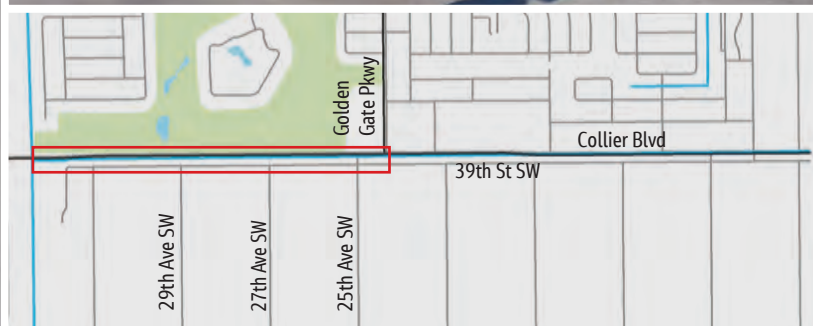
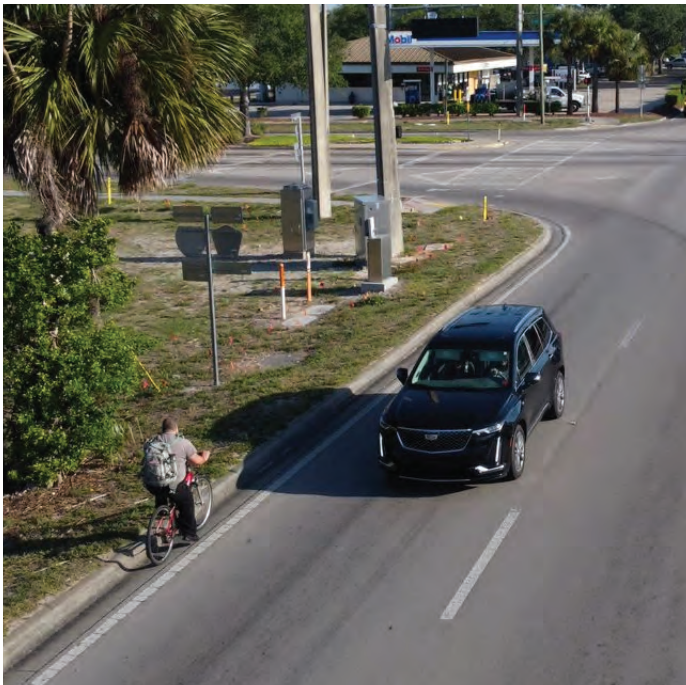




Collier Boulevard Bridge Location Study Memorandum

May 2022

Approved by BCC 7-12-2022 Item 11.M



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Acronyms and Abbreviations

AM	morning
AUIR	Annual Update and Inventory Report
CAT	Collier Area Transit
FDOT	Florida Department of Transportation
GGAMP	Golden Gate Area Master Plan
LDC	Land Development Code
LOS	Level of service
L RTP	Long Range Transportation Plan
PM	afternoon
ROW	right-of-way
SFWMD	South Florida Water Management District
VMS	Variable Message Sign
vph	vehicle(s) per hour

1. Project Introduction

1.1 Project Overview

The Collier County Capital Project Planning, Impact Fees & Program Management Division (hereinafter, "the County") initiated the Collier Boulevard Bridge Location Study (hereinafter, "the Study") to evaluate a new replacement bridge location along Collier Boulevard (CR 951), required as a result of widening Collier Boulevard between City Gate Boulevard N to Green Boulevard. The Study Area is located in western Collier County as shown in the Regional Location Map in Figure 1-1. The widening project impacts the existing bridge at 25th Avenue SW, requiring it to be removed. This bridge connects 39th Street SW to Collier Boulevard over the CR 951 Canal. The widening of this segment of Collier Boulevard from four lanes to six lanes (hereinafter, "the Collier Boulevard Widening Phase III Project") is in the design phase under the direction of the Collier County Transportation Engineering Division. The proposed widening improvements will help relieve congestion, improve safety, and accommodate future traffic demands within the area.

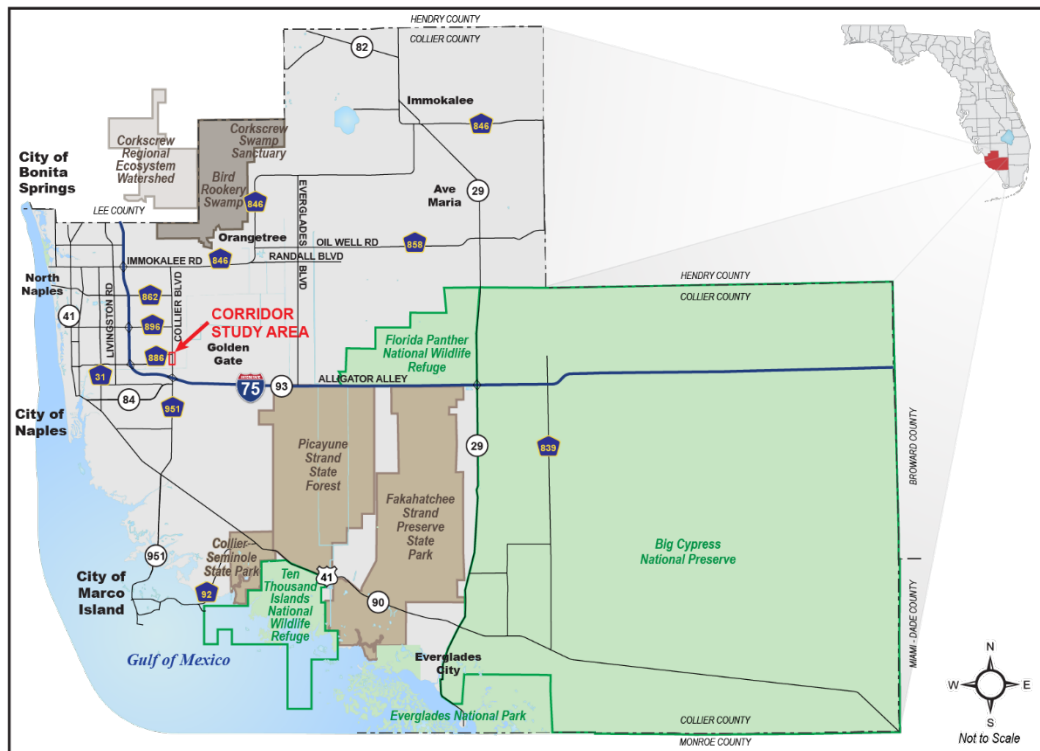


Figure 1-1. Regional Location Map

The Study involved evaluating various locations for a new bridge to reconnect Collier Boulevard to 39th Street SW. Proposed locations included 29th Avenue SW, 27th Avenue SW, 25th Avenue SW, and Golden Gate Parkway. Figure 1-2 presents the Study Area, which is located east of I-75. The Study also considered the implications of traffic signals at the various bridge locations; however, a full signal warrant analysis was not within the scope of this Study. To prioritize safety, comfort, and access to destinations along Collier Boulevard and Golden Gate Parkway (within Golden Gate City), the Study included multimodal accommodations such as a separate pedestrian/bicyclist bridge that would provide access from 39th Street SW to Golden Gate Parkway.

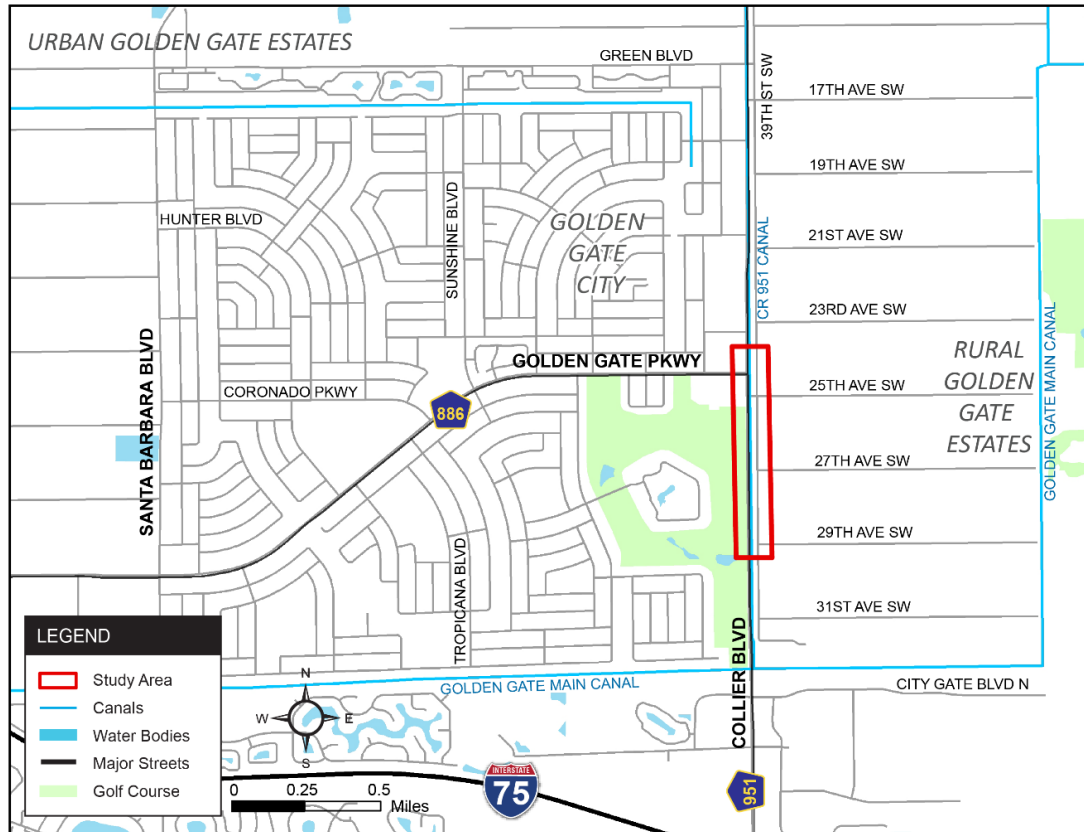


Figure 1-2. Study Area for the Collier Boulevard Bridge Location Study

1.2 Purpose and Need

The purpose of the bridge relocation project is to evaluate alternatives to address replacing the existing 25th Avenue SW bridge that will be removed as a result of widening Collier Boulevard between City Gate Boulevard N to Green Boulevard. The existing bridge does not provide multimodal accommodations, nor does it meet existing design criteria (refer to Figures 1-3 and 1-4). The project needs include:

- Maintaining access to Collier Boulevard for residents and businesses in Rural Golden Gate Estates
- Enhancing multimodal mobility and access for bicyclists and pedestrians by providing dedicated bicycle and pedestrian facilities
- Improving safety by reducing conflicts between motorists, and bicyclists and pedestrians, and ensuring the new replacement bridge meets current design and safety criteria

The Recommended Alternative is anticipated to be included with the design and construction of the Collier Boulevard Widening Phase III Project.



