



SARASOTA/MANATEE US 41 CORRIDOR MOBILITY AND SAFETY STUDY (CMASS)

Project Summary

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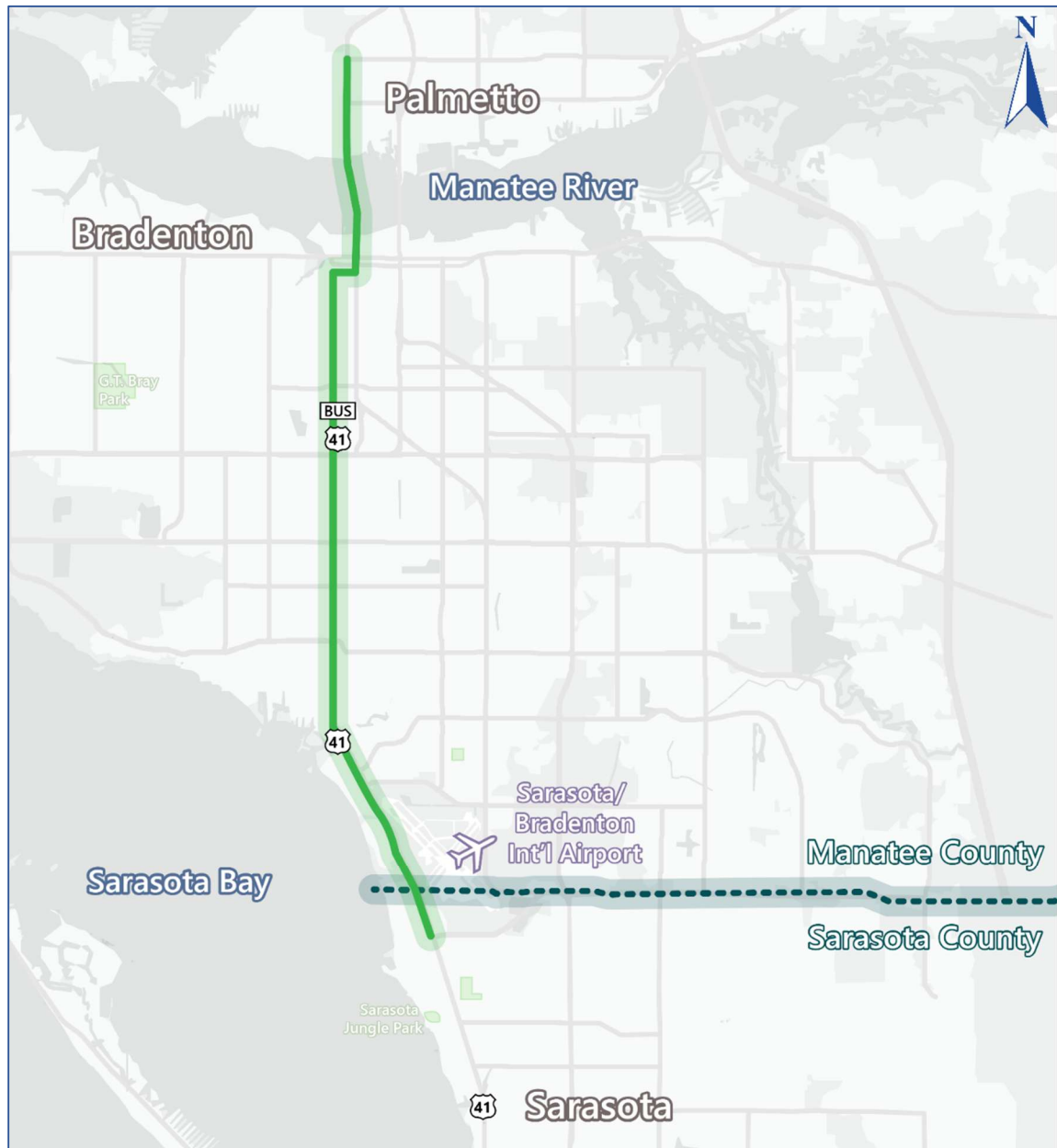
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1. Project Purpose

The purpose of the Sarasota/Manatee US 41 Corridor Mobility and Safety Study (CMASS) was to develop concepts and implementation strategies to enhance multimodal mobility (specifically transit services and operations), interconnectivity within adjacent neighborhoods, and safety for all users along the US 41/US 41 Business corridor between University Parkway in Sarasota and 17th Street W in Palmetto. The study area is shown in Figure 1.

Sections 3 and 4 below summarize the work completed for the US 41 CMASS. The findings of the study are provided in Sections 5, 6, and 7, and the next steps needed to complete the project are summarized in Section 11.

Figure 1: US 41 CMASS Project Location Map



2. Previous Studies

Within the US 41 CMASS study area, FDOT District One and the Sarasota/Manatee Metropolitan Planning Organization (MPO) had already completed 12 previous planning, safety, and mobility studies prior to the start of the US 41 CMASS. The recommendations from these studies, which formed the basis for the US 41 CMASS project, are summarized below.

2.1 FDOT District 1 Studies

The studies described below are listed from south to north along the US 41 corridor.

