the Park Maitland School on the corridor.

Key site-specific safety risks at intersections along Segment 2 include:

- At the Packwood Avenue intersection, has poor sightlines for those turning south on Orlando Avenue. The intersection is also missing a crosswalk at the north end of the intersection.
- At the Ventris Avenue intersection, there are frequent conflicts, especially for those making a left turn heading northbound. The intersection is also in close proximity to the Shell gas station and Holleena Groves Farm Stand, both of which are high traffic locations and are frequently used as cut throughs for drivers.
- At the Maitland Avenue/Manor Road intersection, poor sightlines for vehicles turning southbound were observed and in one instance caused a vehicle to stop in the crosswalk to gain better visibility. Participants also noted that the western crosswalk lacked high-visibility treatments. Pedestrian and wayfinding signage was also documented to be faded and worn.
- Curb ramps at the Lake Avenue intersection were observed to be in poor condition with uneven pavement made of several surface materials. These conditions are most likely due to past construction. The field

review team also observed duplicate pedestrian push buttons at the southwest corner. Crosswalks on all legs of the intersection have the opportunity to be upgraded with high-visibility pavement markings.

- The Magnolia Road intersection was discussed as a key area of congestion during the school year at peak hours due to the location of the Park Maitland School.
- The Circle Drive intersection currently lacks elements that can improve turning conflicts such as a directional median and/or increased signage.
- The Park Avenue intersection was noted to have disjointed pedestrian crossings with the opportunity to improve sidewalks by reducing interruptions by utility lines and covers and strengthen visibility by refreshing signage.
- The intersection at Monroe Avenue at the southernmost point of the study area corridor only allows vehicles turning onto Orlando Avenue to move south. However, the field review team discussed upcoming residential development connected to Monroe Avenue, which may generate new safety and operational concerns.

Key site-specific safety risks on sidewalks along Segment 2 include:

- Sidewalks between Packwood Avenue and Lake Avenue were observed to have uneven surfaces due to broken or missing utility covers and/or cracked and uneven pavement.
- The Shell Gas Station at Ventris Avenue lacks sidewalk connectivity.
- Sidewalks between Lake Avenue and Monroe Avenue are frequently interrupted by utility lines or poles in the sidewalk. Tripping hazards were also frequently observed due to uneven utility covers. The portion of the eastern and western sidewalks that pass under the Revered Kenneth C. Crossman Bridge are extremely narrow and place pedestrians and bicyclists very close to traffic. Vegetation debris and growth were also observed to further encroach on the sidewalks at these locations.

5.3.2 EVENING SESSION

The field review team identified several safety risks present in darker conditions along the study corridor including improved intersection lighting, gaps in lighting and visibility near vacant properties, and conflicts between vegetation that provides shade during the daytime but may obscure lighting sources at night.

The field review team noted site-specific observations including:

- Trees block street lighting at the intersections of Maitland Avenue/Manor Road (northeast, northwest, and southwest corners), Lake Avenue (eastern edge of intersection), Magnolia Road (northeast and southeast corners), and Park Avenue (eastern edge of intersection).
- Intersections south of Lake Avenue were observed to have minimal lighting in general, causing visibility-related safety concerns.
- Lighting adjacent to the Maitland SunRail station could be improved, especially with anticipated future service expansions.

5.3.3 PHOTOS

Table 5-4 and Table 5-5 provide a selection of photos that speak to the safety risks identified during the field review sessions. All field review photos can be found in the Field Review Materials in Appendix D.

Table 5-4 | Example of Identified Safety Risks: Segment 1

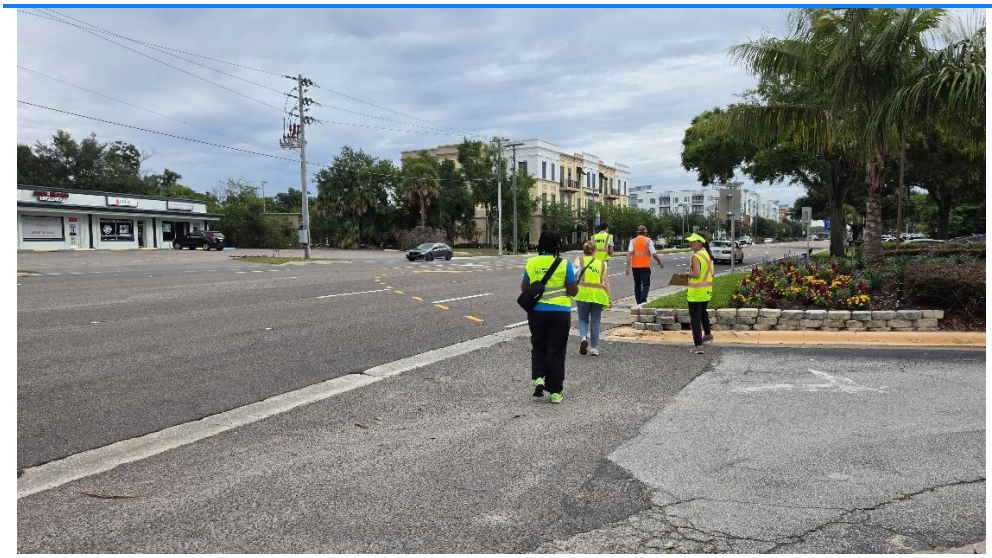
Location: Driveway of Maitland Exchange on the Eastern sidewalk looking North	Location: Western crosswalk North of Sybelia Avenue facing South
	
Missing marked crosswalk and pedestrian signage. Observed damage to tactile pavement.	Lack of sidewalk connectivity and utility pole obstructions.

Table 5-5 | Example of Identified Safety Risks: Segment 2

Location: Northwest corner of Packwood Avenue facing Southeast	Location: Eastern sidewalk North of Monroe Avenue facing South
	
Missing crosswalk on the northern leg of the intersection.	Narrow sidewalk under the Reverend Kenneth C. Crossman Bridge. Overgrown vegetation and plant debris narrows sidewalk further.

6 Recommendations

Recommendations were drafted following the comprehensive review of the corridor's existing conditions, participant-identified constraints and opportunities from the field review sessions, and community input gathered from outreach activities. Where corridor-level recommendations focus on signalization and timing, site-specific recommendations are organized by speed management improvements, safer turning movements and access management, bicycle safety improvements and connectivity, and pedestrian safety improvements.

Each recommendation is analyzed through a cost-benefit analysis and phasing strategy. The constraints and opportunities identified at each intersection and along each segment can be found in Appendix D. The concept plan and recommendations identified along the study area corridor are illustrated in Appendix A.

