



 **Collier County** Golden Gate Estates
Mobility Catalyst Project



Location: **Collier County, Florida
25th Congressional District**

Applicant: **Collier County Board of County
Commissioners**

Type of Applicant: **Local (County) Government**

*TIGER Funding
Requested:* **\$15,768,000**

*Local Matching
Funds:* **\$3,942,000**

Total Project Cost: **\$19,710,000**

Insert Cover Letter here

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Applicant: Collier County Board of County Commissioners

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I. Project Description

OVERVIEW

Project Sponsor:	Collier County Board of County Commissioners
Type:	Local (County) Government
TIGER Category:	Rural
Requested TIGER Funds:	\$15.768 million
Non-federal Matching Funds:	\$3.942 million (20%)
Total Project Cost:	\$19.71 million

Collier County is seeking TIGER Grant funding for a rural project in the amount of \$15.768 million to complete the design and construction components of the 16th Street NE and 47th Avenue NE bridges in Golden Gate Estates. The bridge improvement on 16th Street NE will create a new north-south corridor while the bridge improvement on 47th Avenue NE will establish a new corridor to facilitate improved east-west travel. Eight additional bridges, planned for the future, are identified

as unfunded needs in the Collier MPO 2040 Long Range Transportation Plan.

These funds will be combined with \$3.942 million in local cash match that will be committed for this project. Although it is understood that no local match is required in order to receive a TIGER Grant in a rural area, these bridge improvements are of such critical importance to the residents and life/safety providers in Golden Gate Estates, Collier County is committed to funding a local matching contribution to support this project. The total cost of the project is estimated to be \$19.71 million, 80% of which will be TIGER-funded with the remaining 20% contributed by local matching funds. No State matching funds are being included in this project. While the grant application project includes both bridges and associated roadway improvements, each bridge has independent utility and therefore can be decoupled; Collier County would certainly accept a grant award for one-half of the grant request in order to complete a single bridge project.

The TIGER Planning Grant application includes the design/construction phase-related components detailed in Table 1.

Table 1: Tiger Grant Project Components

Bridge Location	Bridge Length	Roadway Length	Existing Easement	Bridge Cost (including Approach)	Roadway Cost	Total Estimated	PE	CST/CEI	Total
16th Street NE	142 ft	3,212.mi	100 ft	\$1,500,000	\$5,100,000	\$6,600,000	\$990,000	\$7,920,000	\$8,910,000
47th Avenue NE	176 ft	3,022 mi	60 ft	\$3,200,000	\$4,800,000	\$8,000,000	\$1,200,000	\$9,600,000	\$10,800,000
Total Project Cost									\$19,710,000
Total County Match (20%)									\$3,942,000
Total TIGER request (80%)									\$15,768,000
Total Project Cost									\$19,710,000

The Golden Gate Estates Mobility Catalyst Project will greatly increase the safety of residents and visitors of Collier County. This project is essential to eliminating the frequent traffic delays and accidents, and the existing barriers that sever the community from life-saving emergency services. The project also enhances the movement of people and goods by increasing capacity and efficiency of the transportation network and eliminating delays.

Collier County anchors Florida's Southwest Gulf Coast, directly across the state from Broward County and Fort Lauderdale (Figure 1). In addition to being home to the Big Cypress National Preserve and the Everglades National Park, Collier County also lays claim to having one of the largest platted subdivisions in the Country, Golden Gate Estates (GGE). Established in the mid-60s, the development once covered 153 square miles (97,920 acres), an area crisscrossed with over 750 miles of roads and over 100 miles of canals. Thirteen square miles of the original development are included in the Coastal Urban Area, and the most sensitive, sparsely developed areas south of I-75 (59 square miles) were purchased by the State of Florida as conservation lands. The remaining 81 square miles (51,840 acres) north of I-75 and east of the Naples Urban Area, according to the 2010 US Census, was home to 30,002 permanent residents and 10,855 single family homes situated on 1.25 to 5 acre tracts.