US 41 Complete Streets Corridor Planning Study (May 2019)

Project Limits: University Parkway to Whitfield Avenue

Safety issues identified:

- Speeding
- Lighting
- Lack of raised median
- High crash intersection at University Parkway

Recommendations:

- Program intersection improvements at University Parkway as an individual project: Add turn lanes, introduce pedestrian crossing on north leg, improve pedestrian crossing on east leg, improve signage, and provide traffic separator in southbound direction.
- Advance a Project Development and Environment (PD&E) Study for the corridor currently scheduled for 2021/22 to an earlier year.
- Work with the MPO and local governments to examine if some recommendations can be included, as part of the programmed resurfacing project scheduled for 2022/2023.
- For elements recommended by the PD&E that are not included in the resurfacing project, prioritize improvements through the MPO prioritization process.
- Increase capacity at intersections
 - Roundabouts at USFSM entrance and Braden Avenue
 - Intersection modifications at University Parkway
- Lane Repurposing
 - Four-lane divided with multimodal accommodations
 - 45 mph design speed
- Two multi-use trails
 - Bayshore Treewalk to Sarasota Bay Trail Corridor
 - University Parkway –Sarasota Bay Trail

Concept of Operations for US 41 Transit System Prioritization (TSP) (Oct 2022)

Project Limits: University Parkway to City of Bradenton City Limits at 26th Avenue W

Recommendations:

- Conduct demonstration project for TSP at US 41 intersections with:
 - University Boulevard

- General Spaatz Boulevard
- Tallevast Road
- Pearl Avenue

US 41 from 63rd Avenue W to 53rd Avenue W Access Management Study (April 2018)

Recommendations:

- Convert the existing continuous two-way left turn lane to a raised 12-foot median with auxiliary 9-foot left-turn lanes at directional or full median openings.
- Provide signalized full median openings at the following cross streets:
 - Bayshore Gardens Parkway
 - 60th Avenue W
 - 57th Avenue W
 - 53rd Avenue W
- Provide directional median openings at the following locations:
 - 63rd Avenue W (northbound directional with removal of the southbound directional)
 - 710 feet south of 57th Avenue W (northbound directional – Winn Dixie driveway)
 - 500 feet north of 57th Avenue W (southbound directional – Save-a-Lot driveway)
 - 55th Avenue W (northbound directional)
 - 54th Avenue W (RaceTrac Gas Station/Assisted Living Facility Access)

US 41 at Florida Boulevard Intersection Safety Analysis (Aug 2020)

Recommendations:

- Consider performing an access management study along US 41 within the influence area of the intersection of US 41 at 66th Avenue.
- Consider installing lighting fixtures within the intersection and street lighting along the approaches. Currently there is only one light fixture within the intersection and there is lighting from surrounding businesses along the approaches. In this context it should be noted that 6 of the 13 pedestrian and bicycle collisions occurred at night.
- Consider restriping the four crosswalks within the intersection with high emphasis treatment. Also consider repaving and restriping the west leg of the intersection.
- Consider changing the phasing of this intersection. Most of the left turn injury collisions within the intersection occurred when the turning vehicle had a permissive phase and misjudged the distance. Consider changing the left-turn phasing for the northbound and southbound approaches to protected only.
- Consider installing advanced street name signs along northbound and southbound US 41 as well as along eastbound Florida Boulevard to guide drivers in advance of the intersection.
- Consider enhancing signal visibility by adding reflective backplates on the signal heads which do not have one.

US 41 at SR 70/53rd Avenue Intersection Safety Analysis (April 2013)

Recommendations:

- Extend the westbound left turn lane to be approximately 750 feet long.
- Use protected left-turn phasing instead of permissive or protected-permissive phasing.

- Add a traffic separator along the left-turn lane on the northbound and southbound approaches.
- Add sidewalks along US 41 and SR 70 in the vicinity of the intersection to make the existing sidewalk continuous.
- Consolidate the driveways along SR 70 in the northeast corner of the intersection.
- Remove the closed driveway along US 41 in the southwest corner of the intersection.

US 41 from 53rd Avenue W to Cortez Road Arterial Safety Study (April 2021)

Recommendations:

- Enhance existing raised median islands with designated crosswalks and traffic control (full signal or HAWK).
- Replace the Two-Way Left Turn Lane (TWLTL, painted median) with a paved median with appropriate directional openings.
- Install advanced street name signs for US 41 approaches to all four signalized intersections within the study corridor and update the signage at all four intersections.
- Use protected left-turn phasing instead of permissive or protected-permissive phasing.
- Add supplemental nearside signal heads for all four approaches at US 41 and Cortez Road.
- Add dilemma zone detection for US 41 approaches to all four signalized intersections within the study corridor.
- Crosswalk refurbishment and Americans with Disabilities Act (ADA) improvements for all curb ramps and pedestrian push button assemblies.
- Reevaluate the clearance interval and pedestrian timings at the four signalized intersections within the study corridor.
- Consider new signal mast arm structures at 49th Avenue Drive and Orlando Avenue.
- Consider a speed zone study to reduce the speed limit in the area.
- Consider adding bike lanes along US 41 in both directions within the study limits.

US 41 Business/14th Street from 17th Avenue W to 8th Avenue W Road Safety Audit (Sept 2017)

Recommendations:

- Corridor wide recommendations:
 - Provide parallel bike boulevard along 15th Street W.
 - Improve pavement markings
 - Improve lighting to support pedestrians
 - Coordinate signals
 - Modify driveways
- At 17th Avenue W:
 - Provide pedestrian crossing on east approach
 - Reconstruct and improve curb returns
- At 14th Avenue W:
 - Relocate fire hydrant at back of curb (east side of 14th St W, approximately 250' south of 14th Ave W) to back of sidewalk and additional sidewalk for walk around
- At 13th Avenue W:
 - Reconstruct curb return in the SE corner and adjust curb ramp
- At 12th Avenue W:
 - Add pedestrian detector station in the SW corner closer to the walking path

- Reconstruct raised pedestrian separator in the SE corner to improve vehicle operation, while maintaining pedestrian safety
- Relocate the utility pole in the SW corner
- At 10th Avenue W:
 - Install pedestrian crossing warning signs and special emphasis crosswalk markings
 - Consider making the driveway on the south side of 1116 14th St W an entrance only, this will require coordination with the property owner

Central Manatee Network Alternatives Analysis (CMNAA) (May 2019)

Project Limits: 17th Avenue W in Bradenton to 17th Street W in Palmetto

Recommendations:

- Lane repurposing to a 3-lane section on US 41 Business/14th Street from 17th Avenue W to 8th Avenue W
- Results from the *US 41 Business/8th Avenue W from Green Bridge to 17th Street W in Palmetto Road Safety Audit (Feb 2018)* and *US 41 Business/14th Street from 17th Avenue W to 8th Avenue W Road Safety Audit (Sept 2017)* described in this section.