In addition to coordinating with stakeholders and gathering feedback from the public, the project team shared drafted safety recommendations with FDOT on August 18, 2026, to support an aligned vision for the future of safety for all roadway users within the Orlando Avenue study area corridor. During this session, the project team reviewed the Concept Plans and comments provided by FDOT via email on August 10, 2026, including anticipated timing and delivery path for proposed recommendations. This is particularly important for longer-term items such as tightening turning radii, access management, and other geometric changes. The discussion also reinforced that some recommendations may be more appropriately considered through future FDOT planning, project development, or resurfacing-related efforts, while City of Maitland staff will continue coordination on the planned POP project for consideration of common short-term countermeasures such as crosswalk striping, signing, and pavement marking improvements where feasible.

6.1 CORRIDOR-LEVEL RECOMMENDATIONS

Corridor-level recommendations address existing conditions and/or field review observations that persist throughout a majority of the study area corridor. These recommendations include actions taken on a large scale that are more broad than exclusive, location-specific countermeasures.

Given the existing conditions of the study corridor, public feedback, and the opportunities and challenges identified through the field review; congestion, speeding, visibility, and pedestrian and bicyclist safety were applicable to several locations across the study area corridor. The FDOT Maitland Areawide Study (Project ID: 962200-1) will provide a comprehensive examination of operations to better understand travel demand and routing needs, addressing several of these corridor-wide concerns. Based on the findings of the Maitland Areawide Study, it is recommended to conduct further operational analysis as needed from the intersections of Horatio Avenue to Maitland Avenue, along the Orlando Avenue corridor. Concentrated focus is recommended on this segment given the existing challenges discussed and observed throughout the field review.

6.2 SITE-SPECIFIC RECOMMENDATIONS

Site-specific recommendations address existing conditions and/or field review observations that are specific to a certain location within the study area corridor. These actions are more targeted than those recommended as a part of the corridor-level recommendations, aiming to improve safety conditions in alignment with each location's unique context. Recommended improvements are shown in the Concept Plan in Appendix A. Throughout the tables below, font has been ***italicized and bolded,*** reflecting improvements currently planned through FDOT's Pavement Only Project (POP) 452910-1.

6.2.1 SPEED MANAGEMENT IMPROVEMENTS

Given the spot speed study conducted as a part of this RSA, observed pedestrian traffic along the corridor, and presence of pedestrian and bicycle KSI's, speed management improvements focus on lower speed limits and

behavior. Speed management countermeasures recommend the necessary infrastructure for speed control in segments of acceleration or with sensitive pedestrian access. The countermeasures in Table 6-1 were recommended in alignment with observations gathered from the field review sessions and upcoming FDOT efforts across the study area corridor.

Table 6-1 | Speed Management Countermeasure Recommendations

Countermeasure	Location/Description
Add raised median with enhanced landscaping	▪ Center median north of Greenwood Drive/Mayo Avenue intersection ▪ Directional median at Versailles Drive ▪ Existing pavement marking and southern nose in front of Maitland Exchange ▪ Enhance existing directional turn median at intersection of Lake Lily Drive and Fort Maitland Park ▪ Expanding center median at Circle Drive (south) ▪ Expanding and directionalizing the existing median at Monroe Avenue
Posted speed sign	From north of George Avenue to south of the Greenwood Drive/ Mayo Avenue intersection, speed limit is recommended to be reduced from 45 mph to 40 mph. Updated posted speed signs to be placed: ▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic ▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
Speed feedback sign	▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic ▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
Posted speed pavement markings	▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic ▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
“Reduced Speed Ahead” sign	▪ North of Greenwood Drive/ Mayo Avenue on the west side of Orlando Avenue for southbound traffic

6.2.2 SAFER TURNING MOVEMENTS AND ACCESS MANAGEMENT

Analysis of the crash data and field review observations indicated a need for safer turning movements at several intersections along the corridor and improved access management, signage, and pavement markings in identified areas of opportunity. The recommended countermeasures can be found in Table 6-2.

Table 6-2 | Safer Turning Movements and Access Management Recommendations

Countermeasure	Location/Description
Tighten curb radii	▪ Northeast curb of Mayo Avenue ▪ Southeast curb of Versailles Drive ▪ North and south entrances to the Mercedes Benz dealership on the east side of Orlando Avenue ▪ North exit and south entrance of Maitland Exchange on the east side of Orlando Avenue ▪ Northeast, northwest, and southeast curbs of Sybelia Avenue/Sybelia Parkway ▪ Northeast curb at Horatio Avenue ▪ North and south curbs at the Seacoast Bank driveway on the west side of Orlando Avenue ▪ Northwest and southwest curbs of Maitland Avenue ▪ Northwest and southwest curbs at Lake Lily Drive ▪ Northeast and southeast curbs at Fort Maitland Park entrance
Modify to through lane (study)	▪ Further study/review should explore whether the existing left turn lane on WB Horatio Ave accommodates both the SB turn onto Orlando Ave and through traffic.
Guided left turn striping	▪ Intersection of Greenwood Drive and Mayo Avenue (all left turning movements) ▪ Maitland SunRail Station and Mercedes Benz entrances ▪ Maitland Exchange entrance