When the once convenient access for area residents to the coastal urban area via Alligator Alley was severed by conversion of "The Alley" to I-75, the primary means of east-west access into and out of the rural portion of the area became Golden Gate Boulevard. This 11-mile long roadway is intersected by only two continuous north-south collectors, Everglades Boulevard and Desoto Boulevard. Golden Gate Boulevard serves as the single-most important east-west collector in "The Estates." The remaining part of the road network that exists today consists of hundreds of north-south and east-west local roadways, most of which dead end at canals that crisscross through the Estates.

These local roads would have provided an efficient grid network had most of them not been truncated at one of the many canals originally dug to drain the area

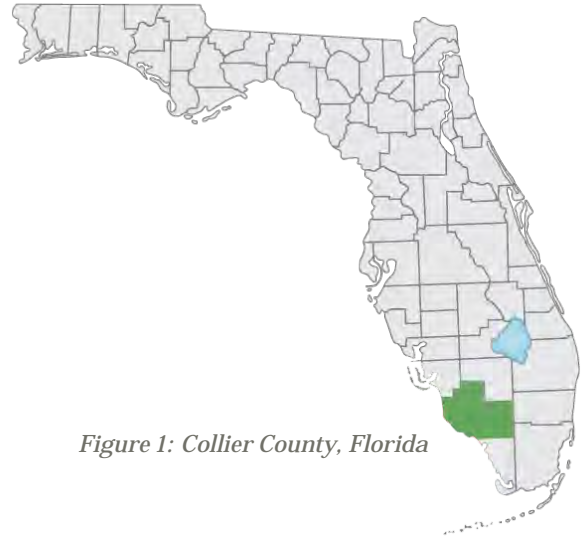


Figure 1: Collier County, Florida

and provide fill for roadway construction. This lack of interconnectivity created by dead end roads and bifurcating canals creates extended trip lengths in order to reach one of the north-south or east-west arterials/collectors serving the area. **Additionally, the absence of essential services, employment opportunities, shopping, and business centers within the area means that the residents of Golden Gate Estates must travel substantial distances to reach urban facilities.**

As the Rural Estates area (including the 4 square mile Rural Settlement Area surrounded by Golden Gate Estates) continues to build out to an ultimate population of 81,517 (29,217 homes), the major collectors and arterials serving the area will continue to see higher levels of congestion resulting in extended peak periods, increased travel times, with the corresponding increased



16th Street NE - truncated at canal
(photo courtesy of Stantec)

delay resulting in increased fuel consumption coupled with increased emissions. While a new east-west corridor (Vanderbilt Beach Road Extension) off Golden Gate Boulevard is being planned for the future to help relieve the congestion on “The Boulevard”, that facility is only partially funded in the Collier Metropolitan Planning Organization’s Long-Range Transportation Plan. In order to address the current and near-term needs along Golden Gate Boulevard east of Wilson Boulevard, Collier County is taking steps to add additional capacity and multi-modal enhancements to the existing corridor by directing current available funding to Phase I of the Golden Gate Boulevard Expansion Project.

While adding additional east-west capacity to the network will help to temporarily relieve the growing level of congestion, it does nothing to reduce the trip lengths of residents traveling to work, school, shopping, and personal business opportunities outside the Golden Gate Estates community. In August 2008, Collier County conducted the East of 951 Horizon Study for Bridges (Appendix A) in order to evaluate missing bridge connections based on system-wide infrastructure needs which considered transportation circulation, access management, schools, parks, law enforcement, emergency services, fire, libraries, storm water management, and public utilities. The study’s stakeholders identified 12 preferred canal-crossing locations and ranked the bridges based on criteria related to mobility, service efficiency, and emergency response (Figure 2). The new bridges would be strategically located throughout the Golden Gate Estates area in order to reduce trip lengths and travel demand on already-congested collector roadways and to provide the greatest opportunity to reduce response time for our life/safety first responders.