US 41 Business/8th Avenue W from Green Bridge to 17th Street W in Palmetto Road Safety Audit (Feb 2018)

Recommendations:

- At 10th Street W:
 - Perform intersection retiming to reduce phase failures
 - Provide protected left turn phasing with a 4-section flashing yellow arrow signal heads and backplates for the southbound and westbound approaches

2.2 Sarasota/Manatee MPO Studies

US 41 Multi-Modal Emphasis Corridor (MMEC) Gap and Safety Analysis (Feb 2020)

The project limits for this study included the full length of the US 41 CMASS study limits and two safety assessment locations within the US 41 CMASS corridor.

Recommendations:

- Corridor-Wide:
 - Crosswalk markings
 - Roadway and intersection / crosswalk lighting
 - Signage
 - Flashing yellow arrow
 - Bus stop siting
 - Right-turn-on-red restrictions
 - Driveway consolidation
 - Innovative intersection designs
 - Bikeway selection
 - Speed management
 - Signal timing and spacing
 - Safe Transportation for Every Pedestrian (STEP)

- At the intersection of US 41 Business/14th Street with 39th Avenue W (Bradenton):
 - Enhance crosswalk markings at intersection to higher-visibility ladder-style
 - Evaluate existing lighting levels, if necessary, evaluate opportunities to provide lighting along west side of US 41 Business/11th Street W, especially at intersections.
 - Consider extending the curb within the southwest corner of the intersection into the existing painted shoulder area to help reduce turning vehicle speeds, reduce pedestrian crossing distances, and improve pedestrian visibility.
 - The Lowe's driveway south of the intersection is large and accommodates high-speed right turns with a larger turning radius. Consider providing marked crosswalk across this driveway opening to better distinguish the continuation of the sidewalk and consider evaluating geometric modifications at the driveway to encourage slower turns.
- At the intersection of US 41 Business/8th Avenue with 17th Street W (Palmetto):
 - Enhance existing crosswalk markings at intersection to higher-visibility ladder-style crosswalk markings
 - Evaluate intersection and crosswalk lighting levels
 - Evaluate opportunities for additional overhead lighting within southwest corner of intersection.
 - Evaluate opportunities to close sidewalk gap
 - Along north side of 17th Street W from US 41 Business/8th Avenue W to Palmetto High School
 - Enhance existing crossings near Palmetto High School
 - Enhance crosswalk markings to ladder-style markings, evaluate lighting, and signage enhancements
 - Evaluate feasibility of installing a raised median island prior to NB left-turn lane
 - Prevent drivers from cutting through median to enter turn lane
 - Consider reducing travel lane widths to provide buffered bicycle lane along 17th Street W and east of US 41 Business/8th Avenue W.

US 41 Transit Choices Study (Nov 2021)

Project Limits: Downtown Sarasota to Downtown Bradenton

Recommendations:

- Implement TSP
- Queue jumps at several congested intersections along corridor
 - US 41 & Cortez Road - Construct dedicated queue jump
 - US 41 & Pearl Avenue - Construct additional shared right-turn lane
 - US 41 & Tallevast Road - Construct additional shared right-turn lane
- Lane repurposing for dedicated bus and Business Access Transit (BAT) lanes from Pearl Avenue to Tallevast Road
- Bus stop relocations
- Concept of Operations (ConOps)/mixed use TSP demonstration project

LECOM / VOTA Mobility Study (July 2024)

Project Limits: US 41 Business / 14th Street from 26th Avenue W to 9th Avenue W

Recommendations:

- Lane repurposing to a 3-lane section

- Provide eleven-foot-wide lanes, wider sidewalks, and median islands with landscaping
- Improved access management
- Two-way turn lanes at key locations
- Roundabouts at 17th Avenue W and 12th Avenue W
- Mid-block crossings
- Sidewalk network connectivity
- Traffic calming measures
- Curb ramp improvements / curb radii reduction
- Detectable warning additions
- Pavement marking improvements
- Signal repairs / pedestrian push button improvements
- Wayfinding signage
- Stormwater improvements

3. Completed Work

The scope for the study included development of project Goals and Objectives and Measures of Effectiveness; public outreach; traffic counts and field reviews on the US 41 corridor; traffic analyses; existing conditions analysis; and development of initial strategies to improve multimodal mobility along US 41. The specific tasks completed for the project included:

- Development of the Goals and Objectives and the Measures of Effectiveness
- Reviews of previous studies and local comprehensive plans
- Data collection (for a comprehensive list, see the data collection table later in this summary)
- Public involvement including:
 - Development of a Communication Plan
 - Presentations and meetings with the Sarasota-Manatee MPO staff and their boards
 - One-on-one stakeholder meetings
 - General public correspondence (no public meetings were held)
- Traffic analysis including methodology and existing traffic conditions (including a multimodal analysis)
- Engineering analysis including field reviews, data collection, transit coordination, alternative typical sections development, and access management determination
- The creation of two primary deliverables:
 - Existing Conditions Report
 - US 41 CMASS Story Map

4. Timeline

Table 1 provides a timeline of the work completed during the US 41 CMASS project.