	▪ Intersection of Horatio Avenue (eastbound Horatio Avenue to northbound Orlando Avenue and northbound Orlando Avenue to westbound Horatio Avenue) ▪ Intersection o f Manor Road/Maitland Avenue (eastbound Maitland Avenue to northbound Orlando Avenue and westbound Manor Road to southbound Orlando Avenue) ▪ Intersection of Lake Avenue (northbound Orlando Avenue to westbound Lake Avenue)
Directional turn median and Right-In-Right-Out Only (RIRO) signage	▪ West of the Mercedes Benz dealership and east of the Maitland SunRail station ▪ Intersection of Ventris Avenue ▪ Center median between Tangerine Place and Orange Place at the intersection of Circle Drive ▪ Intersection of Monroe Avenue, given accommodation of signal south of the study corridor at Glendon Parkway and continued connectivity of streets in the Ravaudage development
Right Turn Only Pavement Marking	▪ Exit drive of Maitland Primary Care ▪ North exit drive of the Parker Apartments ▪ Intersection of Versailles Drive on the east side of Orlando Avenue ▪ Intersection of George Avenue on the west side of Orlando Avenue ▪ Intersection of Ventris Avenue on the west side of Orlando Avenue ▪ Intersections of Circle Drive on the west side of Orlando Avenue ▪ Intersection of Orange Place on the east side of Orlando Avenue ▪ Intersection of Monroe Avenue on the west side of Orlando Avenue ▪ Intersection of Horatio Avenue, for the northbound Orlando Avenue lane on the eastern side
Right Turn Only Lane	▪ Intersection of Horatio Avenue, for the northbound Orlando Avenue lane on the eastern side
Extend bollards for merge lanes	▪ At the merge of Park Avenue and Orlando Avenue heading northbound
Access management opportunity zone	Several properties have been identified as shown on the Recommendations Roll Plot (Appendix A) to reduce the number of access drives from Orlando Avenue. The 10% Concept Plans (Appendix A) reflect proposed improvements to begin conversations with property owners.
Retroreflective borders on signal heads	▪ Intersection of Greenwood Drive/Mayo Avenue ▪ Intersection of Sybelia Avenue/Parkway ▪ Intersection of Maitland Avenue/Manor Road ▪ Intersection of Lake Avenue ▪ Intersection of Magnolia Road
Do Not Enter signage	▪ At the north exit drive of First Colony Bank facing east (eastern property line) ▪ At Ventris Avenue directional median and median noses facing east and west ▪ At directional median of Lake Lily Drive and Fort Maitland Park facing east and west ▪ At directional median of Circle Drive (southern leg) and median nose facing west ▪ At directional median of Monroe Avenue and median nose facing west
Railroad infrastructure improvements	At the Reverend Kenneth C. Crossman bridge north of Monroe Avenue. The Central Florida Rail Corridor/SunRail study currently anticipates constructing a new permanent double track bridge and accommodating future pedestrian trail facilities on a temporary shoefly bridge implemented in the construction phase.
Utility relocation study	▪ From south of the First Colony Bank to Kappy's Subs on the west side of Orlando Avenue ▪ Across the Mercedes-Benz property ▪ Eastern edge of the Lake Avenue Intersection ▪ North and south of the Reverend Kenneth C. Crossman bridge
Extend median nose through crosswalk	▪ North and south medians at the Greenwood Drive/Mayo Avenue intersection ▪ North and south medians at the Sybelia Avenue/Parkway intersection ▪ All medians at the Horatio Avenue intersection ▪ North and south medians at the Packwood Avenue intersection ▪ North and south medians at the Maitland Avenue/Manor Road intersection ▪ All medians at the Lake Avenue intersection ▪ North and south medians at the Magnolia Road intersection

6.2.3 BICYCLE SAFETY IMPROVEMENTS AND CONNECTIVITY

Given the existing conditions of the Orlando Avenue study area corridor, bicycle safety improvements include wayfinding signage and sharrow pavement markings to connect to existing trails, bike lanes, and/or shared use lanes or recommended new bicycle routes in the surrounding community. A bicycle connectivity map is shown as a part of the Recommendations Roll Plot in Appendix A. These recommendations, shown in Table 6-3, were created

in alignment with the City of Maitland's BPMP and supplemented with additional recommendations given identified gaps.

Table 6-3 | Bicycle Safety Improvements and Connectivity Recommendations

Countermeasure	Location/Description
Proposed sharrows	▪ Sybelia Avenue/Parkway, providing connection to Maitland Avenue to the west and Swoope Avenue to the east ▪ Packwood Avenue, providing connection to Lake Sybelia to the west and Swoope Avenue to the east ▪ Magnolia Road, providing connection to the City of Winter Park to the east
Wayfinding for existing bike lanes/trails	▪ On the east side of Orlando Avenue at the Mayo Avenue pedestrian bridge entrances ▪ Northeast corner of Sybelia Parkway and the southwest corner of Sybelia Avenue ▪ Northeast and southwest corners of Packwood Avenue

6.2.4 PEDESTRIAN SAFETY IMPROVEMENTS

Given observations from the field review, pedestrian safety improvements, as shown in Table 6-4, include several intersection-based improvements that address visibility and access, sidewalk enhancements, and corridor-wide visibility. These recommendations were drafted in alignment with previous and upcoming FDOT and city projects throughout the City of Maitland.

Table 6-4 | Pedestrian Safety Improvement Recommendations

Countermeasure	Location/Description
Bundled intersection improvements: ▪ Upgrade/update Detectable Warning Surfaces (DWS) ▪ Implement Leading Pedestrian Intervals (LPIs) ▪ Install Yield to Pedestrian signage ▪ Reorient/Install Pedestrian Push Buttons and upgrade signage ▪ Update worn crosswalk markings to High Emphasis Crosswalks ▪ Confirm crosswalks on all legs of the intersection ▪ Upgrade to Audible Pedestrian Push Buttons with Speech Information Messaging	▪ Intersection at Greenwood Drive/ Mayo Avenue ▪ Intersection at Sybelia Avenue/ Parkway ▪ Intersection at Horatio Avenue ▪ Intersection at Packwood Avenue ▪ Intersection at Maitland Avenue/ Manor Road ▪ Intersection at Lake Avenue ▪ Intersection at Magnolia Road
Sidewalk enhancements	▪ Along the western side of Orlando Avenue from the First Colony Bank to Sybelia Avenue
Pedestrian-scale lighting	At the Greenwood Drive/Mayo Avenue intersection: 2 fixtures at the northwest corner abutting the pedestrian bridge entrance, 2 fixtures at the southwest corner along the curb and 6 fixtures at the northeast corner along the path to the pedestrian bridge over the Seminole County line
High-emphasis crosswalks with Detectable Warning Surfaces (DWS)	▪ ***On the north, west, and south crossings at Greenwood Drive/Mayo Avenue;*** proposing coordination with FDOT to add the eastern crossing ▪ Across driveway of McGraw & Tattersall, PA ▪ Across the north driveway of The Parker at Maitland Station Apartments ▪ Across Versailles Drive on the east side of Orlando Avenue ▪ Across the entrance to The Parker at Maitland Station Apartments