Figure 1-3. Bicycle User on the Existing 25th Avenue SW Bridge



Figure 1-4. Pedestrian Using the Existing 25th Avenue SW Bridge

As identified in the Golden Gate Area Master Plan (GGAMP), Rural Golden Gate Estates includes the residential area east of Collier Boulevard and 39th Street SW, between 31st Avenue SW and 11th Avenue SW (refer to Figure 1-5). This area has limited access to Collier Boulevard because of the existing CR 951 Canal system east of Collier Boulevard. The area's access to Collier Boulevard is limited to the existing bridge connections along 39th Street SW crossing the CR 951 Canal at 25th Avenue SW, 17th Avenue SW, and Green Boulevard, as well as an at-grade connection from 39th Street SW to White Boulevard.

The traffic signal at Green Boulevard provides full access from 39th Street SW to Collier Boulevard (left-turn, through, and right-turn movements). The other bridge locations as well as the at-grade connection at White Boulevard do not include traffic signals and are limited to right-turn-only movements to/from Collier Boulevard, requiring a U-turn to travel southbound on Collier Boulevard. There is also a southbound left turn movement from Collier Boulevard to the existing 25th Avenue SW bridge.

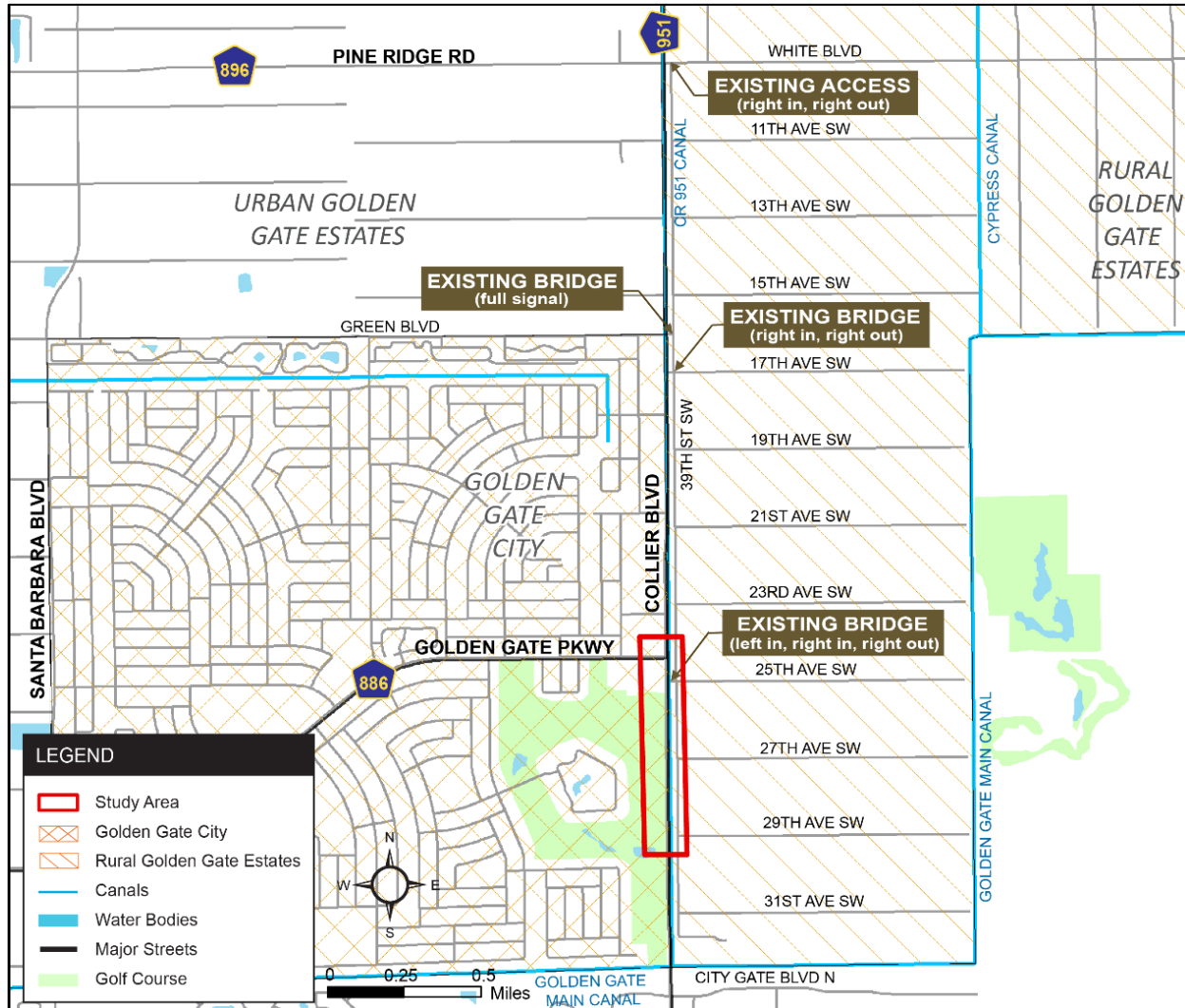


Figure 1-5. Existing Access from 39th Street Southwest

1.3 Alternatives Development

Alternatives considered as part of this study include the No-Build Alternative and four alternatives. The initial alternatives include four bridge replacement locations that connect 39th Street SW to Collier Boulevard and identified as follows:

- Alternative 1: 29th Avenue SW
- Alternative 2: 27th Avenue SW
- Alternative 3: 25th Avenue SW
- Alternative 4: Golden Gate Parkway

These initial alternatives were evaluated using current design criteria to determine their feasibility. Alternative 3, 25th Avenue SW, was deemed a non-viable alternative early in the study due to its proximity to Golden Gate Parkway and the restrictions associated with that location. The remaining three viable alternatives were further refined based on their ability to meet current design criteria for access management and safety. A qualitative and quantitative analyses was also performed with regards to mobility, opportunities for signalization, and impacts to traffic operations. The alternatives were presented

at the Public Information Meeting on April 6, 2022, for public review and comment. The viable alternatives were further refined based on public input and a more detailed analysis of operational impacts, to identify the Recommended Alternative. Attachment A provides preliminary concepts for the viable alternatives.

Note: The No-Build Alternative includes the removal of the 25th Avenue SW bridge associated with the widening of Collier Boulevard, with no replacement bridge provided. The No-Build Alternative serves as a baseline for comparison and remained an alternative throughout the Study. However, based on existing and future traffic needs, the No-Build Alternative is not a feasible solution.

2. Existing Conditions

2.1 Roadway Typical Section

Figure 2-1 presents the existing roadway typical section within the Study Area, which includes a 200-foot-wide right-of-way (ROW) for Collier Boulevard and the CR 951 Canal, and a 60-foot-wide ROW for 39th Street SW. Within the Study Area, Collier Boulevard is a divided four-lane roadway with a posted speed limit of 45 miles per hour (mph), and 39th Street SW is an undivided two-lane roadway with a posted speed limit of 30 mph. No bicycle or pedestrian facilities exist along Collier Boulevard or 39th Street SW within the Study Area.

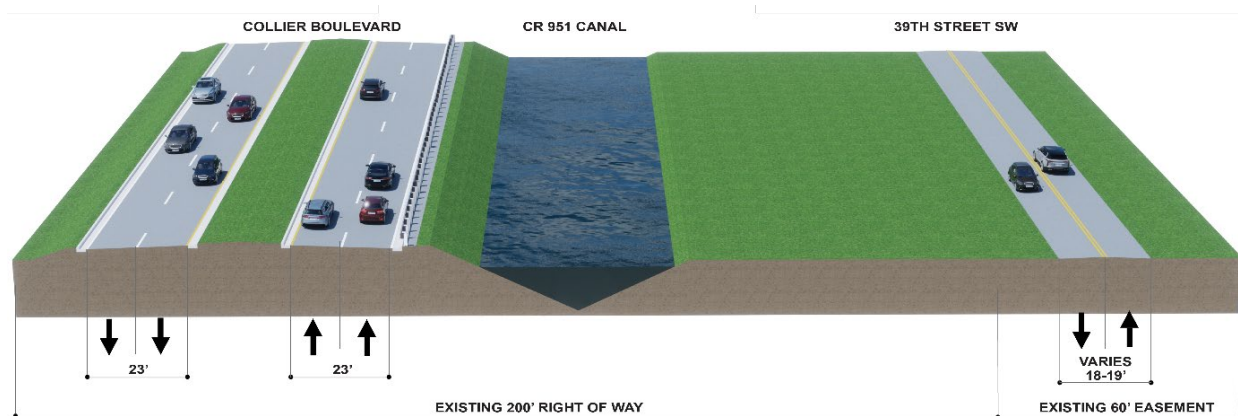


Figure 2-1. Existing Roadway Typical Section of Study Area (Looking North)

2.2 Existing Bridge Typical Section at 25th Avenue SW

The existing bridge typical section at 25th Avenue SW includes two 12-foot-wide travel lanes. The westbound travel lane is a right-turn-only lane. The existing posted speed limit for 25th Avenue SW is 30 mph. The two-span prestressed concrete slab bridge is 42.8 feet long and approximately 28 feet wide. The existing bridge has bridge-mounted guard rail behind a raised curb along both edges. Figures 2-2 and 2-3 present pictures of the existing bridge.



Figure 2-2. Existing 25th Avenue SW Bridge (looking west)



Figure 2-3. Existing 25th Avenue SW Bridge (looking north)

2.3 Traffic Characteristics

Collier County's 2021 Annual Update and Inventory Report (AUIR) on Public Facilities documents existing and projected deficiencies for major County roadways (Collier County 2021). Within the Study Area, the major roadways currently meet the County's minimum level of service (LOS), which is LOS D for this area (refer to Table 2-1). However, Golden Gate Parkway between Santa Barbara Boulevard and Collier Boulevard is expected to be deficient by 2028.

Table 2-1. Existing Traffic Characteristics

Road	From	To	Peak Direction	2021 LOS	2021 Peak Hour Peak Directional Volume (vph)	Change in Directional Volume (from 2020 to 2021)	Year Expected to be Deficient
Collier Boulevard	Green Boulevard	Golden Gate Pkwy	North	C	1420	>20% decrease	--
Collier Boulevard	Golden Gate Parkway	Golden Gate Main Canal	North	D	1800	< ±5% change	2028
Golden Gate Parkway	Santa Barbara Boulevard	Collier Boulevard	East	D	1690	< ±5% change	2028

vph = vehicles per hour

2.4 Roadway/Functional Classification

Table 2-2 lists the Study Area's functional classifications, which are based on Collier County's current Growth Management Plan Transportation Element 3 (amended June 13, 2017). Transportation Element 7 of the County Growth Management Plan also notes that Collier Boulevard and Golden Gate Parkway are County-designated hurricane evacuation routes.

Table 2-2. Existing Roadway Classifications

Road	Classification	Additional Characteristics
Collier Boulevard	Minor Arterial	Hurricane Evacuation Route
39th Street SW	Local	
29th Avenue SW	Local	
27th Avenue SW	Local	
25th Avenue SW	Local	
Golden Gate Parkway	Minor Arterial	Hurricane Evacuation Route

Source: Collier County Growth Management Plan Transportation Element 3 and 7 (amended June 13, 2017)

2.5 Existing Land Use

Existing land use within the Study Area was evaluated based on Collier County Property Appraiser parcel data and is primarily residential (Collier County 2021). Commercial businesses exist along the west side of Collier Boulevard north of Golden Gate Parkway. Behind the commercial properties are single-family residential land uses associated with Golden Gate City. South of Golden Gate Parkway, land use along the west side of Collier Boulevard is public, associated with a former golf course that is now County-owned property, along with single- and multi-family residential land uses north, south, and west. Land uses along 39th Street SW are primarily low-density residential associated with the Rural Golden Gate Estates area, but include pockets of commercial land uses including a restaurant south of 25th Avenue SW and a church just north of 29th Avenue SW.