Table 1: Timeline of Work Completed

Event	Date
Notice to Proceed	Feb 2022
Communication Plan & Online Questionnaire Development & Finalization	May 2022 - May 2023
CMASS & Connecting Communities Branding	Feb - Mar 2022
Project Working Group Meetings (in coordination with Sarasota/Manatee MPO US 41 Concept of Operations meetings)	Feb - May 2022
Storyboard Development	Apr 2022
Website Creation	May 2022
Agency Update Presentations	
Sarasota Manatee MPO BPTAC Presentation	4/19/2022
Sarasota Manatee MPO CAN Presentation	5/9/2022
Sarasota Manatee MPO TAC Presentation	5/9/2022
Sarasota Manatee MPO Board Presentation	5/23/2022
Manatee BoCC Presentation	6/7/2022
Bradenton City Council Presentation	6/15/2022
Palmetto City Council Presentation	6/27/2022
Transect Map of Existing Conditions	Nov 2022
Develop Goals & Objectives	Jan 2023
Develop Measures of Effectiveness	Jan 2023
One-on-One Stakeholder Meetings	
Bradenton Area Convention & Visitors Bureau	1/17/2023
New College of Florida	1/18/2023
Sarasota Manatee Airport Authority	1/19/2023
Greater Sarasota Chamber of Commerce	1/20/2023
University of South Florida Sarasota-Manatee	1/20/2023
Manatee NAACP	1/24/2023
Manasota Black Chamber of Commerce	2/1/2023
Bradenton Area Economic Council	2/3/2023
Data Collection	
Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) Area of Interest (AOI)	Nov 2021
Previous Studies & Planned Projects	Feb - Mar 2022
Existing Conditions Data Collection	Feb 2022 - Nov 2023
Crash Data Collection and Analysis	Feb 2022
Traffic Counts	May - July 2023
Bike & Pedestrian Features	Aug - Oct 2023

Field Review	Aug 2023
Traffic Analysis	July - Sept 2023
Finalize Goals & Objectives	May 2023
Finalize Measures of Effectiveness	May 2023
Develop Initial Neighborhood Strategies with input from: Project Working Group Project Advisory Group Sarasota Manatee MPO Staff	May 2023
Refine Strategies Based on Input and share with: Project Working Group Project Advisory Group	Sept - Oct 2023
Develop Existing Conditions Report	Sept - Dec 2023
Develop Story Map	Sept - Dec 2023
Present Final Strategies to Sarasota Manatee MPO Board	Jan 2024

5. Stakeholder Coordination

Local input was sought throughout the study process to ensure that the needs and desires of the surrounding community were accounted for. The local agency presentations and one-one-one stakeholder meetings are listed in the project timeline included earlier in this summary and detailed in the *Sarasota/Manatee US 41 CMASS Summary of Outreach*, under separate cover. The primary feedback received from the stakeholder meetings included:

- Provide continuous bicycle and pedestrian features throughout the corridor including bicycle lanes, crosswalks, and pedestrian overpasses.
- Improve coordination/timing of traffic signals.
- Implement speed management/speed controlling measures.
- Establish better connections between US 41 and the neighborhoods behind it.
- Enhance multimodal mobility including transit services, transit stops, and connectivity.
- Improve signage.
- Improve lighting including illuminating all sidewalk areas along the corridor.
- Aesthetic improvements and consistency along the corridor to reflect the vibrancy of the region.
- Concerns for potential impacts to local historic and cultural focal points along the corridor.
- Consider planning improvements to address the homeless population.

6. ArcGIS Story Map

The ArcGIS Story Map created for the US 41 CMASS project was published in February 2024 and is located here: <https://storymaps.arcgis.com/stories/a378255a9e7d4120bddaa783a4883efc>

The Story Map presents the work completed for the project (including public outreach, the corridor existing conditions, and demographics), and provides a look-ahead to the work that would have been carried out if the

project had progressed (including community and agency engagement, analyzing improvement strategies, and the development of a final implementation plan).

7. Existing Conditions Report

The Sarasota/Manatee US 41 CMASS Existing Conditions Technical Memo presents the results of the existing conditions and stakeholder coordination conducted during the study.

7.1 Data Collection

Table 2 presents the data collected and presented within the Existing Conditions Report.

Table 2: Data Collection

Data	Source	Date of Collection
Roadway Characteristics		
Context Classifications	<i>FDOT GIS Preliminary Context Classification</i> feature class	10/14/2023
Access Management Classifications	FDOT's Roadway Characteristics Inventory (RCI)	July 2023
Typical Section Characteristics and Geometries	FDOT Straight Line Diagrams (SLDs), Google Earth, and field reviews	August 2023
Median Types and Widths	FDOT SLDs, Google Earth, and field reviews	August 2023
Posted Speed Limits	FDOT RCI and field reviews	October 2023
Jurisdictions	FDOT SLDs	August 2023
Lighting	Google Earth and field reviews	August 2023
Drainage Type	Google Earth, and field reviews	August 2023
Utilities	Sunshine 811 and field reviews	November 2023
Pedestrian and Bicycle Facilities		
Bicycle Lanes	FDOT RCI bicycle lane dataset	October 2023
Sidewalks	FDOT RCI database, Google Earth, Esri base map aerials, and field reviews	August 2023
Pedestrian Accommodation at Signalized Intersections	Google Earth and field reviews	August 2023
Transit Service and Infrastructure		
Transit Routes	Manatee County Area Transit (MCAT) and Breeze Transit (FKA SCAT) transit maps and schedules	May 2023
Transit Stop Accommodations	Google Maps and field reviews	May 2023
Ridership and Timing	MCAT and Breeze Transit ridership records and schedules	May 2023
Land Use Characteristics		
Existing Land Use	<i>Florida Parcel Data Statewide – 2022</i> GIS dataset (collected from the Florida Geographic Data Library (FGDL))	July 2023
Future Land Use	<i>Florida Level 2 Future Land Use 2020 – April 2022</i> GIS dataset (published by the University of Florida GeoPlan Center)	July 2023
Developments	Sarasota County GIS Site And Development Area Shapefile, Manatee County GIS Land Development Portal, and field reviews	11/3/2023 and August 2023