	▪ Across Mercedes-Benz property entrance and exit driveways on the east side of Orlando Avenue ▪ Across Orlando Avenue at the new raised directional median connecting the Maitland SunRail station on the west side of Orlando Avenue to the Mercedes-Benz property on the east side of Orlando Avenue ▪ Across the Maitland SunRail station driveway ▪ Across the Maitland Exchange entrance and exit driveways on the east side of Orlando Avenue ▪ ***On all crossings of the Sybelia Avenue/Sybelia Parkway intersection*** ▪ Across the Maitland Presbyterian Church driveway on the west side of Orlando Avenue ▪ Across the 400 North Apartments driveway on the east side of Orlando Avenue ▪ On the east and west crossings at the George Avenue intersection ▪ Across the north driveway of Maitland Plaza on the east side of Orlando Avenue ▪ ***On all crossings at the Horatio Avenue intersection*** ▪ Across the Maitland City Centre driveway on the west side of Orlando Avenue ▪ Across the Maitland City Centre parking garage exit driveway on the west side of Orlando Avenue ▪ Across the McDonald's driveway on the east side of Orlando Avenue ▪ ***On all crossings at the Packwood Avenue intersection*** ▪ On the east and west crossings at the Ventris Avenue intersection ▪ Across the Family Practice of Winter Park driveway on the west side of Orlando Avenue ▪ Across the Luke's Kitchen and Bar driveway on the east side of Orlando Avenue ▪ ***On the north, east, and south crossings at the Maitland Avenue/Manor Road intersection***; proposing coordination with FDOT to add the western crossing ▪ Across the Moye, O'Brien & Matterson, LLP driveway on the east side of Orlando Avenue ▪ Across the north and south driveways of Fort Maitland Park on the east side of Orlando Avenue ▪ Across Lake Lily Drive on the west side of Orlando Avenue ▪ Across the Maitland Harbor driveway on the east side of Orlando Avenue ▪ Across the Village at Lake Lily driveway on the west side of Orlando Avenue ▪ ***On all crossings at the Lake Avenue intersection*** ▪ Across the Peach Valley Cafe driveway on the west side of Orlando Avenue ▪ Across the Lake Maitland Terrace Condo driveway on the east side of Orlando Avenue ▪ On the north and south crossings at the Circle Drive intersections on the west side of Orlando Avenue ▪ ***On all crossings at the Magnolia Road intersection*** ▪ Across the future Park Maitland Square driveway on the west side of Orlando Avenue ▪ Across Tangerine Place ▪ Across the Valet Cleaners driveway on the west side of Orlando Avenue ▪ Across Orange Place ▪ Across the Ace Hardware of Maitland driveway on the west side of Orlando Avenue ▪ On the crossing at the northbound Park Avenue intersection ▪ On the crossing at the southbound Park Avenue intersection ▪ Across Monroe Avenue on the west side of Orlando Avenue
Yield to Pedestrian signage and/or advanced stop bar	▪ West side of Orlando Avenue at Maitland Primary Care driveway ▪ 2 signs facing south in front of Mercedes Benz dealership, including a sign south of the entrance driveway and a sign in front of the left turn lane on the southeast corner of new raised directional median ▪ 2 signs facing north in front of the Maitland SunRail station, including a sign north of the driveway and a sign in front of left turn lane on the northwest corner of the new raised directional median ▪ At right turn lane of Orange Place onto Orlando Avenue ▪ On Park Avenue just before merge with Orlando Avenue

Midblock crossing with pedestrian hybrid beacon (PHB) or Rectangular Rapid Flashing Beacon (RRFB)	▪ Across Orlando Avenue connecting the Maitland SunRail Station and Mercedes-Benz dealership ▪ Across Park Avenue just before merge with Orlando Avenue

6.3 CRASH PREDICTION AND BENEFIT TO COST ANALYSIS

An analysis of the anticipated impact of the proposed improvements was conducted using crash prediction modeling and a cost to benefit analysis. This analysis will show the overall effectiveness of the project recommendations in reducing crashes and associated costs using the available tools through the Federal Highway Administration (FHWA) Highway Safety Manual (HSM), FHWA Crash Modification Factors (CMF) Clearinghouse, and the Florida Department of Transportation (FDOT). Estimated cost savings were then compared to the estimated annual construction cost for the proposed improvements to identify a final cost to benefit ratio.

6.3.1 HIGHWAY SAFETY MANUAL (HSM) CRASH PREDICTION MODULE (CPM) COMPARISON – PROPOSED VS. EXISTING

A safety analysis using the HSM Crash Prediction Module (CPM) was conducted for the study corridor. The HSM CPM analysis determines a predicted crash rate (crashes per year) for any given corridor based on the following parameters:

- Existing crash rates
- Roadway and intersection geometry
- Posted speed limit
- Presence/density of driveways and side streets
- Presence of lighting
- Presence of on-street parking
- Density and setback of roadside fixed objects

The analysis was conducted first with the existing conditions along the study corridor to determine the predicted crash rate for the corridor without any improvements. Following that, the analysis was conducted a second time taking into account all of the proposed improvements to the corridor.

For each existing roadway condition and proposed improvement, a corresponding Crash Modification Factor (CMF) was determined in one of two ways:

- Through the calculations performed in the HSM CPM tool.
- By finding the equivalent CMF listed by the CMF Clearinghouse.

As shown in Table 6-5, Table 6-6 and

Table 6-7 the proposed improvements result in a predicted 20% reduction of crashes that occur at intersections, a predicted 34% reduction of crashes that occur along the remaining segments, and a total predicted 27.8% reduction of crashes along the corridor. All HSM and Additional CMF Crash Reduction Analysis can be found in Appendix H.

Table 6-5 | HSM and Additional CMF Crash Reduction Analysis for Segments

Additional CMF included in Final Expected Crash Rate Calculations

	Segments								
	Segment 1[2] Seminole to Sybelia	Segment 2[3] Sybelia to Horatio	Segment 3 Horatio to Packwood	Segment 4[4] Packwood to Maitland	Segment 5[5] Maitland to Lake	Segment 6 Lake to Magnolia	Segment 7[6] Magnolia to Park	Segment 8[7] Park to Monroe	Total
Expected Crash Rate (Existing), per year[1]	20.34	6.83	4.14	8.12	5.59	5.84	7.94	0.86	**59.67**
Expected Crash Rate (with Improvements), per year[1]	20.33	6.83	4.11	8.12	5.59	5.84	7.94	0.86	**59.63**
Additional Countermeasures and CMF Values									
Install dynamic speed feedback sign	0.95	0.95							
5% reduction in mean speed	0.83	0.83							
Curb-Return Radius Reduction	0.97			0.97	0.97				
Convert an open median to a directional median	0.93			0.93			0.93	0.93	
Install any type of median barrier	0.70			0.70	0.70		0.70	0.70	
Implement systemic signing and marking improvements at stop-controlled intersections	0.92	0.92		0.92	0.92	0.92	0.92	0.92	
Install pedestrian hybrid beacon (PHB or HAWK) with advanced yield or stop markings and signs	0.82								
Remove/relocate utility poles	0.87								
Install enhanced RRFB pedestrian crossing at midblock crossing location							0.93		
Install post-mounted delineators							1.19		
Install sidewalk	0.60								

Final Expected Crash Rate, per Year	10.13	5.22	4.11	5.23	3.60	5.37	5.11	0.55	39.32
Percent Change	-50.2%	-23.6%	0.0%	-35.6%	-35.6%	-8.0%	-35.6%	-35.6%	-34.1%