Service efficiency, connectivity, and opportunity were discussed with stakeholder groups that included the school district, parks department, public utilities agency, and South Florida Water Management District Big Cypress Basin. The stakeholders recognized that adding more bridges to the Estates will provide greater opportunities for more efficient delivery of public services to the area. Public utility providers saw the opportunity to construct water distribution facilities that distribute potable water and raw water to and from

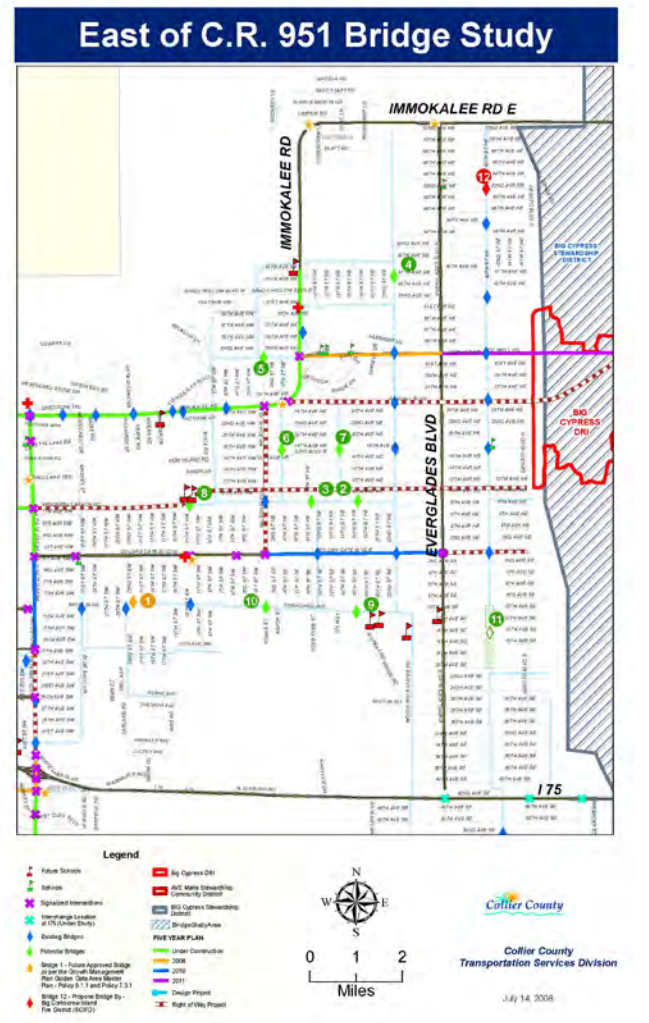


Figure 2: Twelve Future Bridge Locations

facilities and homes they service using the new bridges to span the canals along the chosen service corridors.

Today, access to public facilities such as parks and libraries is severely hampered by a lack of connectivity that precludes safely walking and biking to these neighborhood facilities. Motorists are forced to travel miles out of their way in order to reach what would otherwise be considered a neighborhood destination.

With the new bridges in place, access to essential services is improved resulting in a safer walking environment, and shorter trip lengths thus reducing congestion and vehicle emissions.

School District officials acknowledged that more bridges would also allow for more flexible and efficient school bus routes resulting in increased school zoning flexibility

and bus transportation efficiency. **Currently, students living in some areas of Golden Gate Estates that could otherwise walk or bike to school must be driven several miles out of their way to reach a school because of a canal.** Ultimately this translates into cost savings by reducing personal vehicle and bus route mileage and potentially allowing for improved pedestrian access to schools.