Development of Regional Impact (DRI)	Manatee County Ordinance #21-05 – SRQ Airport	November 2023
Zoning Data	Sarasota County GIS data Manatee County GIS data The City of Sarasota GIS data The City of Bradenton GIS data The City of Palmetto GIS data	July 2023
Schools and Public Facilities	<i>School Facilities (Public and Post-Secondary) Boundaries in Florida – 2023 GIS dataset, and School Facilities (Private) Boundaries in Florida – 2017 GIS dataset</i>	July 2023
Demographics		
Demographic data, including: Population, Households, Age, Sex, Race, Ethnicity, Income, Housing, Limited English Proficiency (LEP), Vehicle Ownership, and Employment	US Census Bureau 2021 American Community Survey (ACS) Five-Year Estimates: Block Group data and Census Tract data	June 2023
Traffic Data		
Annual Average Daily Traffic (AADT)	Florida Traffic Online (FTO)	February, 2022
Peak Hour Flow to Daily ratio (K factor)	FTO	February, 2022
Directional Split (D factor)	FTO	February, 2022
Daily Truck Percentages (T-daily factor)	FTO	February, 2022
8-hour Turning Movement Counts (TMCs)	FDOT	Collected between May and July 2023
Signal Timings	Sarasota County Traffic Operations Manatee County Traffic Operations	July 2023
Crash Data		
2019 – 2023 Crash Data	University of Florida’s Signal 4 Analytics	02/09/2022

7.2 Roadway Characteristics

The primary roadway characteristics of US 41 through the project limits at the time of publication (January 2024) are summarized in Table 3.

Table 3: US 41 Roadway Characteristics

Segment	Context Class ¹	Access Class	Number of Lanes	Median	Posted Speed Limit (mph)
University Parkway to North of General Spaatz Boulevard	C3C	5	5 (2 NB, 3 SB)	Raised Median	45
North of General Spaatz Boulevard to Edwards Drive	C3C	6	6	Raised Median	45
Edwards Drive to Magellan Drive	C3C	6	6	Bi-directional Center Turn Lane	50
Magellan Drive to 63rd Avenue	C3C, C3R	7	6	Bi-directional Center Turn Lane	45
63rd Avenue to 53rd Avenue W	C3R	7	6	Raised Median	45
53rd Avenue W to Cortez Road	C3R	7	6	Bi-directional Center Turn Lane	45
Cortez Road to 26 th Avenue W	C4	7	4	Raised Median	40
26th Avenue W to 8th Avenue W	C4	7	4	None	35
Along 8th Avenue W from US 41 Business to 9th Street	C4	7	2	Raised Median	25
US 41 Business/9th Street from 8th Avenue W to the Green Bridge	C4	7	5 (3 NB, 2 SB)	Raised Median	35
US 41 Business/The Green Bridge	C3C	7	4	Concrete Barrier	45
US 41 Business/The Green Bridge to just north of 17th Street W	C4	7	4	None	30 - 45

The majority of the project corridor has existing lighting along at least one side of the road, however only a few short segments have lighting along both sides of the road.

US 41 along the study corridor is a closed drainage system, with water being collected through drainage inlets in the curb and gutter. No ponds are located adjacent to the US 41 study corridor.

Utility types located along the US 41 corridor include telephone, communication lines, fiber, CATV, stormwater, wastewater, reclaimed water, chilled water, gas, traffic lights/signals, and water from 21 individual Utility Agencies/Owners (UAOs).

7.3 Pedestrian and Bicycle Facilities

The US 41 corridor mostly lacks bicycle lanes. Designated bicycle lanes are only provided from the Sarasota/Manatee County Line to Montgomery Avenue, and on the northbound side of the US 41 Business/Green Bridge. The east/west segment of US 41, along 8th Avenue, provides sharrows. There are no other bicycle facilities identified along the US 41 Business corridor. Conversely, sidewalks are present along at least one side of US 41 throughout most of the project limits. The only segment fully lacking sidewalks is from 53rd Avenue W to 49th Drive W. Pedestrian accommodations at signalized intersections vary throughout the study limits, however

sidewalks, curb ramps, clearly marked crosswalks, accessible pedestrian buttons, detectable warning strips, and ample flat landing space surrounding each curb ramp are provided at most intersections.

7.4 Transit Service and Infrastructure

Manatee County Area Transit (MCAT) and Breeze Transit (FKA SCAT) provide fixed route service throughout the study area with Route 99 being the primary route that travels along the US 41/US 41 Business corridor. There are approximately 84 stops situated along the study corridor.

7.5 Land Use Characteristics

Existing Land Uses along the US 41 corridor are primarily comprised of Commercial properties fronting the roadway with Residential properties situated behind. Other significant land uses include Governmental, Industrial, and Institutional.

Nearly half of the Future Land Use along the study corridor is comprised of Mixed Use – General future land use. Other major future land uses include Institutional/Governmental and Mixed Use – Downtown/Urban Core.

Throughout the majority of the study corridor the predominant zoning surrounding US 41 is for General Commercial. Where the study corridor passes through downtown Bradenton and downtown Palmetto, the primary zoning is for Urban Center/Core and Commercial Core; once the study corridor passes the Palmetto downtown area the primary zoning returns to Business/Light Commercial.

The land surrounding US 41 is almost entirely built out, however eight development projects were ongoing at the time of publication. Additionally, one active Development of Regional Impact (DRI) was located within one mile of the study corridor; the Sarasota Bradenton International Airport (SRQ). This was mostly built out, but had some ongoing development in the outparcels.