NOTES

1. As determined using HSM Predictive Method for Urban and Suburban Arterials, attached as Appendix H.
2. Given overlapping countermeasure recommendations to improve the pedestrian environment, the dominant effect has been used to assume the countermeasure with the highest crash reduction factor (install sidewalk) in addition to the proposed speed reduction.
3. Given overlapping speed management countermeasures, the dominant effect has been used to assume the countermeasure with the hightest crash reduction factor (5% reduction in median speed) in addition to the systemic signing and marking improvements.
4. Given overlapping median improvements (directional medians and extended median barriers) and then intersection improvements (systemic signing and marking improvements and curb-return radius reductions), the dominant effect has been deployed for each countermeasure set.
5. Given overlapping intersection improvements (systemic signing and marking improvements and curb-return radius reductions), the dominant effect has been deployed to use the countermeasure with the highest crash reduction factor (systemic singing and marking improvements).
6. Given overlapping median improvements (directional medians and extended median barriers), the dominant effect has been deployed to use the countermeasure with the highest crash reduction factor (installation of median barriers).
7. Given overlapping median improvements (directional medians and extended median barriers), the dominant effect has been deployed to use the countermeasure with the highest crash reduction factor (installation of median barriers).

Table 6-6 | HSM and Additional CMF Crash Reduction Analysis for Intersections

Additional CMF included in Final Expected Crash Rate Calculations

	Intersections								
	Intersection 1[2] Greenwood Dr/Mayo Ave	Intersection 2[3] Sybelia Ave/Sybelia Pkwy	Intersection 3 Horatio Ave	Intersection 4[4] Packwood Ave	Intersection 5[5] Maitland Ave/Manor Rd	Intersection 6[6] Lake Ave	Intersection 7[7] Magnolia Rd	Intersection 8 Park Ave	Total
Expected Crash Rate (Existing), per year[1]	2.03	14.42	9.66	7.57	6.88	7.78	5.80	4.67	**58.81**
Expected Crash Rate (with Improvements), per year[1]	2.03	14.42	9.66	7.57	6.88	7.78	5.80	4.67	**58.81**
Additional Countermeasures and CMF Values									
Curb-return radius reduction	0.97	0.97			0.97				
Add 3-inch yellow retroreflective sheeting to signal backplates	0.84	0.84			0.84	0.84	0.84		
Modify signal phasing (implement a leading pedestrian interval (LPI))	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Improve street lighting illuminance and uniformity	0.82			0.82					
Widen sidewalks at intersections	1.12	1.12		1.12	1.12				
Implement systemic signing and marking improvements at stop-controlled intersections	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Improve angle of channelized right turn lane	0.56								
Final Expected Crash Rate, per Year	**0.93**	**10.90**	**8.00**	**6.20**	**5.20**	**5.88**	**4.39**	**4.67**	**46.17**
Percent Change	**0.0%**	**-24.4%**	**-17.2%**	**-18.0%**	**-24.4%**	**-24.4%**	**-24.4%**	**0.0%**	**-21.5%**

NOTES

1. As determined using HSM Predictive Method for Urban and Suburban Arterials, attached as Appendix H.
   Most countermeasure recommendations serve as combined treatments at Intersection 1 (curb-return radius reduction, improved street lighting, LPIs, widened sidewalks, and systemic signing and marking improvements). In this instance, the dominant effect has been deployed to assume the benefit of the countermeasurse with the highest crash reduction factor (improved lighting) addition to the improved angle of the channelized right turn lane.
   Four countermeasure recommendations serve as combined treatments at Intersection 2 (curb-return radius reduction, signing and marking improvements at stop controlled intersections, widened sidewalks, and LPIs). In this instance, the dominant effect has been deployed to assume the benefit of the countermeasure with the highest crash reduction factor. In this instance, the installation of the LPIs was deployed.
2. All countermeasure recommendations serve as combined treatments at Intersection 4. In this instance, the dominant effect has been deployed to assume the benefits of the countermeasure with the highest crash reduction factor (improved lighting).
   Most countermeasure recommendations serve as combined treatments at Intersection 5 (curb-return radius reduction, LPIs, widened sidewalks, and systemic signing and marking improvements). In this instance, the dominant effect has been deployed to assume the benefit of the countermeasurse with the highest crash reduction factor (LPIs) in addition to the retroreflective borders on backplaces.
3. Two countermeasure recommendations serve as combined treatments at Intersection 6 (signing and marking improvements at stop controlled intersection and LPIs). In this instance, the dominant effect has been deployed to assume the benefit of the countermeasure with the highest crash reduction factor. In this instance, the installation of the LPIs was deployed.
4. Two countermeasure recommendations serve as combined treatments at Intersection 7 (signing and marking improvements at stop controlled intersection and LPIs). In this instance, the dominant effect has been deployed to assume the benefit of the countermeasure with the highest crash reduction factor. In this instance, the installation of the LPIs was deployed.

Table 6-7 | HSM and Additional CMF Crash Reduction Analysis Totals

	Segments	Intersections	Total
Expected Crash Rate (Existing)	59.67	58.81	118.47
Final Expected Crash Rate, per Year	39.32	46.17	85.50
Percent Change	**-34.1%**	**-21.5%**	**-27.8%**

6.4 COST ESTIMATES

Cost estimates were prepared for the recommended countermeasures described above to help the City of Maitland, FDOT, and other partner agencies assess the level of funding needed for implementation and evaluate the safety benefits associated with each dollar invested in the Orlando Avenue study area corridor. The cost estimates were generated by first, taking inventory of all the materials needed to implement the recommended countermeasures and second, assigning each material a unit cost as determined in FDOT's Current 12-Month Market Area 8 Moving Average. Estimated construction costs are also calculated as a part of this exercise. Construction costs account for mobilization, the maintenance of traffic throughout the project, and any estimates of unknown costs. Estimated construction, engineering, inspection, and design costs are also included in the total estimate.

The estimated cost to implement all of the recommended countermeasures is $4,663,300. Out of this total cost, total estimated construction costs, including materials, mobilization, maintenance of traffic, and project unknowns account for $3,284,000. Construction, engineering, and inspection costs account for $394,100, and design costs account for $821,000. The raw cost estimate calculations, including an inventory of all needed materials, applicable quantities, and unit costs, are included in the Orlando Avenue Cost Estimate and can be found in Appendix G.