The Study Area is included in the GGAMP. Within the Study limits, the west side of Collier Boulevard is included with the GGAMP's Golden Gate City sub-element and the east side is included with the Rural Golden Gate Estates sub-element (identified in Figure 1-2).

The residential parcels associated with the Rural Golden Gate Estates within the Study Area are reaching full build-out. Based on aerial imagery from the Collier County Property Appraiser reviewed on December 10, 2021, approximately 90% of the parcels between 31st Avenue SW and 11th Avenue SW west of the Golden Gate Main Canal are developed.

Attachment B includes the Existing Land Use Map.

2.6 Existing Area Transit

Three Collier Area Transit (CAT) bus routes serve Collier Boulevard within the Study Area. No CAT routes serve 39th Street SW and no bus stops are located within the Study area. The CAT bus routes that serve Collier Boulevard within the Study Area include:

- Route 19 – Golden Gate Estates – Immokalee
- Route 25 – Golden Gate Parkway – Goodlette-Frank
- Route 28 – Golden Gate Estates – Everglades Blvd – Immokalee

Refer to the Transit Map in Attachment B.

2.7 Existing Drainage

The Study Area is located within the jurisdiction of South Florida Water Management District (SFWMD). According to the Collier County Stormwater Management Facilities map, the Study Area is within the 951 Canal Central Basin. There is an existing SFWMD weir at the CR 951 Canal just north of 31st Avenue SW. Stormwater runoff from Collier Boulevard discharges to the CR 951 Canal via reinforced concrete pipe, and runoff from 39th Avenue SW is conveyed by parallel roadside ditches along the east side before ultimately discharging to the CR 951 Canal.

2.8 Existing Utilities

The existing Utility Agency/Owners at each alternative location were identified from Sunshine One Call design tickets (total of four) performed February 7, 2022, and summarized in Table 2-3. The Sunshine One Call tickets are included in Attachment C.

Major utilities within the Study Area include overhead electric lines that run along the west side of Collier Boulevard and the east side of 39th Street SW and cross over the CR 951 Canal at 29th Avenue SW, 27th Avenue SW, and 25th Avenue SW. According to the Sunshine One Call tickets, additional major utilities in the area include potable water and gas. There is no lighting along Collier Boulevard or 39th Street SW within the Study Area.

An existing City of Naples main runs along the west side of 39th Street and includes an aerial crossing (east-west) over the CR 951 Canal at Golden Gate Parkway. According to the SFWMD's Right of Way Criteria Manual, an aerial crossing cannot be located within 100 feet of a bridge or pile-supported utility crossing (SFWMD 2013). The existing aerial crossing at Golden Gate Parkway falls under this criterion, however it is to be relocated as part of the Collier Boulevard Widening Phase III Project.

A Golden Gate City Transmission Water Main project is proposed for construction in 2022 at Collier Boulevard and 29th Avenue SW (Golden Gate City Transmission Water Main Improvements n.d.). The proposed project includes a 24-inch water main crossing under the CR 951 Canal from west of Collier Boulevard to east of 39th Street SW, on the south side of 29th Street SW.

Attachment D includes photos of the surroundings near each alternative location including visible utilities and/or utility markers.

Table 2-3. Utility Agency/Owner Summary

Utility Agency/Owner	Utility Type	Alternative 1: 29th Avenue SW	Alternative 2: 27th Avenue SW	Alternative 3: 25th Avenue SW	Alternative 4: Golden Gate Parkway
Collier County Traffic Operations	Electric, Fiber	✓	✓	✓	✓
Collier County Information Technology	Fiber	✓	✓	✓	✓
Collier County Board of County Commissioners Road Maintenance	Irrigation	✓	✓	✓	✓
CenturyLink	Fiber, Telephone	✓	✓	✓	✓
City of Naples – Water	Water	✓	✓	✓	✓
Collier County Stake and Locates	Sewer, Water	✓	✓	✓	✓
Comcast	CATV	✓	✓	✓	✓
Florida Power and Light - Collier	Electric	✓	✓	✓	✓
Crown Castle NG	Fiber	✓	✓	✓	✓
Summit Broadband	Fiber, Telephone	✓	✓	✓	✓
TECO Peoples Gas – Ft. Myers	Gas	✓	✓	✓	✓

2.9 Existing Traffic

Traffic data were collected at six locations to evaluate existing traffic patterns and are provided in Attachment E. Traffic data were collected via tube counts between December 14 through December 16, 2021, for morning (AM) and afternoon (PM) peak-hour turning movement counts and 3-day, 24-hour bi-directional traffic counts. The traffic count locations were taken on 39th Street SW at the following locations:

- 1) On 39th Street SW, south of White Boulevard
- 2) On 39th Street SW, north of Green Boulevard

- 3) On 39th Street SW, south of Green Boulevard
- 4) On 39th Street SW, south of 17th Avenue SW
- 5) On 39th Street SW, north of 25th Avenue SW
- 6) On 39th Street SW, south of 25th Avenue SW

2.10 Existing Intersection Configurations

This section presents the existing layout of each initial alternative to identify potential engineering and environmental conditions and constraints. Refer to the Photograph Log in Attachment D for further details.

2.10.1 29th Avenue SW Intersection Configuration (Alternative 1)

As presented on Figure 2-4, the intersection of 39th Street SW and 29th Avenue SW forms a three-leg minor intersection with one lane for each direction. A stop sign on 29th Avenue SW controls the intersection. The intersection is separated from Collier Boulevard by the CR 951 Canal.



Figure 2-4. Existing Intersection at 29th Avenue SW and 39th Street SW

2.10.2 27th Avenue SW Intersection Existing Configuration (Alternative 2)

As presented on Figure 2-5, the intersection of 39th Street SW and 27th Avenue SW forms a three-leg minor intersection with one lane for each direction. A stop sign on 27th Avenue SW controls the intersection. The intersection is separated from Collier Boulevard by the CR 951 Canal.



Figure 2-5. Existing Intersection at 27th Avenue SW and 39th Street SW

2.10.3 25th Avenue SW Intersection Existing Configuration (Alternative 3)

As presented on Figure 2-6, the intersection of 39th Street SW and 25th Avenue SW forms a four-leg intersection with one lane in each direction. Stop signs at 39th Street SW northbound and southbound control the intersection.

Just west of this intersection is the intersection of Collier Boulevard and 25th Avenue SW, which forms a three-leg intersection with one lane in each direction on 25th Avenue SW and two lanes in each direction along Collier Boulevard. A directional median opening in the median of Collier Boulevard allows left-turn access from southbound Collier Boulevard to 25th Avenue SW.

The existing bridge structure on 25th Avenue SW over the CR 951 Canal forms the eastern leg of the intersection. A stop sign on 25th Avenue SW controls the intersection. Westbound traffic on 25th Avenue SW is limited to a right-turn-only movements onto Collier Boulevard.

On the west side of Collier Boulevard (opposite the intersection of 25th Avenue SW and Collier Boulevard), a local development driveway intersects with Collier Boulevard and allows only right-turn-in and right-turn-out movements. However, the development driveway access to and from Collier Boulevard is currently closed and will remain closed in the future.

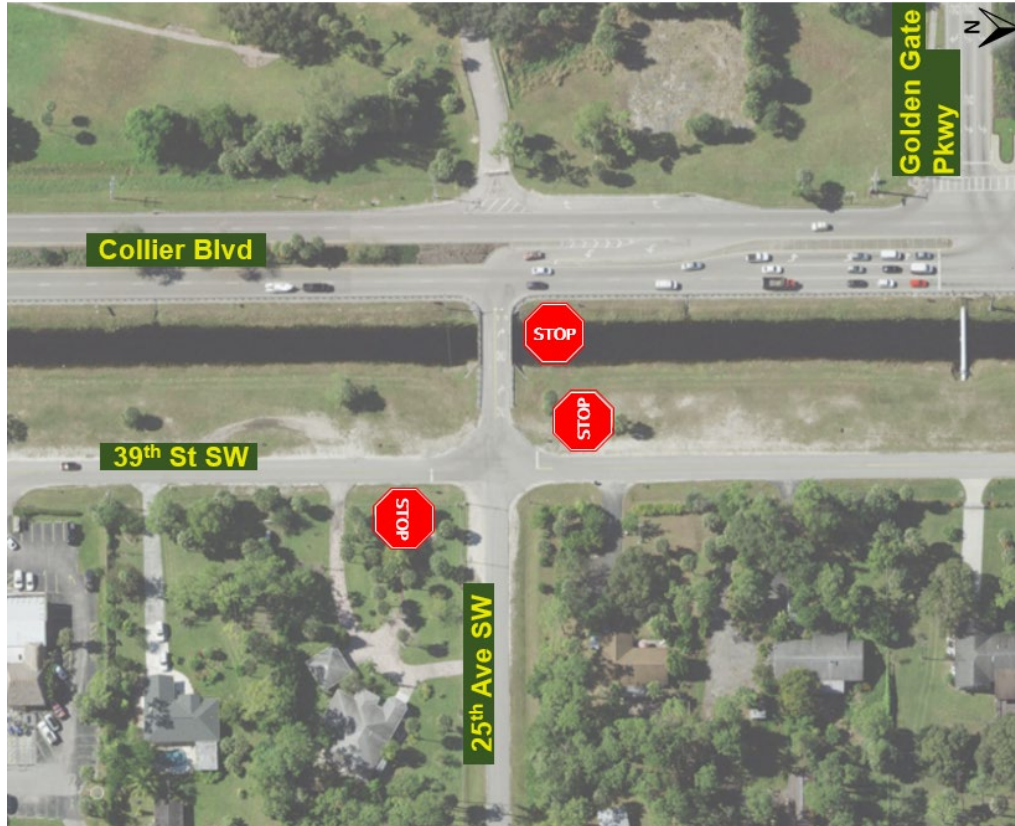


Figure 2-6. Existing Intersections at 25th Avenue SW with 39th Street SW and Collier Boulevard

2.10.4 Golden Gate Parkway Intersection Existing Configuration (Alternative 4)

As presented on Figure 2-7, the intersection of Collier Boulevard and Golden Gate Parkway forms a three-leg major intersection with all movements controlled by a traffic signal. Sidewalk exists along the north and south sides of Golden Gate Parkway, and there is a marked crosswalk on Golden Gate Parkway for the north-south movement. The west leg of the intersection includes two left-turn lanes and one right-turn lane. The north leg of the intersection includes two through lanes and one right-turn lane, and the south leg of the intersection includes two through lanes and one left-turn lane.



Figure 2-7. Existing Intersection at Golden Gate Parkway and Collier Boulevard

2.11 Existing Structures

The existing bridge structure over the CR 951 Canal at 25th Avenue SW is owned by Collier County but maintained by the Florida Department of Transportation (FDOT) as Bridge No. 034012. According to the April 1, 2022, FDOT Florida Bridge Information Report, the bridge was constructed in 1965, and the last bridge inspection was performed March 8, 2022. The report notes the bridge has a Sufficiency Rating of 70 and a Health Index of 93.36. The bridge has an operating rating of 48.6 tons and is not posted for load restrictions. The report also notes an average daily traffic of 1,000 (FDOT 2022a).