7.6 Demographics

Demographic data was gathered for Manatee and Sarasota Counties to determine the population characteristics of the study corridor and its surroundings. Notable findings included:

- The study area has a higher proportion of racial minorities (22%) than the surrounding counties (19% in Manatee County and 12% in Sarasota County).
- In the study area, 23.18% of households are below the federal poverty line, which is higher than the surrounding counties (10.36% in Manatee County and 8.83% in Sarasota County).
- Limited English Proficiency (LEP) populations in the study area do not meet the Department of Justice's (DOJ's) Safe Harbor Provision threshold for written translations (minimum LEP population of 1,000 persons or 5% of the area population).
- Approximately 90.6% of the study area population aged 16 years and older are in the civilian labor force, which is slightly lower than Manatee and Sarasota Counties.
- About 7.51% of households in the study area have no vehicle available (slightly higher than for Manatee and Sarasota Counties).

7.7 Existing Traffic Conditions

Using the traffic data collected for the study corridor, Volume to Capacity (V/C) ratios were calculated for the roadway segments along US 41. All roadway segments along US 41 were found to be operating with an acceptable V/C ratio with the exception of the segment from SR 64/Manatee Avenue to Riverside Drive.

Existing intersection delays and LOS information were calculated for the 30 signalized intersections within the study corridor. The following signalized intersections exceeded the targeted LOS D in the existing conditions:

- University Parkway/Ringling Plaza
- Bayshore Gardens Parkway
- 53rd Avenue W
- 44th Avenue W/Cortez Road W
- 6th Avenue W

The stop-controlled intersection at US 41 and Pine Street N was found to exceed the target LOS for both a major and minor street approaches under the existing conditions. The following stop-controlled intersections along US 41 were found to exceed the target LOS for a minor street approach in the existing conditions:

- Pine Street N
- Business Driveway
- 29th Avenue W
- 26th Avenue W
- 8th Street W
- 13th Street W

7.7.1 Multimodal Segment Level of Traffic Stress (LTS) Analysis

The performance of alternative transportation modes, such as walking, cycling, and transit, were evaluated based on the Level of Traffic Stress (LTS), which quantifies the amount of discomfort felt by travelers walking or cycling along a roadway. In general, LTS 1 indicates the highest comfort level, and LTS 4 indicates the lowest comfort level.

Segments along US 41 varied from LTS 1 to LTS 4 for the pedestrian analysis while all bicycle analysis resulted in the LTS 4, the lowest comfort levels, except for 2 segments, Riverside Drive to 7th Street West and 7th Street West to 10th Street West. The major contributing factors to the low scores were the lack of bicycle lanes, high AADTs, high posted speed limits, and lack of separation from the vehicular travel lanes.

7.8 Safety Analysis

At the time of publication, FDOT District One had identified a list of the top 20 fatal roadway segments in the district. Of those, the following six segments and their ranking were located within the study limits:

- 63rd Avenue W to 55th Avenue W; Ranked #1
- 55th Avenue W to Orlando Avenue; Ranked #2
- Magellan Drive to 63rd Avenue W; Ranked #8
- County line to Scott Avenue; Ranked #9

- Orlando Avenue to 30th Avenue W; Ranked #11
- 10th St W to N of 23rd St W; Ranked #14

A crash analysis for the US 41 corridor was conducted using 2019-2022 crash data. In total, 1,796 crashes occurred during that time period. The most frequent crash types were rear end (676), left turn (281), and sideswipe (271). There were 19 fatal crashes, 654 injury crashes, and 1,123 property damage only crashes. Twenty-six percent of crashes occurred in nighttime lighting conditions.

The following patterns were noted in the study corridor's crash data:

- A majority of pedestrian/bicycle related crashes occurred along the roadway segment between 57th Avenue W and Cortez Road W/44th Avenue E, where the corridor consists of high-speed traffic and surrounded by commercial land use.
- Pedestrian fatalities were concentrated along US 41 between 51st Avenue Drive W and 58th Avenue W. Three pedestrian fatalities occurred at or near the intersection of US 41 and 51st Avenue Drive W. This could be due to a lack of lighting in this area and no marked crosswalks.
- The highest frequency crash location was at Cortez Road W/44th Avenue W and US 41 intersection. These crashes were mostly due to careless driving, which could be due to high traffic volume and the transition from a six-lane divided roadway to a four-lane divided roadway.
- The highest frequency crash type was rear end. Congestion and high speeds along the corridor may contribute to the high number of rear end crashes.

8. Ongoing and Planned Projects

A summary of the ongoing projects in the vicinity of the CMASS corridor at the time of publication of the *Existing Conditions Report* (January 2024) was provided and updated with this summary, includes the following projects:

- Design Projects:
 - US 41 TSP Demonstration Project (FPID: 453563-1)
 - US 41 Resurfacing from north of Myrtle Street to Edwards Drive (FPID: 451011-1)
 - US 41 Resurfacing from Edwards Drive to Magellan Drive (FPID: 444612-1)
 - US 41 over Bowlees Creek Bridge #130082 Asphalt Overlay (FPID: 455769-1)
 - US 41 Resurfacing from Magellan Drive to 63rd Avenue (FPID: 451026-1)
 - US 41 Safety Interrupter Islands from Magellan Drive to 63rd Avenue (FPID: 449653-1)
 - US 41 Lighting from N. of Magellan Drive to 69th Avenue (FPID: 449653-1)
 - US 41 Sidewalk and Lighting from 69th Avenue to 63rd Avenue (FPID: 449653-1)
 - US 41 Mid-Block Crossings from 63rd Avenue to 53rd Avenue (FPID: 448390-1)
 - US 41 Mid-Block Crossings from 53rd Avenue to Cortez Road (FPID: 449646-1)
 - US 41 Sidewalk and Lighting from 53rd Avenue to Cortez Road (FPID: 449646-1)
 - US 41 Resurfacing from north of 26th Avenue W to north of 10th Street (FPID: 451025-1)
 - US 41 Business/8th Avenue W Midblock Crossing at 12th Street (FPID: 444904-1)