During the 2008 study, the Surface Transportation Efficiency Analysis Model, STEAM 2.0, developed by FHWA was used to estimate user benefits, costs, and externalities of transportation projects, based on trip tables and networks from travel demand models. User benefits were calculated based on a reduction of VMT's and congestion levels (delays) experienced by travelers at the link level. In addition, estimates of emissions, energy consumption, and noise were based on FHWA supplied values. The improvement case (with bridges) reduced values for the user trips, cold start emission cost and vehicle miles traveled (VMT) as anticipated. The in-vehicle travel time delay study produced a reduction of time traveled in the improvement case in relationship to the base case (no bridges). The reductions result in a decrease of hydrocarbons (HC) and carbon monoxide (CO) emissions. The project analysis displayed a significant decrease in greenhouse gas emissions in the form of BTU energy consumption and carbon dioxide level reductions. The declines from the base case values directly translate to user benefit savings. Two of the new bridges identified in the Study are the subject of this application.

The proposed locations of the new bridges are based on rankings provided by the following emergency response groups: North Collier Fire Control and Rescue District (NCFCRD) (formerly the Big Corkscrew Island Fire District), The Greater Naples Fire Rescue District (formerly the Golden Gate Fire District), Collier County Emergency Medical Services, Florida Forest Service, and Collier County Sheriff's Office. The consensus was **"decreasing emergency response times is simply a matter of life and death"**. The medical standard for response time is eight minutes; a response threshold required in cases of cardiac arrest to avoid brain injury or death. For certain areas within Golden Gate Estates, the anticipated response time is greater than 8 minutes due to limited access and traffic circulation

constraints, principally traffic congestion and a lack of interconnectivity. **The additional bridges will help reduce those response times by as much as 3.5 minutes.**

According to the National Fire Protection Association, in 2014 there were 1,298,000 fires reported in the United States. These fires caused 3,275 civilian deaths, 15,775 civilian injuries, and \$11.6 billion in property damage. A residential fire is reported every 86 seconds. When fighting a fire, every second counts in trying to contain or extinguish a blaze. Therefore, the access route as well as the distance between a blaze and emergency responders is extremely important. A community's Public Protection Classification (PPC) rating is a key factor that affects the cost of homeowners insurance and the cost of operating fire departments. By adding the proposed bridges, the response time will reduce by as much as 3.5 minutes and mileage to certain areas of the GGE would decrease. Based on these reductions, it is anticipated the Insurance Service Organization's (ISO) PPC Rating may also decrease which would mean homeowners could see a reduction in their homeowners insurance. The bridges also provide secondary and alternative direction evacuation routes in response or anticipation of an event such as hurricane or wildfire.

The Collier County Sheriff's Department reports there were a total of 33,276 calls for service (reactive and proactive) in 2015 within the Catalyst Project study area shown in Figure 1, including 30,819



Brush Fire (photo courtesy of NCFCRD)

law enforcement calls and 2,457 related to fire and medical emergencies. **Today, first responders must travel along narrow 2-lane congested roadways frequently inundated with stormwater during southwest Florida's rainy season that can quickly make these roads impassable, sometimes leaving emergency vehicles with no way in or out.**

This TIGER Grant application is in support of the necessary construction activities for new bridges and associated roadway improvements at 16th Street NE, creating a new north-south major collector, and at 47th Avenue NE, creating a new east-west major collector. The bridges will improve mobility, reduce travel time and trip length, improve emergency response times, improve stormwater management, and reduce delays along existing facilities. Collier County's life/safety service providers depend upon a transportation system that is capable of allowing emergency vehicles to efficiently respond to emergency calls. Our Sheriff, the North Collier Fire Control and Rescue District, The Greater Naples Fire Rescue District, Collier County Emergency Medical Services, and the Florida Forest Service support this very important initiative and have acknowledged the public benefits that will be derived from this project.

Ladders of Opportunity

The TIGER Discretionary Grant program is intended to support projects that "...leverage resources, encourage partnership, catalyze investment and growth, fill a critical void in the transportation system or provide a substantial benefit to the nation, region or metropolitan area in which the project is located." The Golden Gate Estate Mobility Catalyst project certainly fulfills that objective.