3. Future Conditions

3.1 Collier Boulevard Roadway Improvements

The Collier Boulevard Widening Phase III Project widens Collier Boulevard from four to six lanes using existing ROW within the median and County-owned property along the west side of Collier Boulevard. The project includes relocating portions of the CR 951 Canal. This project is the last segment in a series of five projects to improve 15 miles of Collier Boulevard, from US 41 to Immokalee Road, to a six-lane roadway.

Within the Study Area, the Collier Boulevard Widening Phase III Project includes the Collier Boulevard proposed typical section with three 11-foot-wide travel lanes with a 4-foot-wide dedicated bike lane in each direction. Curb and gutter are proposed to the outside of the dedicated bike lanes and a 10-foot-wide shared-use pathway added on the west side of Collier Boulevard. Guardrail is proposed along the east side of Collier Boulevard as a barrier to the CR 951 Canal (due to proximity).

Planned improvements on 39th Street SW include expanding the existing 9-to-10-foot wide (varies) travel lanes to 11-foot-wide with 2-foot-wide shoulders. A 10-foot-wide shared-use pathway is proposed along the west side of 39th Street SW as part of the Collier Boulevard Widening Phase III Project. Figure 3-1 presents the proposed typical section within the Study Area.

A future traffic signal is anticipated at the intersection of Collier Boulevard and City Gate Boulevard N to create a four-leg intersection (considers "future" Noah's Way) and was included in the alternative's evaluation for signal spacing.

The CR 951 Canal requires relocation with the Collier Boulevard widening. Canal relocation will be required starting south of the proposed bridge location alternative selected and end midway between 23rd Avenue SW and 21st Avenue SW where it will join the current alignment of the CR 951 Canal. Each alternative for this Study was evaluated for additional canal relocation required beyond the widening project.

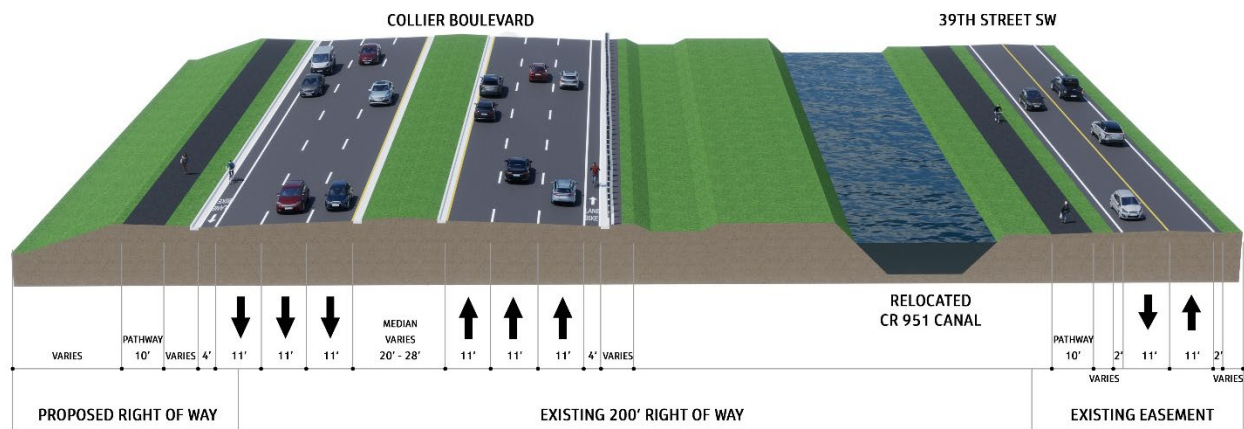


Figure 3-1. Proposed/Planned Typical Section for the Collier Boulevard Phase III Widening Project

3.2 Future Land Use

Attachment F includes the Future Land Use Map. Land use is not anticipated to change as a result of the proposed project. The existing golf course facility located at the southwest quadrant of the intersection of

Collier Boulevard and Golden Gate Parkway was recently purchased by the County to promote economic growth in Golden Gate City. According to the Golden Gate Golf Course Master Planned Unit Development Traffic Impact Statement (revised February 4, 2022), the proposed plans for the former golf course facility is to redevelop into residential workforce housing and a golf/entertainment facility (JMB Transportation Engineering 2022b). According to the golf/entertainment facility Traffic Impact Statement (revised January 19, 2022), the projected traffic volumes associated with the facility are not anticipated to warrant a traffic signal (JMB Transportation Engineering 2022a). The entrance to the golf/entertainment facility is planned to be aligned with 27th Avenue SW, with right-turn-in and right-turn-out access to/from Collier Boulevard. A northbound directional median opening is proposed on Collier Boulevard for left-turn access into the facility, and a downstream southbound-to-northbound U-turn lane/movement is also proposed within the median of Collier Boulevard.

4. Design Controls and Criteria

The design criteria and standards are based on design parameters in accordance with the FDOT 2018 *Florida Greenbook* (FGB) (effective July 20, 2021), Collier County Land Development Code (LDC) (updated September 7, 2021), 2022 *FDOT Design Manual* (FDM), *FDOT Access Management Guidebook* (FDOT 2019), Collier County Growth Management Plan, and the Collier County Access Management Policy update, which reflects FDOT guidelines and Florida Administrative Code. Table 4-1 lists the design criteria for Collier Boulevard and 39th Street SW to analyze traffic operations and impacts with a future signal.

Table 4-1. Roadway Design Criteria

Design Element		Collier Boulevard	39th Street SW	Source
General	Functional Classification	Minor Arterial	Urban Collector	Collier County Growth Management Plan Transportation Element 3.4, FGB
	Access Class	Proposed as 3 in the update pending approval*	N/A	Collier County Access Management Policy *Currently listed as Present Class 4 and Future Class 3 (arterial, divided)
	Design Speed	45 mph	30 mph min.	FGB Table 3-1
	Posted Speed	45 mph	30 mph	Scope and field conditions
	Access Management		N/A	FDM Table 201.4.2 Access Class 3 and FDOT Access Management Guidebook 2019
	Minimum Connection Spacing	660 feet		
Typical Section	Minimum Median Opening Spacing			
	Directional	1320 feet		
	Full	2,640 feet		
	Signal Spacing	2,640 feet		
Typical Section	No. Lanes (Ultimate)	6 (3 per direction)	2 (1 per direction)	Based on scope of Collier Boulevard Widening Project
	Lane Width			FGB Table 3-20
	Travel Lane	11 feet min.	11 feet min.	
	Turn Lane	11 feet min.	N/A	

Table 4-1. Roadway Design Criteria

Design Element		Collier Boulevard	39th Street SW	Source
	Bike Lane Width	4 feet min.	4 feet min.	FGB Figure 9-1 Collier County Standard 4 feet
	Curbed Street without Parking	5 feet min.	N/A	
	Roadway with Flush Shoulder and Barrier	5 feet min.	5 feet min.	
	Sidewalk Width	6 feet	6 feet (bridge)	LDC 6.06.02, Collier Boulevard Widening Project
	Pathway Width	10 feet	10 feet	
	Shoulder Width	Outside Full (Paved)	10 feet Full (5 feet min. Paved)	FDM Table 210.4.1
		Inside/Median Bridge	16 inches	FDM Figure 260.1.3
		Outside Bridge	6 feet 4 inches (Includes 5-foot-wide bike lane)	FDM Figure 260.1.3
	Median Width	22 feet (19.5 feet min)	N/A Undivided	FGB Table 3-23
	Border Width	14 feet Urban General	N/A	FDM Table 210.7.1 (1)
	Clear Zone	20 feet Curbed Facility 4 foot	6 feet (AADT < 1500)	FGB Table 4- 1(1b), Table 4-2
	ROW Width	Varies source Collier Boulevard Widening Project	60-foot Easement	

Table 4-1. Roadway Design Criteria

Design Element		Collier Boulevard	39th Street SW	Source
Horizontal	Min. Stopping Sight Distance	360 feet	200 feet	FGB Table 3-4, level roadway
	Merging Taper Termination Length	50:1 recommended but not less than 210 ft. Deceleration, and 180 ft. Acceleration	N/A	FGB Figure 3-19
	Max. Deflection w/o Curve	1° 00'	2° 00'	FDM 210.8.1
	Length of Curve	675 feet	450 feet	FDM Table 210.8.1, FGB Table 3-8
		(400 feet min.)	(400 feet min.)	
	Max. Curvature (Min. Radius)	8° 15' (694 feet)	20° 00' (286 feet)	FDM Table 210.9.2
Vertical	Max. Superelevation	0.05	0.05	FGB 3.C.4.c.2, Table 3-11
	Max. Grade	6%	9%	FGB Table 3-16
	Max. Change in Grade w/o Vertical Curve	0.70%	1.00%	FGB Table 3-17
	Base Clearance above BCWE	3 feet from bottom of the roadway base course	2 feet for 2-lane Roadway	FDM 210.10.3. (2)
	Crest Curve K	61	19	FGB Table 3-18
	Sag Curve K	79	37	FGB Table 3-18
Vertical	Vertical Clearance Over Water	2.0 feet min. for debris clearance between design flood stage and bridge low member SFWMD Criteria Governs = 4 foot	N/A – bridge culvert	FGB C.3.b SFWMD = 4 Foot
	BCWE = Base Clearance Water Elevation			

5. Alternatives Analysis

5.1 Initial Alternatives Analysis

Preliminary concepts of Alternatives 1 through 4 were developed and evaluated against current design criteria for access management, mobility and safety, and opportunities for signalization, such as spacing requirements, operational impacts, turn lane requirements, and weaving distances.

Results of the initial alternatives evaluation indicated that a proposed intersection at 25th Avenue SW and Collier Boulevard (Alternative 3) had multiple limitations including:

- Proposed directional median opening at this intersection (along Collier Boulevard) for access to 25th Avenue SW would not meet the minimum spacing requirement to the intersection at Golden Gate Parkway and Collier Boulevard
- Proposed southbound Collier Boulevard left-turn lane for access to 25th Avenue SW would conflict with the proposed dual northbound Collier Boulevard left-turn lanes
- Location would result in minimal weaving distance for the right-turn movements from 25th Avenue SW to the northbound Collier Boulevard left-turn lanes at Golden Gate Parkway

Because of these limitations, Alternative 3 was eliminated as a viable alternative.

The initial alternatives evaluation of Alternatives 1, 2, and 4 indicated that these alternatives met most design criteria requirements, as well as the project's purpose and need, and were carried forward as viable alternatives.

The No-Build Alternative consists of removing the existing bridge at 25th Avenue SW and Collier Boulevard as a result of the Collier Boulevard widening. This alternative assumes that no replacement bridge is provided and that the traffic at the 25th Avenue SW would travel to the 39th Street SW intersections at 17th Avenue SW and Green Boulevard to access Collier Boulevard. The No-Build Alternative does not satisfy the project's purpose and need and, therefore, is not a viable alternative. However, the No-Build Alternative is carried forward through the Study as a comparison for all other alternatives.