6.4.1 BENEFIT TO COST ANALYSIS

The benefit to cost analysis was conducted using the FDOT Benefit/Cost Analysis tool and compares the anticipated savings due to a reduction in crashes to the estimated cost of construction for the proposed improvements. Multiplying the average cost per crash of $119,072.00 by the predicted decrease in crashes of 27.83% per year, results in an annual savings of $4,647,961. The estimated cost of construction is based on the proposed improvements as shown in the Concept Plan in Appendix A and totals $4,663,300 or $365,701 per year estimated using the FDOT B/C Analysis tool. This results in an overall benefit to cost ratio of 12.71. The full cost estimate and benefit/cost analysis can be found in Appendix G and Appendix I, respectively.

6.5 PHASING PLAN

Following coordination with the City of Maitland TAB, City of Maitland staff, and FDOT District 5 staff, the proposed safety countermeasures were organized into three phased recommendation groups. These groups include:

- Maintenance Recommendations: Improvements to existing infrastructure that can be completed through general maintenance contracts.
- Short-term recommendations: Updates to roadside signage and/or pavement markings, upgrades to pedestrian signals and facilities, improved bicycle connectivity, and turning movement improvements that have the potential to be completed in alignment with upcoming or anticipated projects.
- Mid-term recommendations: Improvements to the corridor requiring a higher level of resources including roadway design, traffic volume and signal timing evaluation, and other like studies that may precede the outlined recommendations. These improvements can be made as a standalone project, but also have the potential to be implemented in combination with other efforts.

Due to the nature of the Orlando Avenue study area corridor, most of the recommended countermeasures require coordination between agencies like FDOT and the City of Maitland. Each countermeasure recommended has also been assigned an implementing agency and is accompanied by location and description information to provide further detail and guide effective and efficient implementation.

6.5.1 MAINTENANCE RECOMMENDATIONS

Each of the proposed countermeasures were reviewed to best time phasing and implementation. All maintenance recommendations can be found in Table 6-8. Throughout the tables below, font has been ***italicized and bolded,*** reflecting improvements currently planned through FDOT's POP 452910-1. Based ongoing conversations between FDOT and City of Maitland staff in regard to the FDOT's POP 452910-1, some recommendations are identified in ***italicized, bolded font with an asterisk***, in consideration of their deployment being bundled in the POP project for short-term implementation. These reflect outcomes of some of the feedback shared among the Project Team and FDOT.

Table 6-8 | Maintenance Recommendations

Countermeasure	Recommendation Type	Implementing Agency	Location/Description
Guided left turn striping	Safer turning movements and access management	FDOT (Routed to Maintenance for POP Consideration, where noted)	▪ ***Intersection of Greenwood Drive and Mayo Avenue**** (westbound Mayo Avenue to southbound Orlando Avenue and southbound Orlando Avenue to eastbound Mayo Avenue, where some guided left turn striping is provided through the POP ▪ ***Maitland SunRail Station and Mercedes Benz entrances**** ▪ ***Maitland Exchange entrance**** ▪ ***Intersection of Horatio Avenue**** (eastbound Horatio Avenue to northbound Orlando Avenue and northbound Orlando Avenue to westbound Horatio Avenue), where some guided left turn striping is provided through the POP ▪ ***Intersection of Manor Road/Maitland Avenue*** ▪ ***Intersection of Lake Avenue**** (northbound Orlando Avenue to westbound Lake Avenue), where some guided left turn striping is provided through the POP
Right Turn Only pavement markings	Safer turning movements and access management	City of Maitland	▪ Exit drive of Maitland Primary Care ▪ North exit drive of the Parker Apartments ▪ Intersection of Versailles Drive on the east side of Orlando Avenue ▪ Intersection of George Avenue on the west side of Orlando Avenue ▪ Intersection of Ventris Avenue on the west side of Orlando Avenue ▪ Intersections of Circle Drive on the west side of Orlando Avenue ▪ Intersection of Orange Place on the east side of Orlando Avenue ▪ Intersection of Monroe Avenue on the west side of Orlando Avenue
Retroreflective borders on signal heads	Safer turning movements and access management	FDOT (Routed to Maintenance for POP Consideration, where noted)	▪ ***Intersection of Greenwood Drive/Mayo Avenue**** ▪ ***Intersection of Sybelia Avenue/Parkway**** ▪ ***Intersection of Maitland Avenue/Manor Road**** ▪ ***Intersection of Lake Avenue****

			▪ *Intersection of Magnolia Road**
Do Not Enter signage	Safer turning movements and access management	FDOT	▪ At the north exit drive of First Colony Bank facing east (eastern property line) ▪ At Ventris Avenue directional median and median noses facing east and west ▪ At directional median of Lake Lily Drive and Fort Maitland Park facing east and west ▪ At directional median of Circle Drive (southern leg) and median nose facing west ▪ At directional median of Monroe Avenue and median nose facing west
Pedestrian intersection improvements: Upgrade/update Detectable Warning Surfaces (DWS)	Pedestrian safety improvements	FDOT (Routed to Maintenance for POP Consideration, where noted)	▪ *Intersection at Greenwood Drive/ Mayo Avenue*, at all corners with recommendation to include the DWS at curb ramps on the northeast corner of the intersection* ▪ *Intersection at Sybelia Avenue/ Parkway* ▪ *Intersection at Horatio Avenue* ▪ *Intersection at Packwood Avenue* ▪ *Intersection at Maitland Avenue/ Manor Road* ▪ *Intersection at Lake Avenue* ▪ *Intersection at Magnolia Road*
Install Yield to Pedestrian signage and/or advanced stop bar	Pedestrian safety improvements	FDOT	▪ West side of Orlando Avenue at Maitland Primary Care driveway ▪ 2 signs facing south in front of Mercedes Benz dealership, including a sign south of the entrance driveway and a sign in front of the left turn lane on the southeast corner of new raised directional median ▪ 2 signs facing north in front of the Maitland SunRail station, including a sign north of the driveway and a sign in front of left turn lane on the northwest corner of the new raised directional median ▪ At right turn lane of Orange Place onto Orlando Avenue ▪ On Park Avenue just before merge with Orlando Avenue
Update worn crosswalk markings to high emphasis crosswalks and confirm crosswalks on all legs of the intersection	Pedestrian safety improvements	FDOT (Routed to Maintenance for POP Consideration, where noted)	▪ *On the north, west, and south crossings at Greenwood Drive/Mayo Avenue; proposing coordination with FDOT to add the eastern crossing** ▪ *Across the north driveway of The Parker at Maitland Station Apartments** ▪ *Across Versailles Drive on the east side of Orlando Avenue** ▪ Across driveway of McGraw & Tattersall, PA ▪ *Across the entrance to The Parker at Maitland Station Apartments** ▪ *Across Mercedes-Benz property entrance and exit driveways on the east side of Orlando Avenue** ▪ *Across Orlando Avenue at the new raised directional median connecting the Maitland SunRail station on the west side*