The Golden Gate Estate Mobility Catalyst project is the next step in Collier County's initiative to make transformative surface transportation investments in Golden Gate Estates that dramatically improve the status quo by providing significant improvements to existing conditions. The new bridges and associated roadway enhancements are long-lasting investments that will link neighborhoods together, improve safety by reducing travel time and distance for the area's life/safety first responders, enhance the quality of life by improving access to jobs and public facilities e.g., schools and, parks

and libraries, contribute to environmental sustainability by reducing VMT and associated emissions, and improve the state of good repair of the project's roadways.

Located in one of the few areas in the County where low- and moderate-income families can find affordable housing and realize the dream of home ownership, the Golden Gate Estate Mobility Catalyst is clearly a project that promotes Ladders of Opportunity by improving access to a reliable, safe, and affordable transportation system in the disconnected neighborhoods in this rural Collier County community. These long-term capital investments will begin to remove the physical barriers the canals long ago created, thereby increasing connectivity to employment, education, services and other opportunities, and by contributing to community development and neighborhood revitalization by linking disconnected neighborhoods, particularly for low income groups, and minority persons and populations. 2015 school enrollment records within the study area reflect a diverse population where 58% of the students are minorities, and where 51% of the 5,951 students are considered "economically needy" and eligible for the Free Lunch Program, with another 8% eligible for reduced cost lunches.

Selection Criteria

State of Good Repair

To say that the roadway, bridge, and drainage infrastructure in Golden Gate Estates is "aging" is an understatement. Built in the 1960s, many of the local roadways were unpaved limerock roads, created by using the fill from excavating a strategically located canal network that served to not only provide material for the roadways, but also to alter forever the hydrology of the area. **While originally contemplated as a refined and improved grid network of interconnected arterials and collectors, today, many of the roads and bridges remain just as they were when first built.** Other roads have been modestly resurfaced to supplement the development of home sites on what are typically 1-mile long dead end local roads.

Over time, the construction of a few north-south and east-west "boulevards" has helped to connect the grid of dead end local roads that stretches for miles. As population has increased over time, so has the traffic