5.2 Viable Alternatives Analysis

Concepts of the viable alternatives (Alternatives 1, 2, and 4) were further refined to better evaluate access management needs, multimodal needs, impacts to traffic operations, impacts to utilities, and canal relocation requirements. Attachment A presents the concepts for each viable alternative.

Future roadway needs near the Study area were identified in the Collier Metropolitan Planning Organization *2045 Long Range Transportation Plan* (LRTP) (Collier MPO 2020). Because the 2045 LRTP only identifies study areas for the future regional network and specific corridors have not been developed, the viable alternatives could not be evaluated against long-term regional benefits and compatibility with the future network. The viable alternatives were only evaluated against benefits to the existing roadway network.

Bicycle and pedestrian mobility and safety were evaluated for each viable alternative. Multimodal improvements were evaluated to coincide with the proposed improvements associated with the Collier Boulevard widening. Limitations to bicyclist and pedestrian mobility would exist for Alternatives 1 and 2, as no pedestrian facilities would be present for northbound Collier Boulevard and no crosswalk is proposed to access southbound Collier Boulevard.

To accommodate these limitations, a pedestrian bridge over the CR 951 Canal was evaluated to connect residents to dining, shopping, and entertainment at Golden Gate City. The pedestrian bridge is proposed to connect the shared-use pathway along the west side of 39th Street SW to the Collier Boulevard/Golden Gate Parkway intersection (north side) and include a pedestrian phase with the existing traffic signal.

The following subsections present the benefits and limitations of each viable alternative.

5.2.1 Alternative 1: 29th Avenue SW

Figure 5-1 shows a portion of the concept for Alternative 1. Figure 5-2 shows access changes along Collier Boulevard as a result of Alternative 1 (with no traffic signal proposed). This alternative would provide right-turn-only access from 39th Street SW to Collier Boulevard and would provide left-turn and U-turn movements from southbound Collier Boulevard.

The Golden Gate City Transmission Water Main Project that proposes a 24-inch-diameter water main crossing under the CR 951 Canal from Collier Boulevard to 39th Street SW would need to be avoided for this alternative.

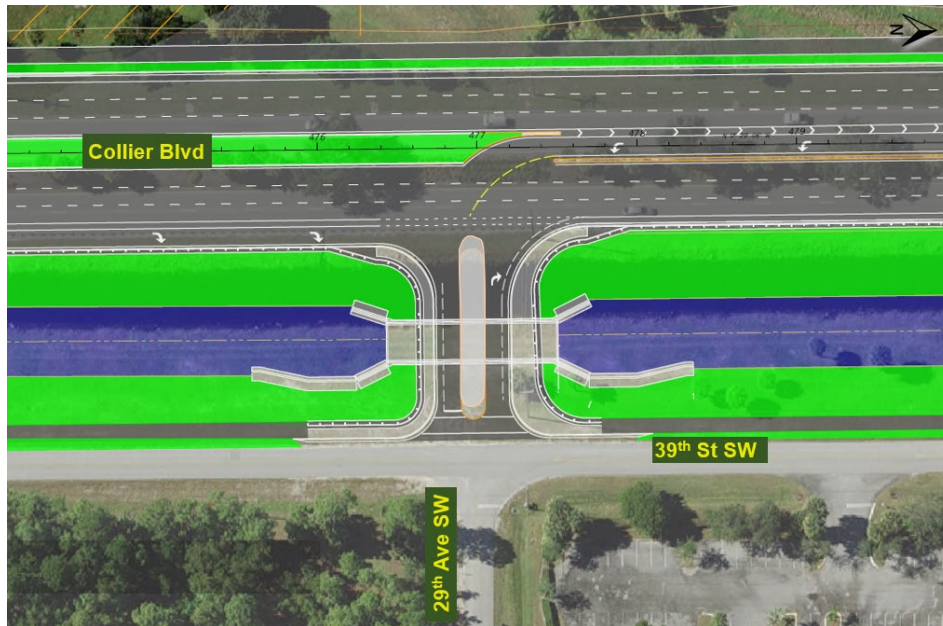


Figure 5-1. Alternative 1 Intersection Concept



Figure 5-2. Alternative 1 Access Management along Collier Boulevard

Alternative 1 Benefits

- Includes a southbound U-turn for Collier Boulevard widening that also serves as southbound left-turn lane to the 29th Avenue SW bridge
- Provides northbound left turn at 27th Avenue SW to the future golf/entertainment facility that also serves as a northbound U-turn location to southbound Collier Boulevard
- Meets minimum directional median opening
- Provides additional queue length of approximately 40 feet for each lane at 29th Avenue SW (because of roadway offset)
- Promotes distribution of traffic to other major east-west facilities (rather than attracting more trips to Golden Gate Parkway which is constrained)
- Reduces impacts to signal operations at Golden Gate Parkway

Alternative 1 Limitations

- Provides farthest access alternative along 39th Street SW for residents between Golden Gate Main Canal and Green Boulevard (may attract less trips than Alternatives 2 and 4 resulting in more cars utilizing Green Boulevard intersection)
- Requires separate pedestrian/bicycle bridge at Golden Gate Parkway
 - Does not provide pedestrian access from 39th Street SW to Collier Boulevard, as no facilities are planned on the east side of Collier Boulevard
 - Does not provide bicycle connectivity from 39th Street SW to the dedicated bike lane on southbound Collier Boulevard
- Requires longest canal relocation (approximately 2,090 feet)
- Must avoid Golden Gate City Transmission Water Main Project proposed under CR 951 Canal

5.2.2 Alternative 2: 27th Avenue SW

A preliminary signal warrant analysis was performed for Alternative 2 at the 27th Avenue SW and Collier Boulevard intersection under Warrant 2 (Four-Hour Vehicular Volume) to evaluate if a traffic signal is needed for existing and future traffic volumes. The preliminary analysis indicated the proposed intersection would meet the criteria for a traffic signal under Warrant 2. Attachment G provides additional details on this preliminary analysis. During design, a full signal warrant analysis will be prepared.

Note: As a result of traffic data analysis and comments received from project stakeholders, Alternative 2 was evaluated as both a "Non-Signalized" and "Signalized" intersection. These two options are identified as Alternative 2A and Alternative 2B respectively.

5.2.2.1 Alternative 2A: 27th Avenue SW - Not Signalized

Figure 5-3 shows a portion of the concept for Alternative 2A. Figure 5-4 shows access changes along Collier Boulevard as a result of Alternative 2A. This alternative provides right-turn-only access from 39th Street SW to Collier Boulevard, and would provide left-turn and U-turn movements from southbound Collier Boulevard. This alternative also provides left-turn and U-turn movements from northbound Collier Boulevard to the future golf/entertainment facility.

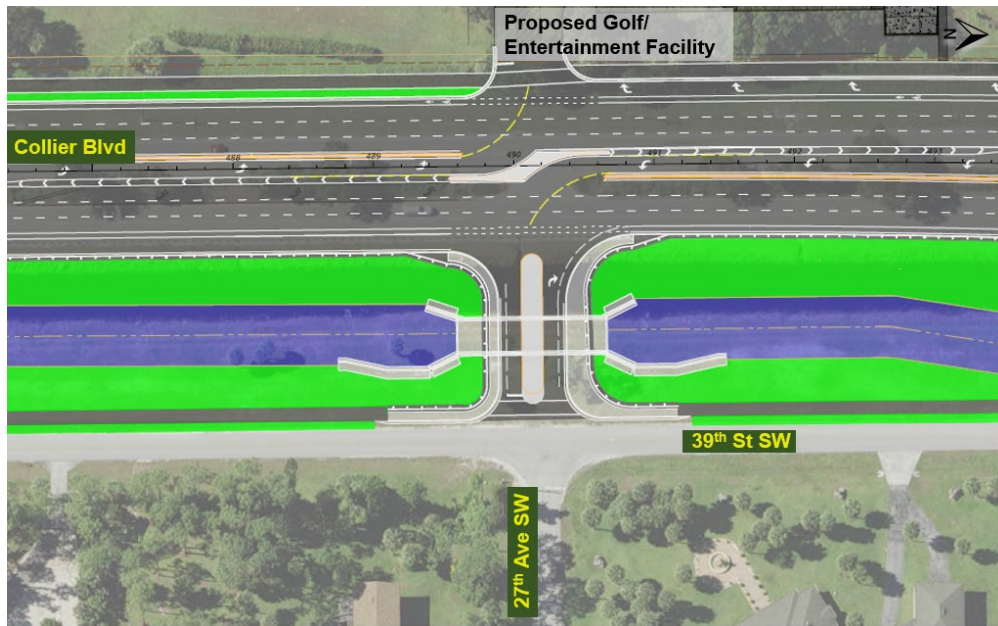


Figure 5-3. Alternative 2A Intersection Concept



Figure 5-4. Alternative 2A Access Management along Collier Boulevard

Alternative 2A Benefits

- Provides additional queue length of approximately 40 feet for each lane at 27th Avenue SW (because of roadway offset)
- Provides better access alternative along 39th Street SW for residents between Golden Gate Main Canal and Green Boulevard (may attract more trips than Alternative 1)
- Promotes distribution of traffic to other major east-west facilities (rather than attracting more trips to Golden Gate Parkway which is constrained)
- Reduces impacts to signal operations at Golden Gate Parkway
- Meets minimum directional median opening spacing standard

Alternative 2A Limitations:

- Requires northbound U-turn lane just south of Golden Gate Parkway intersection to eliminate U-turns at the intersection (if not signalized)

- Provides approximately 1,700 feet to the Golden Gate Parkway signal versus the signal spacing standard of 2,640 feet
- Requires separate pedestrian/bicycle bridge at Golden Gate Parkway
 - Does not provide pedestrian access from 39th Street SW to Collier Boulevard, as no facilities are planned on the east side of Collier Boulevard
 - Does not provide bicycle connectivity from 39th Street SW to the dedicated bike lane on southbound Collier Boulevard.
- Requires additional canal relocation (approximately 770 feet)

5.2.2.2 Alternative 2B: 27th Avenue SW - Signalized

Figure 5-5 shows a portion of the concept for Alternative 2B. Figure 5-6 shows access changes along Collier Boulevard as a result of Alternative 2B.