			*of Orlando Avenue to the Mercedes-Benz property on the east side of Orlando Avenue** ▪ ***Across the Maitland SunRail station driveway**** ▪ Across the Maitland Exchange entrance and exit driveways on the east side of Orlando Avenue ▪ ***On all crossings of the Sybelia Avenue/Sybelia Parkway intersection*** ▪ Across the Maitland Presbyterian Church driveway on the west side of Orlando Avenue ▪ Across the 400 North Apartments driveway on the east side of Orlando Avenue ▪ ***On the east and west crossings at the George Avenue intersection**** ▪ Across the north driveway of Maitland Plaza on the east side of Orlando Avenue ▪ ***On all crossings at the Horatio Avenue intersection*** ▪ ***Across the Maitland City Centre driveway on the west side of Orlando Avenue**** ▪ Across the Maitland City Centre parking garage exit driveway on the west side of Orlando Avenue ▪ Across the McDonald's driveway on the east side of Orlando Avenue ▪ ***On all crossings at the Packwood Avenue intersection*** ▪ ***On the east and west crossings at the Ventris Avenue intersection**** ▪ Across the Family Practice of Winter Park driveway on the west side of Orlando Avenue ▪ Across the Luke's Kitchen and Bar driveway on the east side of Orlando Avenue ▪ ***On the north, east, and south crossings at the Maitland Avenue/Manor Road intersection; proposing coordination with FDOT to add the western crossing**** ▪ Across the Moye, O'Brien & Matterson, LLP driveway on the east side of Orlando Avenue ▪ ***Across the north and south driveways of Fort Maitland Park on the east side of Orlando Avenue**** ▪ ***Across Lake Lily Drive on the west side of Orlando Avenue**** ▪ Across the Maitland Harbor driveway on the east side of Orlando Avenue ▪ Across the Village at Lake Lily driveway on the west side of Orlando Avenue ▪ ***On all crossings at the Lake Avenue intersection*** ▪ Across the Peach Valley Cafe driveway on the west side of Orlando Avenue

			▪ Across the Lake Maitland Terrace Condo driveway on the east side of Orlando Avenue ▪ On the north and south crossings at the Circle Drive intersections on the west side of Orlando Avenue ▪ ***On all crossings at the Magnolia Road intersection*** ▪ Across the future Park Maitland Square driveway on the west side of Orlando Avenue ▪ ***Across Tangerine Place**** ▪ Across the Valet Cleaners driveway on the west side of Orlando Avenue ▪ ***Across Orange Place**** ▪ Across the Ace Hardware of Maitland driveway on the west side of Orlando Avenue ▪ ***On the crossing at the northbound Park Avenue intersection**** ▪ ***On the crossing at the southbound Park Avenue intersection**** ▪ ***Across Monroe Avenue on the west side of Orlando Avenue****
Extend bollards for turn lanes	Safer turning movements and access management	FDOT (Routed to Maintenance for POP Consideration, where noted)	▪ ***At the merge of Park Avenue and Orlando Avenue heading northbound****

6.5.2 SHORT-TERM RECOMMENDATIONS

Each of the proposed countermeasures were reviewed to best time phasing and implementation. Short-term recommendations, typically completed in 2-5 years, can be found in Table 6-9.

Table 6-9 | Short-Term Recommendations

Countermeasure	Recommendation Type	Implementing Agency	Location/Description
Posted speed sign	Speed management improvements	FDOT (Routed to Traffic Operations)	From north of George Avenue to south of the Greenwood Drive/ Mayo Avenue intersection, speed limit is recommended to be reduced from 45 mph to 40 mph. Updated posted speed signs to be placed: ▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic ▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
Speed feedback sign	Speed management improvements	FDOT (Routed to Traffic Operations)	▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic

			▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
Posted speed pavement markings	Speed management improvements	FDOT (Routed to Traffic Operations)	▪ South of Greenwood Drive/Mayo Avenue, west side of Orlando Avenue near Parker Apartments for southbound traffic ▪ North of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic ▪ South of Sybelia Avenue/Parkway, east side of Orlando Avenue for northbound traffic
"Reduced Speed Ahead" Sign	Speed management improvements	FDOT (Routed to Traffic Operations)	North of Greenwood Drive/ Mayo Avenue on the west side of Orlando Avenue for southbound traffic
Modify to through lane (study)	Safer turning movements and access management	FDOT/City of Maitland	Upon further study, the existing left turn lane on westbound Horatio Avenue accommodates both the southbound turn onto Orlando Ave and though traffic
Directional turn median and Right-in-Right Out Only (RIRO) signage	Safer turning movements and access management	FDOT	▪ West of the Mercedes Benz dealership and east of the Maitland SunRail station ▪ Intersection of Ventris Avenue ▪ Center median between Tangerine Place and Orange Place at the intersection of Circle Drive ▪ Intersection of Monroe Avenue, given accommodation of signal south of the study corridor at Glendon Parkway and continued connectivity of streets in the Ravaudage development
Right Turn Only Lane	Safer turning movements and access management	FDOT (Routed to Traffic Operations)	Intersection of Horatio Avenue, for the northbound Orlando Avenue lane on the eastern side
Proposed sharrows	Bicycle safety improvements	City of Maitland	▪ Sybelia Avenue/Parkway, providing connection to Maitland Avenue to the west and Swoope Avenue to the east ▪ Packwood Avenue, providing connection to Lake Sybelia to the west and Swoope Avenue to the east ▪ Magnolia Road, providing connection to the City of Winter Park to the east
Wayfinding for existing bike lanes/trails	Bicycle safety improvements	City of Maitland	▪ On the east side of Orlando Avenue at the Mayo Avenue pedestrian bridge entrances ▪ Northeast corner of Sybelia Parkway and the southwest corner of Sybelia Avenue ▪ Northeast and southwest corners of Packwood Avenue
Implement Leading Pedestrian Intervals (LPIs)	Pedestrian safety improvements	FDOT	▪ Intersection at Greenwood Drive/ Mayo Avenue ▪ Intersection at Sybelia Avenue/ Parkway ▪ Intersection at Horatio Avenue ▪ Intersection at Packwood Avenue ▪ Intersection at Maitland Avenue/ Manor Road