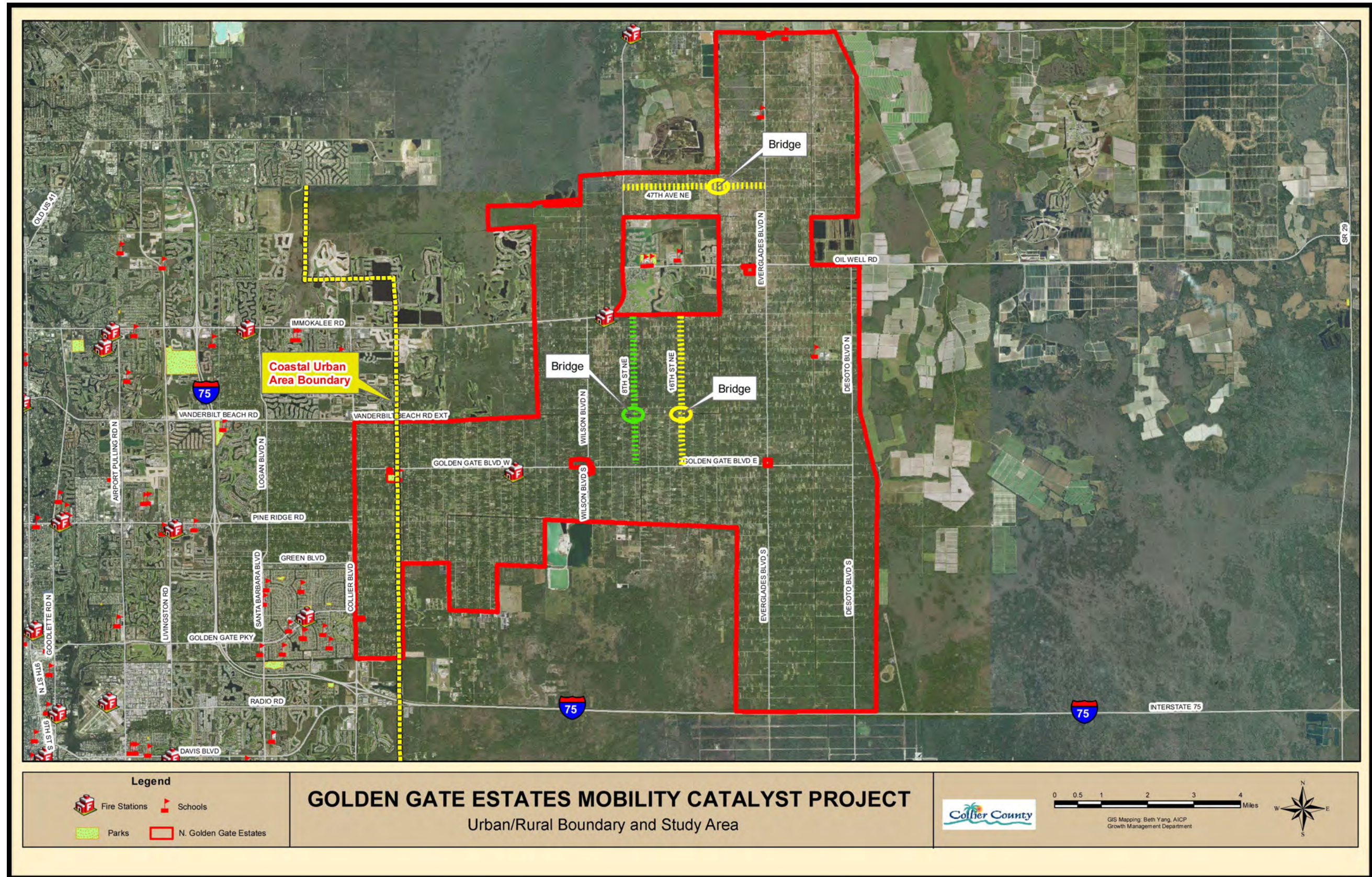


Figure 3: Urban/Rural Boundary & Study Area

that converges each day on to the limited number of major collectors/arterials serving the area, resulting in longer trips on increasingly congested facilities that wastes fuel and increases emissions, and increased travel time for fire, ambulance, and law enforcement personnel who serve and protect the area's residents.

Envisioned by the original developer as major roadways, they were constructed as modestly designed 2-lane roads within wider rights-of-way, with drainage swales to channel stormwater to the awaiting canal infrastructure. The condition of the pavement and roadside drainage features are a major encumbrance to the health, safety, and welfare of the community. **Included within the limited minor arterial/major collector network are low-level bridges that, should one be put out of commission for any reason, would require residents to the east to travel as much as 12-15 extra miles out of their normal travel pattern to reach any destination outside of the Estates.**

If left unimproved, the poor condition of the assets will threaten the operational integrity of the transportation network, and stifle the accessibility and mobility of the residents. By building these bridges, the County will:

- complete the current ineffectual road network
- improve the safety and state of repair of the current infrastructure
- improve access to public facilities, e.g., schools, parks and libraries
- reduce response time for life/safety personnel

Building these bridges will not only save travel time and fuel, but also save lives.

The County has put a mechanism in place for systematically improving and maintaining the local roads. However, the need to expand the capacity of the major collectors and build new bridges to expand the interconnected network to handle the growing population and resulting travel demand pits these major roadways against other County roadway capacity projects in both the rural and urban areas. Competing projects often serve vastly larger population and business concentrations, many with higher traffic volumes and greater levels of congestion, resulting in the



*Golden Gate Blvd. & 16th Street NE intersection
(photo courtesy of Stantec)*

establishment of priorities that tend to favor more dense and concentrated areas.