Alternative 2B Benefits

- Provides additional queue length of approximately 40 feet for each lane at 27th Avenue SW (because of roadway offset to west within this area)
- Enhances access to and from future golf/entertainment facility
- Provides better access alternative along 39th Street SW for residents between Golden Gate Main Canal and Green Boulevard (may attract more trips than Alternative 1)
- Promotes distribution of traffic to other major east-west facilities (rather than attracting more trips to Golden Gate Parkway which is constrained)
- Reduces impacts to signal operations at Golden Gate Parkway
- Meets minimum directional median opening spacing standard
- Does not require additional southbound U-turn lane/movement on Collier Boulevard (aligned with 29th Avenue SW)

Alternative 2B Limitations:

- Provides approximately 1,700 feet to the Golden Gate Parkway signal versus the signal spacing standard of 2,640 feet
- Requires separate pedestrian/bicycle bridge at Golden Gate Parkway
 - Does not provide pedestrian access from 39th Street SW to Collier Boulevard, as no facilities are planned on the east side of Collier Boulevard
- Requires additional canal relocation (approximately 770 feet)



Figure 5-5. Alternative 2B Intersection Concept

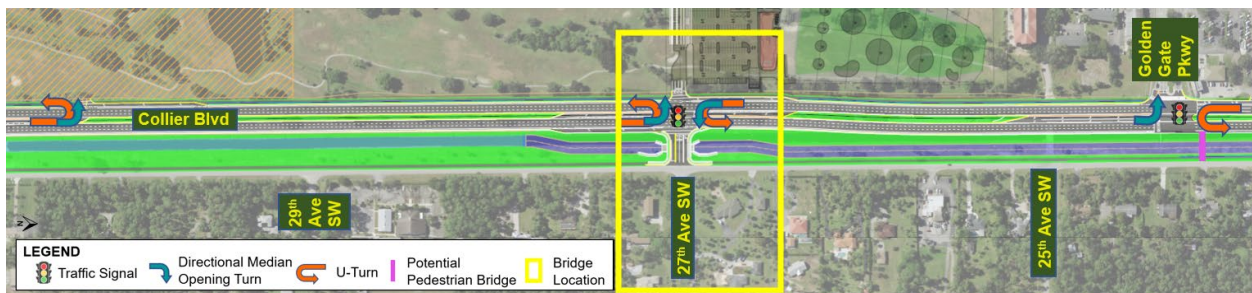


Figure 5-6. Alternative 2B Access Management along Collier Boulevard

Alternative 2B does not require a northbound U-turn just south of Golden Gate Parkway intersection. Additionally, it does not require the southbound U-turn on Collier Boulevard at 29th Avenue SW, whereas all other alternatives would require an additional U-turn movement. The proposed signal would provide a crosswalk for bicycle and pedestrian connectivity from 27th Avenue SW to the west side of Collier Boulevard.

Based on the additional benefits and reduced limitations of Alternative 2B, the signalized intersection is the recommended concept for 27th Avenue SW – Please see Conclusions section for further details.

5.2.3 Alternative 4: Golden Gate Parkway

Figure 5-7 shows a portion of the concept for Alternative 4. Figure 5-8 shows access changes along Collier Boulevard as a result of Alternative 4. This alternative provides full access from 39th Street SW to Collier Boulevard and would provide left-turn and U-turn movements from northbound and southbound Collier Boulevard.

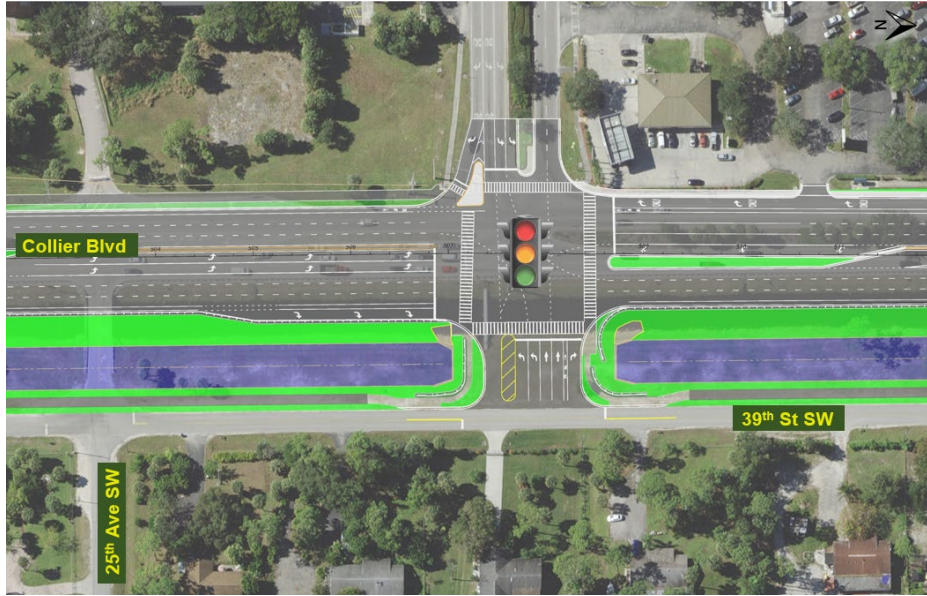


Figure 5-7. Alternative 4 Intersection Concept



Figure 5-8. Alternative 4 Access Management along Collier Boulevard

A preliminary analysis was performed to evaluate impacts to the existing traffic signal operations, as the signal green time would be redistributed to include the additional approach leg. The increase in delay was estimated for both AM peak hour and PM peak hour conditions for future (2045) traffic volumes. The preliminary traffic analysis was performed using Trafficware's Synchro software, which analyzes intersection traffic data per the *Highway Capacity Manual 6th Edition* procedures (TRB 2016). This analysis used existing 15-minute count data from Collier County. Turning movement volumes for the existing movements along Collier Boulevard and Golden Gate Parkway were developed from segment counts provided by the County. Turning movement volumes for the new movements using the proposed bridge were developed from turning movement counts collected at the existing 25th Avenue SW bridge.

Because the proposed bridge would be included as part of the Collier Boulevard Widening Phase III Project, the traffic model included Collier Boulevard as a six-lane facility with double northbound left-turn lanes to Golden Gate Parkway. The Alternative 4 scenario as a four-leg intersection was modeled and compared by adding the following movements at the intersection: eastbound through lane, southbound left-turn lane, dual westbound left-turn lanes, dual westbound through lanes, and westbound right-turn lane.

The analysis indicates that the proposed intersection would experience approximately 16 seconds of additional overall delay in the AM peak hour condition, and approximately 15 seconds in the PM peak hour condition. Table 5-1 summarizes the estimated increases in delay for each scenario. Attachment H includes Synchro reports for this analysis.

Table 5-1. Alternative 4 Delay Impacts (2045)

Intersection Scenario		Intersection Delay (seconds)	
		AM Peak	PM Peak
No-Build Alternative	three-leg intersection with six-lane Collier Boulevard	25.3	22.2
Alternative 4	four-leg intersection with Bridge with six-lane Collier Boulevard	41.5	36.9

Note: Southbound Collier Boulevard U-turns were not included in the No-Build Alternative model. Adding U-turn movements to the No-Build Alternative would increase delay.

Alternative 4 Benefits

- Does not add new signal to roadway network
- Provides more operational movements (full access) for residents exiting 39th Street SW
- Provides centrally located access along 39th Street SW for residents between Golden Gate Main Canal and Green Boulevard (may attract more trips than Alternatives 1 and 2)
- Requires no additional canal relocation
- No separate pedestrian/bicycle bridge needed

Alternative 4 Limitations

- Increased delays at intersection (because of extra leg added to intersection)
- Limited available queue length (approximately 40 feet less per lane than Alternatives 1 and 2)
- May attract more trips on Golden Gate Parkway (policy constrained to four lanes)*

*Note that because of the land use surrounding Golden Gate Parkway from Santa Barbara Boulevard to Collier Boulevard, County policy constrains this facility to four lanes. Additionally, the County AUIR notes that this segment of Golden Gate Parkway is expected to be deficient by 2028 (Collier County 2021). Therefore, attracting additional traffic along this corridor is not recommended due to the limited capacity of the facility.

5.2.4 Evaluation Matrix of Viable Alternatives

Table 5-2 compares each of the viable alternatives. The viable alternatives (sans Alternative 2B) were presented for public review and comment at the Public Information Meeting on April 6, 2022. The

preliminary cost estimates are conceptual and were based on the estimated size of a bridge culvert (based on typical section/number of lanes), length of canal relocation, and signalization requirements.

Table 5-2. Viable Alternatives Comparative Matrix

Evaluation Criteria	Alternative 1 29th Avenue SW	Alternative 2A 27th Avenue SW Non-Signalized	Alternative 2B 27th Avenue SW Signalized	Alternative 4 Golden Gate Parkway
Total Parcels Secondary Impacts (No.)	0	0	0	1 residential visual impact
Additional Canal Relocation Required (feet)	2,090	770	770	0
Potential Utility Impacts (No.)	3	2	2	2
Bridge Aligns with Cross Street	Yes	Yes	Yes	No Aligns with residential property
Includes Pedestrian and Bicycle Facilities	Yes	Yes	Yes	Yes
Provides Pedestrian and Bicycle Connectivity to southbound Collier Boulevard	No	No	Yes	Yes
Separate Pedestrian/Bicycle Bridge Crossing Option at Golden Gate Parkway Needed	Yes	Yes	Yes	No
Provides Pedestrian/Bicycle Access to Golden Gate City Network	No	No	Yes	Yes
Estimated Preliminary Construction Cost (2022)	\$2,595,000	\$2,232,000	\$2,811,000	\$2,940,000

Note: Alternatives resulted in no ROW impacts or potential displacements.

6. Recommended Alternative and Improvements

6.1 Recommended Bridge Location

Alternative 2B: 27th Avenue SW (Signalized)

Based on existing and future traffic demand, traffic operational needs, access management requirements, multimodal needs (pedestrian and bicyclist) physical and environmental constraints, and public comment, Alternative 2B: 27th Ave SW (Signalized) is identified as the Recommended Alternative. As previously noted, a preliminary signal warrant analysis was performed for Alternative 2 which indicated the proposed intersection would meet the criteria for a traffic signal. The following provides details why Alternative 2B is identified as the Recommended Alternative and assumes this alternative will include a traffic signal.

Purpose and Need: Alternative 2B satisfies the purpose and need of the project by maintaining and enhancing access, reducing conflict points for all roadway users, and enhancing multimodal mobility. Alternative 2B is more centrally located for residents and businesses in Rural Golden Gate Estates which may attract more trips and benefit more motorists than Alternative 1.

Public Input: Both written and verbal public comments consisted primarily of a request for a traffic signal to allow left-turn movements from the proposed bridge to Collier Boulevard. Major concerns from the public included driver safety and mobility, with a request to enhance access to Collier Boulevard. A preliminary signal warrant analysis indicated a signal warrant would be satisfied.

Access Management: Alternative 2B will maintain access to Collier Boulevard for the residents that live east of 39th Street SW. It provides an added benefit of enhancing access for the proposed golf/entertainment facility on the west side of Collier Boulevard.

Note: The golf/entertainment facility entrance would be designed to align with Alternative 2B.

Traffic Operations: This alternative promotes distribution of traffic to other major east-west facilities, rather than attracting more trips to Golden Gate Parkway, which is constrained to 4 lanes and is expected to be deficient by 2028 (Collier County 2021). The proposed signal will be coordinated with the existing signal at the Golden Gate Parkway/Collier Boulevard intersection to maintain traffic flow along Collier Boulevard.

The geometry of Alternative 2B with the Collier Boulevard Widening Phase III Project provides additional storage length available for each lane on the proposed bridge thus enhancing operations. The additional storage allows more vehicles to queue allowing better traffic flow through the intersection during the signals' green time.

To improve multimodal accommodations, a pedestrian/bicycle signal phase would be included with the signal's timing to connect pedestrians and bicyclists to the dedicated bike lane and shared-use pathway on Collier Boulevard.

It is also recommended to include a pedestrian bridge at the intersection of Collier Boulevard and Golden Gate Parkway over the CR 951 Canal, to enhance multimodal access east of 39th Street SW. Public comments indicated a pedestrian bridge at this location would encourage residents living on the east side of Collier Boulevard to walk or bike to dining, shopping, and entertainment along Golden Gate Parkway and Collier Boulevard.