			▪ Intersection at Lake Avenue ▪ Intersection at Magnolia Road
Reorient/Install pedestrian push buttons and upgrade signage	Pedestrian safety improvements	FDOT	▪ Intersection at Greenwood Drive/ Mayo Avenue ▪ Intersection at Sybelia Avenue/ Parkway ▪ Intersection at Horatio Avenue ▪ Intersection at Packwood Avenue ▪ Intersection at Maitland Avenue/ Manor Road ▪ Intersection at Lake Avenue ▪ Intersection at Magnolia Road
Upgrade to audible pedestrian push buttons with speech information messaging	Pedestrian safety improvements	FDOT	▪ Intersection at Greenwood Drive/ Mayo Avenue ▪ Intersection at Sybelia Avenue/ Parkway ▪ Intersection at Horatio Avenue ▪ Intersection at Packwood Avenue ▪ Intersection at Maitland Avenue/ Manor Road ▪ Intersection at Lake Avenue ▪ Intersection at Magnolia Road
Sidewalk enhancements	Pedestrian safety improvements	FDOT/ City of Winter Park/ Utility Providers	Along the western side of Orlando Avenue from the First Colony Bank to Sybelia Avenue
Pedestrian-scale lighting	Pedestrian safety improvements	FDOT	At the Greenwood Drive/Mayo Avenue intersection: 2 fixtures at the northwest corner abutting the pedestrian bridge entrance, 2 fixtures at the southwest corner along the curb and 6 fixtures at the northeast corner along the path to the pedestrian bridge over the Seminole County line
Midblock crossing with pedestrian hybrid beacon (PHB) or Rectangular Rapid Flashing Beacon (RRFB)	Pedestrian safety improvements	FDOT	▪ Across Orlando Avenue connecting the Maitland SunRail Station and Mercedes-Benz dealership ▪ Across Park Avenue just before merge with Orlando Avenue

6.5.3 MID-TERM RECOMMENDATIONS

Each of the proposed countermeasures were reviewed to best time phasing and implementation. Mid-term recommendations, typically completed in 5-10 years, be found in Table 6-10.

Table 6-10 | Mid-Term Recommendations

Countermeasure	Recommendation Type	Implementing Agency	Location/Description
Add raised median with enhanced landscaping	Speed management improvements	FDOT	▪ Center median north of Greenwood Drive/Mayo Avenue intersection ▪ Directional median at Versailles Drive ▪ Existing pavement marking and southern nose in front of Maitland Exchange ▪ Enhance existing directional turn median at intersection of Lake Lily Drive and Fort Maitland Park ▪ Expanding center median at Circle Drive (south)

			▪ Expanding and directionalizing the existing median at Monroe Avenue
Tighten curb radii	Speed management improvements	FDOT	▪ Northeast curb of Mayo Avenue ▪ Southeast curb of Versailles Drive ▪ North and south entrances to the Mercedes Benz dealership on the east side of Orlando Avenue ▪ North exit and south entrance of Maitland Exchange on the east side of Orlando Avenue ▪ Northeast, northwest, and southeast curbs of Sybelia Avenue/Sybelia Parkway ▪ Northeast curb at Horatio Avenue ▪ North and south curbs at the Seacoast Bank driveway on the west side of Orlando Avenue ▪ Northwest and southwest curbs of Maitland Avenue ▪ Northwest and southwest curbs at Lake Lily Drive ▪ Northeast and southeast curbs at Fort Maitland Park entrance
Access management opportunity zones	Safer turning movements and access management	FDOT	Several properties have been identified as shown on the Recommendations Roll Plot (Appendix A) to reduce the number of access drives from Orlando Avenue. The 10% Concept Plans (Appendix A) reflect proposed improvements to begin conversations with property owners.
Railroad infrastructure improvements	Safer turning movements and access management	FDOT / SunRail	At the Reverend Kenneth C. Crossman bridge north of Monroe Avenue. The Central Florida Rail Corridor/SunRail study currently anticipates constructing a new permanent double track bridge and accommodating future pedestrian trail facilities on a temporary shoefly bridge implemented in the construction phase.
Utility relocation study	Pedestrian safety improvements	FDOT/ City of Winter Park/ Utility Providers	▪ From south of the First Colony Bank to Kappy's Subs on the west side of Orlando Avenue ▪ Across the Mercedes-Benz property ▪ Eastern edge of the Lake Avenue Intersection ▪ North and south of the Reverend Kenneth C. Crossman bridge
Extend median nose through crosswalk	Safer turning movements and access management	FDOT/ City of Winter Park/ Utility Providers	▪ North and south medians at the Greenwood Drive/Mayo Avenue intersection ▪ North and south medians at the Sybelia Avenue/Parkway intersection ▪ All medians at the Horatio Avenue intersection ▪ North and south medians at the Packwood Avenue intersection ▪ North and south medians at the Maitland Avenue/Manor Road intersection ▪ All medians at the Lake Avenue intersection

			▪ North and south medians at the Magnolia Road intersection

7 Conclusion

The Orlando Avenue RSA focuses on a corridor that serves many important community destinations, supports pedestrian activity, and is central to the City of Maitland. However, to improve safety within the study area corridor, it will be important to leverage existing positive design features while working to improve safety concerns related to speed, turning movements, bicycle connectivity, and pedestrian conditions. The analysis of existing conditions, planned and programmed improvements, crash history, speed data, field observations, and public feedback directly informed the countermeasures recommended as a part of this RSA to improve safety for all roadway users into the near- and long-term future.

The countermeasures recommended in this report are intended to provide a practical roadmap grounded in technical analysis and lived experience that advances safety on Orlando Avenue through a combination of maintenance actions, short-term improvements, and mid-term recommendations. These recommendations emphasize speed management, safer turning movements, improved bicycle connectivity, and strengthened pedestrian safety both on sidewalks and at intersections. Together, these strategies are intended to minimize conflicts, reduce vehicle speeds where possible, and increase attentiveness and awareness in a way that is tailored to the specific context and conditions of the Orlando Avenue study area.

Moving forward, successful implementation will depend on funding prioritization, integration with related planned and programmed projects, and continued coordination between FDOT, the City of Maitland, and additional key agencies. As improvements are advanced, the city and its partners can use this RSA to guide decision-making, pursue phased investments, and strengthen the corridor's role as a safer, more connected, and more accessible corridor for residents, businesses, and visitors.

Appendix A: 10% Concept Plans and Recommendations Roll Plot

Appendix B: Straight Line Diagrams

Appendix C: Existing Conditions Report

Appendix D: Field Review Materials

Appendix E: Speed Study Data

Appendix F: RSA Engagement Summary

Appendix G: Orlando Avenue Cost Estimates

Appendix H: HSM Summary Pages

Appendix I: Benefit to Cost Analysis Recommendations



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