- SR 45 (US 41B) Resurfacing and Roundabout from 17th Street to Bayshore Road (FPID: 444440-1)
- Planning and PD&E Studies:
 - 10th Avenue from Riverside Drive to 17th Street W Complete Streets Study (FPID: 433142-2)
 - DeSoto Bridge from SR 64 (Manatee Avenue) to Haben Boulevard PD&E Study (FPID: 442630-1)
 - Bradenton-Palmetto Connector from City of Bradenton to City of Palmetto Alternative Corridor Evaluation Study (FPID: 444843-1)
 - Palmetto Trails Network from MCAT Station to Lincoln Park to Washington Park PD&E Study (FPID: 444857-1)
 - Cortez Road Vision and Action Plan from 121st St Ct to 301 Blvd E (FPID: 450894-1)

9. Summary of US 41 Corridor Recommendations

Based on the review of previous studies, existing conditions analysis and stakeholder coordination, corridor recommendations were summarized for the corridor. The list of recommendations was consolidated based on location throughout the US 41 CMASS corridor. Several of the study recommendations have been included in ongoing or planned projects. This section also describes which of these recommendations have already been implemented or are programmed to be implemented as part of other projects.

The list of recommendations below is shown from south to north within the project limits.

Table 4: Summary of US 41 Corridor Recommendations

Segment	Recommendation	Planned or Programmed Project Including Recommendation	Needs Further Evaluation / Implementation?
Corridor wide	● Crosswalk Markings ● Roadway and Intersection / Crosswalk Lighting ● Signage ● Flashing Yellow Arrow ● Bus Stop Siting ● Right-Turn-on-Red Restrictions ● Driveway Consolidation ● Innovative Intersection Designs ● Bikeway Selection ● Speed Management ● Signal Timing and Spacing ● Enhance existing raised median islands with designated crosswalks and traffic control ● Safe Transportation for Every Pedestrian (STEP) ○ Rectangular Rapid-Flashing Beacons (RRFB)	FPID: 448390-1 Add mid-block crossing on US 41 between 63rd Ave and 53rd Ave FPID: 449646-1 Add mid-block crossing on US 41 between 53rd Ave and Cortez Rd FPID: 444904-1 Add mid-block crossing on US 41B / 8th Ave. at 12th St in Palmetto	Yes

	○ Leading Pedestrian Intervals (LPI) ○ Crosswalk Visibility Enhancements ○ Raised Crosswalks ○ Pedestrian Crossing/Refuge Islands ○ Pedestrian Hybrid Beacons (PHB) ○ Lane Repurposing		
Corridor wide	Fill bike lane gaps along US 41 in both directions	N/A	Yes
Corridor wide	Construct planned multi-use trails: Bayshore Treewalk to Sarasota Bay Trail Corridor and University Parkway – Sarasota Bay Trail	N/A	Yes
South end of corridor approximately between University Parkway to Cortez Road	Conduct a speed study to evaluate reduction in speed limit	N/A	Yes
US 41 at University Parkway Intersection	• Add turn lanes • Add pedestrian crossing on north leg • Improve pedestrian crossing on east leg of intersection • Improve signage • Provide traffic separator in southbound direction	FPID: 451011-1 Resurfacing from north of Myrtle Street to Edwards Drive will install a crosswalk on the north leg of this intersection to provide crosswalks across all four legs. Additionally, lighting will be improved at this intersection	Yes
US 41 from Edwards Drive to Pearl Avenue	Lane repurposing from 6 to 4 lanes	N/A	Yes
US 41 from Edwards Drive to 63rd Ave	Remove TWLTL and replace with raised median	FPID: 444612-1 Resurfacing from Edwards Drive to Magellan Drive FPID: 451026-1 Resurfacing from north of Magellan Drive to 63rd Avenue* *Approximately half of the TWLTL along this segment are being replaced with raised concrete medians. Due to limited ROW, there is not enough space to install	No

		concrete medians throughout the full segment.	
US 41 from University Pkwy to Cortez Rd	Conduct demonstration project for TSP at US 41 intersections with: - University Blvd. - General Spaatz Blvd. - Tallevast Rd. - Pearl Ave.	FPID: 453563-1 TSP Demonstration project for nine intersections	No
US 41 from University Pkwy to Cortez Rd	Provide for queue jumps: - US 41 & Cortez Road - Construct dedicated queue jump - US 41 & Pearl Avenue - Construct additional shared right-turn lane - US 41 & Tallevast Road - Construct additional shared right-turn lane - Pearl Avenue to Tallevast Road - Construct BAT Lane	Potentially included in TSP Demonstration project above	Yes
US 41 at USF Entrance	Evaluate roundabout	N/A	Yes
US 41 at Braden Ave	Evaluate roundabout	N/A	Yes
US 41 at Florida Blvd.	- Lighting - High emphasis crosswalk striping - Signal Phasing - Advanced street name signs - Enhancing signal visibility	FPID: 451026-1 Resurfacing from north of Magellan Drive to 63rd Avenue	No
US 41 at SR 70 / 53rd Ave., 49th Ave. Dr. W, Orlando Ave / 46th Ave Dr W, and Cortez Rd / 44 th Ave	- Install advanced street name signs for US 41 approaches - Update signage - Use protected left-turn phasing instead of permissive or protected-permissive phasing - Add dilemma zone detection for US 41 approaches - Reevaluate clearance interval and pedestrian timings - Crosswalk refurbishment and ADA improvements for all curb ramps and pedestrian push button assemblies	Some improvements may be included in the following: - FPID: 449646-1 US 41 Mid-Block Crossings from 53rd Avenue to Cortez Road - FPID: 449646-1 US 41 Sidewalk and Lighting from 53rd Avenue to Cortez Road	Yes
US 41 at Cortez Road / 44th Ave	Add supplemental nearside signal heads for all four approaches at	N/A	Yes