6.2 39th Street SW Improvements

During the Study, a recommendation was made for improvements to 39th Street SW consisting of wider travel lanes (11-foot-wide) and added shoulders (2-foot-wide).

In addition, to further enhance multimodal mobility along 39th Street SW and Collier Boulevard, a recommendation was made for a pedestrian bridge at the southern end of 39th Street SW (by 31st Ave SW). This facility would provide continuous access for pedestrians and bicyclists along the east side of Collier Boulevard.

Required improvements would include:

- Constructing a wider Golden Gate Main Canal bridge to accommodate pedestrians on the east side
- Constructing a sidewalk along the east side of Collier Boulevard
- Relocating portions of CR 951 Canal
- Constructing Segments of retaining wall along east side of Collier Boulevard
- Constructing a pedestrian bridge to cross over the CR 951 Canal.

These recommendations will be evaluated for inclusion into the Collier Boulevard Widening Phase III Project.

7. Public Involvement

Public involvement is an integral part of this Study to provide awareness of community values and concerns and to gain insight into existing constraints and issues that may affect the bridge location.

7.1 Project Website

The County included information to the public about the Study under two different webpages:

- The Planning Projects and Studies webpage, under “Current – Collier Blvd. III – Bridge Location Study”, which directs the public to the Transportation Engineer Projects page for more information
- The Transportation Engineering Projects webpage under “Projects in Design – Collier Boulevard Widening Phase III”, which provides information to the public about widening project and bridge location study, and provides public involvement materials presented as well as the project comment/survey form.

Project information was made available at the start of the Study and has been updated throughout its duration. A copy of the Transportation Engineering Projects webpage is included in Attachment I.

7.2 Public Input Summary

A Public Information Meeting was held on April 6, 2022, to provide the public with an opportunity to review and comment on the project alternatives (refer to Figure 7-1 and 7-2). Representatives from the County and key project study team members were in attendance to answer questions and discuss the project with meeting attendees. Public comments were collected as hard copies at the meeting and the comment card was available online on the project website after the meeting. In total 71 comment forms were received through the comment period ending April 20, 2022.

Comments and questions were also received via email throughout the entire study period by the County Project Managers Lorraine Lantz and Bee Thao. Four project comments or question were received via email. A log of comments received, and responses provided, is included in Attachment I.

Additionally, an article on the project and public involvement meeting was included in the County Manager’s Newsletter, published April 22, 2022 (refer to Attachment I).



Figure 7-1. Public Information Meeting



Figure 7-2. Public Involvement Meeting Room Layout

7.2.1 Public Information Meeting Summary

Collier County held a Public Information Meeting for the Collier Boulevard Widening Project 60 Percent Design Plans and Collier Boulevard Bridge Location Study on Wednesday, April 6, 2022, from 5:00 p.m. to 7:00 p.m. at the Golden Gate Community Center Auditorium located at 4701 Golden Gate Parkway, Naples, Florida 34116. The purpose of the meeting was to provide residents, business owners, and other interested persons the opportunity to review project information and comment on the project alternatives.

Several options for making comments were available to members of the public, including making oral comments to the project team during the meeting, providing written comments on comment forms, and providing written comments delivered by mail or email. As an alternative to attending the meeting in person, public involvement materials and the comment form were available on the County Transportation Engineering Projects webpage the day of the meeting. The public comment period ended April 20, 2022.

Several notification techniques were used for the meeting including a press release, emails, newsletters, and social media posts. A total of 90 people signed in at the public meeting, and 23 members of the project team (including County staff) were available to answer questions. Table 7-1 summarizes the public meeting notifications as well as the number of attendees.

On March 22, 2022, a public information meeting notification email, including an attachment of the project newsletter, was emailed to elected/appointed officials, agencies, special-interest groups, and interested parties. The information in the newsletter was provided in English and Spanish, and included a contact for anyone who wished to discuss the project in Creole. Attachment I includes a copy of the notifications.

The project newsletter was mailed on March 22, 2022, to property owners located within 500 feet of Collier Boulevard. A map of the property owner database boundary is included in Attachment I, along with the property owner mailing list. The property owner database was provided by the Collier County Property Appraiser. Attachment I includes a copy of the project newsletter.

Table 7-1. Summary of Public Meeting Notification Techniques and Attendees

Meeting	Meeting Format	Meeting Notification Format			Number of Invitations Mailed/ Emailed	Number of Signed in Attendees (excluding County and Project Team Members)	Number of Comment Forms Received	Project Team Staff Attendees
		Invitation Email	Notification Letter	Other				
Public Information Meeting	Open House with Project Display Alternatives on tables	Elected/ Appointed Officials, Agencies, and Interested Parties	Property Owners	Social Media Posts	254/345 Returned: 4 ^a	90	71	23

^a 44 invitations were returned as undeliverable; however, 40 were identified as vacant or undeveloped with another invitation successfully delivered to the alternative address listed in Collier County Property Appraiser.

Collier County also posted notifications on their social media sites, including Facebook, Nextdoor, and Twitter. A press release was distributed by the County on March 31, 2022. Additionally, three variable message signs (VMS) that provided meeting information were placed within the project limits 1 week prior to the public meeting. Two VMS were placed along Collier Boulevard south of Golden Gate Main Canal and south of Green Boulevard, while the other was placed on 25th Avenue SW at the intersection of 39th Street SW. Table 7-2 summarizes the notifications sent out prior to the meeting. A copy of the meeting notifications are included in Attachment I.

Table 7-2. Summary of Public Meeting Notifications

Meeting Notifications	Dates	Total	Description/Outreach
Social Media	Post 1: 3/30/2022, Post 2: 4/6/2022	2	Facebook 31,307 people reached, 2,920 engagements, 214 reactions, 201 comments, 107 shares
	3/30/2022	1	Nextdoor 265 impressions (message sent to 15 neighborhoods)
	Post 1: 3/30/2022, Post 2: 4/6/2022	2	Twitter 999 impressions, 34 engagements, 15 link clicks
Public Meeting Notifications (via email)	3/22/2022	88 (24/64)	Elected/Appointed Officials
	3/22/2022	19	Agencies
	3/22/2022	237	Interested Parties
Project Newsletter (via mail)	3/22/2022	254	Property Owners
Press Release	3/31/2022	1	Collier County Website

Meeting attendees were given a project comment form and informational handout as they signed in at the welcome table. The project alternatives were displayed during the meeting.

Key project team members were available to talk with the public, as needed. Attachment I includes a graphic of the room layout, signage used throughout the meeting space, project displays, a copy of the project informational handout distributed, the comment form, and completed sign-in sheets.

As a result of the public meeting or meeting notifications 71 survey responses were received. A total of 52 comments were received at the public meeting, and 19 comments were received via email. Table 7-3 summarizes the public comments received by theme. Attachment I includes a copy of the comments received.

Table 7-3. Summary of Public Comments by Theme

Theme	Number of Comments
Natural Environmental Concerns	3
Aesthetic Concerns	4
Multimodal Safety	10
Vehicular Safety	21
Traffic	21

Survey results yielded the following data:

- 97% live or work within 1 mile of the project
- 93% use the Study Area daily, 3% weekly, and 4% responded as other
- Of the three bridge alternatives, 14% of residents prefer Alternative 1, 9% prefer Alternative 2, and 74% prefer Alternative 4 (refer to Figure 7-3)
 - A review of the written comments received from the public meeting indicated that less than half (44%) would have selected Alternative 4 if a signal was provided at Alternative 1 or 2 (refer to Figure 7-4)
 - Of the 44%, approximately 88% of this group did not indicate a preferred location, while 8% specifically indicated Alternative 1 and 4% specifically indicated Alternative 2
 - A few excerpts from comments received include:
 - *"The current situation is very dangerous without the assistance of a traffic light..."*
 - *"Because we live in a high fire danger zone it's important that any bridge crossing have a traffic signal."*
 - *"I would much rather wait at a light knowing that I will eventually have a turn to go as opposed to waiting ad infinitum..."*
- 60% of residents on the east side of 39th Street SW would be encouraged to use a pedestrian bridge at Golden Gate Parkway from 39th Street SW (refer to Figure 7-5)
 - 11% reported they would use the pedestrian bridge daily, 38% weekly, and 47% other
- 80% do not use CAT, but of the 20% who use or plan to use CAT:

- 4% said they would prefer Bus Stop 276 to be relocated to 20th Place SW
- 1% prefer relocating across from 18th Avenue SW
- 12% prefer the existing location at 17th Avenue SW

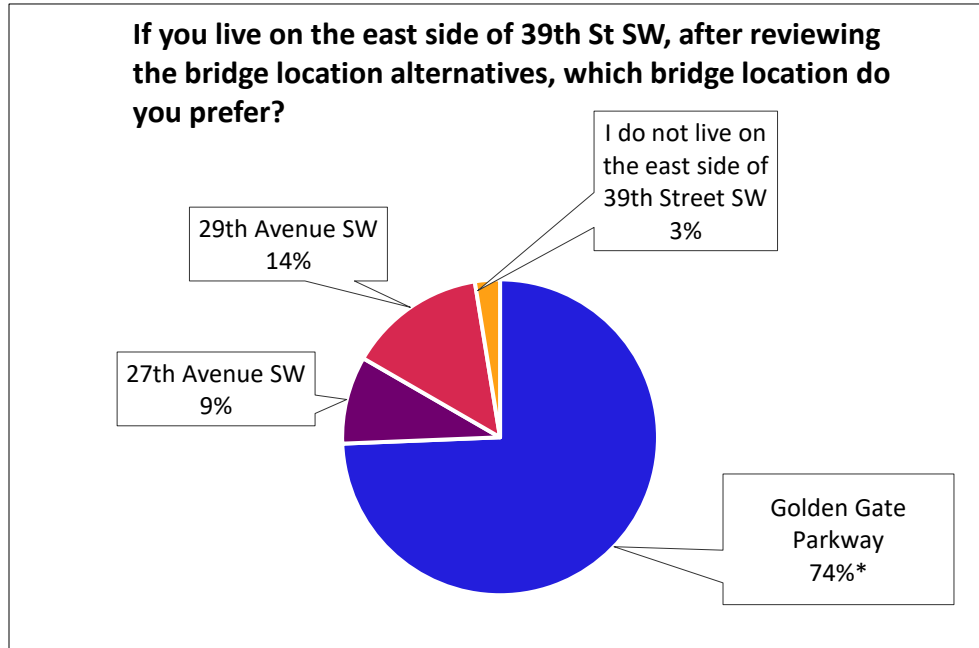


Figure 7-3. Bridge Location Alternative Selection

**Note: A further analysis into the comments revealed that less than half (44%) would select Alternative 4 if a signal was provided at Alternative 1 or 2 (see Figure 7-4).*