That being said, Collier County is committed to rehabilitating and repairing the aging infrastructure in the rural Golden Gate Estates in an effort to maintain the transportation facilities in a state of good repair and address current and projected vulnerabilities. As part of the bridge projects, upgraded roadway cross sections are proposed to handle the additional traffic anticipated while at the same time improving the safety profile of these roadways for cyclists and pedestrians.

Economic Competitiveness

Rural Golden Gate Estates has long been regarded as the place where working families could buy an affordable home. **Before the burst of the housing bubble, it was one of the only places where affordable single family housing within close proximity (10 miles) of the eastern edge of the coastal urban area boundary could be found.** It is also the area where working families frequently are able to achieve the dream of home ownership.

Not surprisingly, it was also one of the areas hardest hit when the economy tumbled. Recession-based unemployment struck at the heart of the once burgeoning population in rural Golden Gate Estates.

According to the US Bureau of Labor Statistics, between 2006 and 2011 in Collier County, 62% of the tourist and construction industry employees lost their jobs, and many eventually lost their homes to foreclosure. Although no specific job loss/unemployment data is available for the Golden Gate Estates area, because the area is predominately single family working households, the impact of the recession was felt hardest in this area when the County as a whole lost 21,700 jobs between 2006 and 2010.

The project will have a net positive impact on the long-term efficiency of the transportation system and the cost-competitiveness of the area. The two bridge projects, with the addition of bicycle and pedestrian facilities on the approach roads, will improve accessibility and mobility options, and overall system performance in the heart of The Estates. In 2015, the project study area is home to 35,804 residents (approximately 12,832 households) using the local and collector roadways every day to get to work, school, shopping, medical needs and personal business opportunities. At build-out, this study area will be home to 81,517 residents (29,217 housing units).

Project Study Area		
Timeframe	Residents	Households
2015	35,804	12,832
At build-out	81,517	29,217

Economic competitiveness is demonstrated by the project’s contribution to increasing the efficiency of the transportation system through the increase in system interconnectivity by improving access to the arterial network so as to reduce vehicle miles traveled (VMT) with associated reductions in travel costs, fuel consumption, and emissions.

Quality of Life

When speaking with residents that have chosen to live in the rural Estates, beyond the competitive cost of housing, the discussion frequently extends to the quality of life in The Estates. On the dead end local streets, residents share their acreage with native wildlife, like Florida black bear, Florida panther, deer, several different species of woodpeckers, gray and Big Cypress fox squirrels, raccoons, and rabbits. The quiet rural lifestyle is

cherished by those who choose to live in this rural area often only a few miles from urban services.

However, for working families that choose to live in the rural Estates and have to commute to the urban area, their rural solitude is punctuated by daily peak hour roadway congestion that contributes to traffic jams at intersections that frequently cause bumper-to-bumper traffic to extend for several miles. For many, there is only one way in and one way out, leaving them with no reasonable alternative route to get to work, school, or shopping. Expanding the capacity of existing routes and adding mobility options are the only solutions available absent creating any new routes or interconnections. To that end, the Golden Gate Estates Mobility Catalyst Project begins to provide that interconnectivity needed by area residents and emergency responders.

Improving the “quality of travel” will improve the quality of life of the area’s residents. Providing additional roadway interconnections reduces trip lengths, travel times, travel delays, fuel consumption and emissions. Safety improvements include replacing the sub-standard aging roadways with the new roadway surfaces and bridge structures, sidewalks and paved shoulders.

Adding mobility options is achieved through the network interconnections and the integration of bicycle and pedestrian infrastructure into the projects. Adding bicycle and pedestrian features to the bridge/roadway improvements create multi-modal opportunities, facilitating safe and convenient travel along these new collectors to the arterial system. These new collectors will also provide pedestrians and cyclists safe and convenient access to existing fixed route transit service that is highly dependent upon the quality of interconnections with the pedestrian and bicycle network.