	US 41 and Cortez Road (in addition to recommendations above)		
US 41 at 39th Avenue W	- Enhance crosswalk markings to higher-visibility ladder-style - Evaluate existing lighting levels, especially along west side of US 41 Business - Extend curb within SW corner of intersection to help reduce turning vehicle speeds, reduce pedestrian crossing distances, improve pedestrian visibility. - Lowe's driveway south of intersection - Provide marked crosswalk across driveway - Evaluate geometric modifications to encourage slower vehicular turns	N/A	Yes
US 41B/14th Street from 26th Ave W to 8th Ave W (Downtown Bradenton)	Lane repurposing to a 3-lane section	N/A	Yes
US 41B/14th Street from 26th Ave W to 8th Ave W (Downtown Bradenton)	Add bike/ pedestrian and safety improvements: - Mid-block crossings - Sidewalk network connectivity - Traffic calming measures - Curb ramp improvements / curb radii reduction - Detectable warning additions - Pavement marking improvements - Signal repairs / pedestrian push button improvements - Wayfinding signage - Stormwater improvements - Lighting improvements to support pedestrians - Driveway modifications - Signal coordination	Some improvements may be included in: FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes

	• Provide parallel bike boulevard along 15th St. W		
US 41B/14th Street at 17th Ave W (Downtown Bradenton)	• Evaluate addition of roundabout • Provide pedestrian crossing on east approach • Reconstruct and improve curb returns	Some improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes
US 41B/14th Street at 14th Ave W (Downtown Bradenton)	• Relocate fire hydrant at back of curb (east side of 14th St W, approximately 250' south of 14th Ave W) to back of sidewalk and additional sidewalk for walk around	Improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes
US 41B/14th Street at 13th Ave W (Downtown Bradenton)	• Reconstruct curb return in the SE corner and adjust curb ramp	Improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes
US 41B/14th Street at 12th Ave W (Downtown Bradenton)	• Evaluate addition of roundabout • Add pedestrian detector station in the SW corner closer to the walking path • Reconstruct raised pedestrian separator in the SE corner to improve vehicle operation, while maintaining pedestrian safety • Relocate the utility pole in the SW corner	Some improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes
US 41B/14th Street at 10th Ave W (Downtown Bradenton)	• Install pedestrian crossing warning signs and special emphasis crosswalk markings • Consider making the driveway on the south side of 1116 14th St W an entrance only (requires coordination with the property owner)	Some improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes
US 41B/14th Street at 8th Ave W (Downtown Bradenton)	• Relocate pedestrian detector station closer to crosswalk • Provide pedestrian pushbutton extenders	Some improvements may be included in: • FPID: 451025-1 US 41 Resurfacing from north of 26th Avenue W to north of 10th Street	Yes

US 41B/8th Avenue at 10th St W (Palmetto)	• Perform intersection retiming to reduce phase failures • Provide protected left turn phasing with a 4-section flashing yellow arrow signal heads and backplates for SB and WB • Consider modifying Checkers driveway access (north of intersection) to a right-in/right-out configuration and installing regulatory features	N/A	Yes
US 41B/8th Avenue at 17th St W (Palmetto)	• Enhance existing crosswalk markings at intersection to higher-visibility ladder-style • Evaluate intersection and crosswalk lighting levels • Evaluate opportunities to close sidewalk gap to Palmetto High School • Enhance existing crossings near Palmetto High School • Evaluate feasibility of installing a raised median island prior to NB left-turn lane • Consider reducing travel lane widths to provide buffered bicycle lane along 17th St. W and east of US 41 Business/8th Ave. W	Some improvements may be included in: • FPID: 444440-1 US 41B Resurfacing and Roundabout from 17th Street to Bayshore Road	Yes

10. Next Steps

In order to advance the proposed improvement strategies for the US 41 corridor it is recommended to categorize the proposed improvement strategies into short-term, mid-term and long-term needs and to identify opportunities to incorporate as many proposed improvements as possible within existing programmed projects to provide for an efficient and cost-effective method of implementation. Remaining project segments or improvements that cannot be incorporated into existing programmed projects should be analyzed further and evaluated for next steps for implementation.

The recommendations shown in Section 9 of this report should be revisited to determine if they can be added to the planned and programmed projects. For a detailed list of the US 41 CMASS recommendations for these segments, please refer to the *US 41 CMASS Existing Conditions Report* and the *US 41 CMASS Pass-the-Torch Presentation*.

In addition, some segments of the corridor require further development and evaluation to determine how to implement the proposed improvement strategies.

Roadway segments that need further corridor wide evaluation include:

- Evaluate lane repurposing of US 41 from Edwards Drive to Pearl Avenue
- Evaluate safety improvements on US 41 from Cortez Road to 26th Avenue
- Evaluate lane repurposing of USB 41 from 26th Ave W to 8th Ave W
- Evaluate safety improvements on USB 41/9th Street from 8th Avenue W to Green Bridge
- Update Arterial Safety Report completed in Feb 2018 for US 41 Business / 8th Avenue W from Green Bridge to 17th Street W

Strategies to evaluate on these segments include (but are not limited to) potential context based options, including transit related improvements; lane repurposing; bicycle and pedestrian connections to surrounding neighborhoods; a shared use path; innovative intersection concepts; and access management. A public outreach campaign may be conducted to obtain public input on the potential improvement strategies and to help with prioritizing them based on the local community's wants and needs.