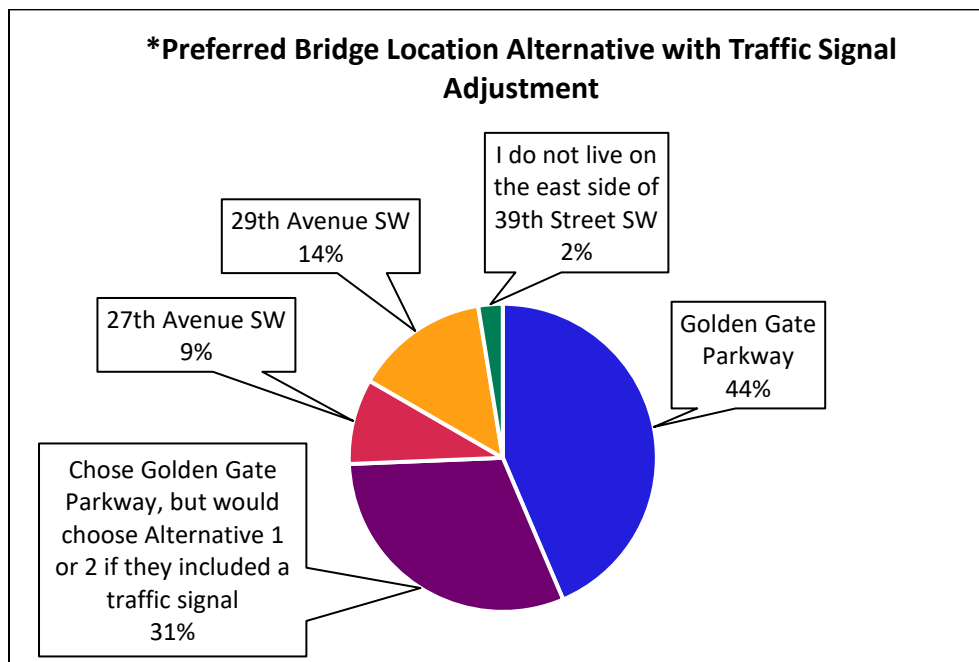


Figure 7-4. Bridge Location Alternative with Traffic Signal Adjustment

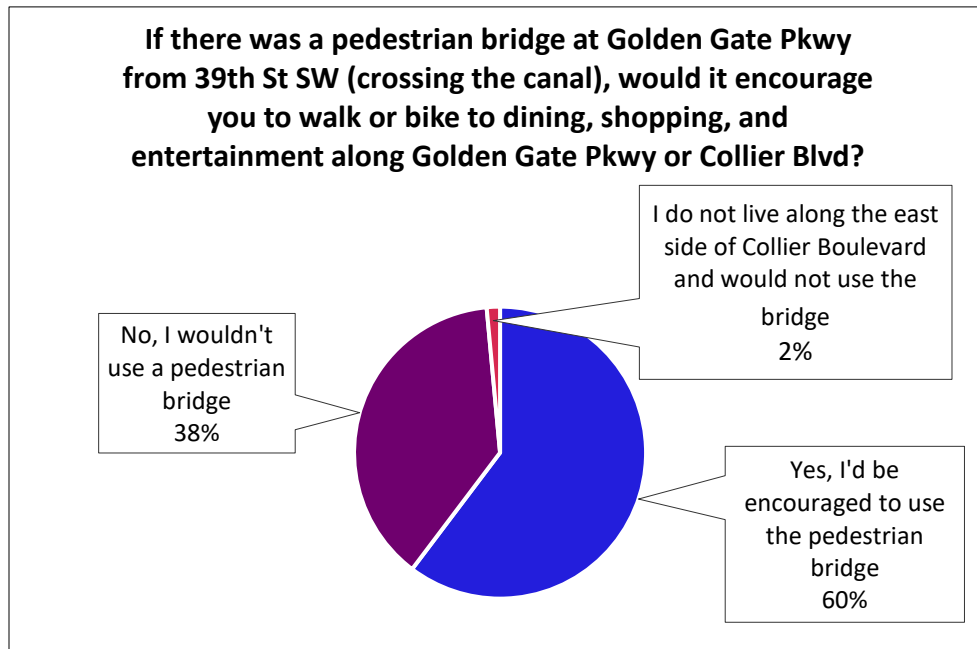


Figure 7-5. Pedestrian Bridge Preference

8. Summary

8.1 Conclusions and Recommendations

Alternative 2B: 27th Avenue SW – Signalized, is the Recommended Alternative.

Alternative 2B was chosen based on an analysis of existing and future traffic demand, traffic operational needs, access management requirements, multimodal needs, physical and environmental constraints, public comments, and project cost. When comparing the alternatives, the results of the analysis indicated that Alternative 2B provides the most overall benefits when compared to the other alternatives.

The following presents a summary of the primary reasons Alternative 2B was selected.

Compared to Alternative 4:

- Alternative 2B improves traffic operations and reduces delay at the Golden Gate Parkway intersection, while Alternative 4 will attract more trips to Golden Gate Parkway. (Note: Golden Gate Parkway is policy constrained to four lanes and is expected to be deficient by 2028.)
- Alternative 2B provides an additional 40-foot vehicular storage/queue length for each lane, which will improve traffic operations and reduce delay at the intersection, while Alternative 4 has limited vehicular storage/queue length.
- Alternative 2B bridge aligns directly with 27th Avenue SW and does not have secondary impacts to the adjacent properties, while Alternative 4 aligns directly with a residential property.
- Alternative 2B is estimated to have a lower construction cost (4 percent) than Alternative 4.
- Alternative 2B provides signalized access for residential and commercial traffic to 39th Street SW as well as the proposed golf/entertainment facility on the west side of Collier Boulevard, while Alternative 4 does not provide access to the proposed golf/entertainment facility.
- Alternative 2B would not require a southbound U-turn aligned with 29th Avenue SW on Collier Boulevard, while Alternative 4 would require that U-turn lane for access management.

Compared to Alternative 1:

- Alternative 2B is more centrally located for residents and businesses in Rural Golden Gate Estates, so it will capture more trips as compared to Alternative 1, which would increase traffic distribution to the Green Boulevard intersection.
- Alternative 2B has less canal relocation required (1,320 feet less), which reduces environmental impacts and cost as compared to Alternative 1.
- Alternative 2B provides signalized access for residential and commercial traffic to 39th Street SW as well as the proposed golf/entertainment facility on the west side of Collier Boulevard, while Alternative 1 does not provide signalized access.
- Alternative 2B would not require a southbound U-turn aligned with 29th Avenue SW on Collier Boulevard, while Alternative 1 would require that U-turn lane for access management.
- Alternative 2B improves multimodal mobility by providing a crosswalk at the proposed signal to access the dedicated bike lanes along Collier Boulevard and shared-use pathways on the west side

of Collier Boulevard and west side of 39th Street SW, while Alternative 1 does not provide signal access.

Compared to Alternative 2A:

- Alternative 2B provides signalized access for residential and commercial traffic to 39th Street SW as well as the proposed golf/entertainment facility on the west side of Collier Boulevard, while Alternative 2A does not provide signalized access.
- Alternative 2B improves multimodal mobility by providing a crosswalk at the proposed signal to access the dedicated bike lanes along Collier Boulevard and shared-use pathways on the west side of Collier Boulevard and west side of 39th Street SW, while Alternative 2A does not provide signal access.
- Alternative 2B would not require a northbound U-turn on Collier Boulevard just south of Golden Gate Parkway, while Alternative 2A would require that U-turn lane for access management.
- Alternative 2B would not require a southbound U-turn aligned with 29th Avenue SW on Collier Boulevard, while Alternative 2A would require that U-turn lane for access management.

Additional recommendations of this Study include:

- A pedestrian bridge at the intersection of Collier Boulevard and Golden Gate Parkway (over the CR 951 Canal)
- 39th Street SW improvements (evaluated for inclusion, see Section 6.2)
 - Wider travel lanes (11-foot-wide) and added shoulders (2-foot-wide)
 - Pedestrian bridge at the southern end of 39th Street SW (by 31st Avenue SW)

8.2 Next Steps

The recommendations of this Study are to be presented to the Board of County Commissioners for approval. If approved, the recommendations would be incorporated into the funding, design, permitting, and construction of the Collier Boulevard Widening Phase III Project. The design phase of the widening project is anticipated to be complete by late 2023 with construction anticipated to begin in early 2024, subject to funding availability.

9. References

- Collier County 2021. *2021 Annual Update and Inventory Report on Public Facilities*. October.
<https://www.colliercountyfl.gov/home/showpublisheddocument/98467/637723267086830000>
- Collier County. n.d. Collier County Property Appraiser parcel data. Accessed December 10, 2021.
<https://www.collierappraiser.com>
- Collier County. n.d. Collier County Stormwater Management Facilities. Accessed April 25, 2022.
<https://colliergmdcm.maps.arcgis.com/apps/webappviewer/index.html?id=8784a4d66eac4f778ca62b9d006e367f>
- Collier County. n.d. Golden Gate Area Master Plan. Accessed April 25, 2022.
<https://www.colliercountyfl.gov/government/growth-management/divisions/planning-and-zoning-division/comprehensive-planning-section/growth-management-plan>
- Collier County. n.d. Growth Management Plan. Accessed April 25, 2022.
<https://www.colliercountyfl.gov/government/growth-management/divisions/planning-and-zoning-division/comprehensive-planning-section/growth-management-plan>
- Collier County. n.d. Land Development Code Section and Amendments. Accessed April 25, 2022.
<https://www.colliercountyfl.gov/government/growth-management/divisions/planning-and-zoning-division/land-development-code-and-amendments>
- Collier Metropolitan Planning Organization. 2020. *2045 Long Range Transportation Plan*. December 11.
- Florida Department of Transportation (FDOT). 2018. *Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways*. FDOT Office of Design. Topic # 625-000-015.
- Florida Department of Transportation (FDOT). 2019. *Access Management Guidebook*. November.
- Florida Department of Transportation (FDOT). 2022a. Bridge Information. April 1, 2022.
<https://www.fdot.gov/maintenance/bridgeinfo.shtm>
- Florida Department of Transportation (FDOT). 2022b. FDOT Design Manual. Topic # 625-000-002. January.
- Golden Gate City Transmission Water Main Improvements. n.d. Accessed April 25, 2022.
<https://ggcwatertransmission.com>
- JMB Transportation Engineering, Inc. 2022a. *Traffic Impact Statement Big Shots Golf of Naples*. Published November 16, 2021. Revised January 19.
- JMB Transportation Engineering, Inc. 2022b. *Traffic Impact Statement Golden Gate Golf Course MPUD*. Published July 18, 2021. February 4.
- South Florida Water Management District. 2013. *Right of Way Criteria Manual for Use of Works or Lands of the District*. August 12.
- Transportation Research Board. 2016. *Highway Capacity Manual Sixth Edition: A Guide for Multimodal Mobility Analysis*. July 13.

[https://jacobsengineering.sharepoint.com/:u:/r/sites/ICWilsonBoulevardCorridorStudyCollierCounty/Shared Documents/CollierBlvdBridgeStudy/Utility Tickets/GG Transmission Proj/FW_Golden Gate City Transmission WM -- SFWMD ROW -- CR-951 @ 27th Avenue \(Golf Course HDD\).msg?csf=1&web=1&e=zLYk90](https://jacobsengineering.sharepoint.com/:u:/r/sites/ICWilsonBoulevardCorridorStudyCollierCounty/Shared Documents/CollierBlvdBridgeStudy/Utility Tickets/GG Transmission Proj/FW_Golden Gate City Transmission WM -- SFWMD ROW -- CR-951 @ 27th Avenue (Golf Course HDD).msg?csf=1&web=1&e=zLYk90)