The project is intended to establish the design parameters and infrastructure components that will enhance the quality of life for residents in the area by reducing congestion and offering affordable and convenient mobility choices that will reduce vehicle miles traveled, travel time delays, fuel consumption (and the dependence on foreign oil) and emissions. The project will also enhance economic opportunities for area residents by supporting mode choice and by providing improved access to fixed-route public transportation.

Environmental Sustainability

Rural Golden Gate Estates was severely impacted decades ago when the local and collector roadway network was constructed in large part from the fill dirt removed during the construction of the drainage canal network that changed the hydrology of the area and permitted development in areas that likely would not have been sustainable. Although designed as a classic grid network, the lack of strategically located bridges across the canals to interconnect the streets forces extraneous travel that eventually overloads the major collector roadways. In an effort to make the best of the legacy that is Golden Gate Estates, Collier County has over time, taken bold steps to minimize further impacts and to enhance the sustainability of what remains. Special planning programs are now in place, e.g., the Golden Gate Estates Master Plan, which serves to map out a framework for the future of The Estates. While many of the planning exercises of the past are now in place, some planning initiatives are still underway, one looking at stormwater management/restoration, and another looking at the potential for density relocation to help improve the sustainability of the area.

Collier County understands that all transportation improvements in Golden Gate Estates must be sensitive to the environment and the community as a whole. To date, significant public involvement/participation has limited the expansion of the existing major east-west corridor to four lanes (as opposed to an ultimate 6-lane configuration), while ensuring that bicycle and pedestrian modes were adequately accommodated. This resulted in less right-of-way taking and less disruption to the natural environment adjacent to the right-of-way. Adding sidewalks and paved shoulders to area roadways removed a significant barrier to the safe, convenient and efficient access of non-motorized travel options. The Golden Gate Estates Mobility Catalyst Project improvements proposed on 16th Street NE and 47th Avenue NE continue with this trend. **Building bridges to improve the roadway network will create less environmental impact than building new roads.**

Once completed, the resulting bridge and associated roadway improvements will reduce vehicle miles traveled (VMT) through new opportunities for travel



*Car in dry canal bed
(photo courtesy of NCFCRD)*

path choices, and reduce fuel consumption and greenhouse gas emissions by reducing congestion and delay.

Safety

The safety of people living, working and visiting the area is of the utmost importance. “Safety – To achieve a significant reduction in traffic fatalities and serious injuries on all public roads” is the first of the national goal areas first established in MAP-21. Today, in the shadow of FAST ACT, what could be more important?

Each infrastructure component is intended to enhance the safety of the area’s users by becoming a catalyst to move traffic safer and more efficiently. **In addition, the bridges will improve emergency response times thereby saving lives and property.** The project includes the addition of paved shoulders and sidewalks as well as the new surface treatment that will replace the aging surface of the rural 2-lane roadways.

“Vehicle in canal” incidents are all too common in this area where hundreds of dead end streets often appear to motorist, especially at night, as continuing, when in fact, they are severed by 100 foot wide canals. Such crashes have been recorded on both 16th Street NE and 47th Avenue NE as motorists ended up in the canal mistaking the dead end road for a through road.

Whether it is law enforcement, fire department, ambulance service, or forestry service, first responders

know the perils of the lack of interconnectivity and traffic congestion, especially on 2-lane rural roadways. Within the study area in 2015, there were 33,276 calls for service, including 30,819 law enforcement and 2,457 fire and medical emergencies. In Golden Gate Estates, the congested travel time of emergency vehicles is the primary determinant of an agency’s response time. The project, once constructed, adds additional interconnecting roadway corridors to the network, thus providing alternate and/or shorter travel routes and reducing travel time on congested facilities. Reducing the travel delays experienced every day by emergency responders as they try to negotiate these congested and disconnected roadways translates into lives and property saved.

Although there are life/safety stations located within Golden Gate Estates, because of the disconnected grid network, travel along the few major collectors is always necessary to reach an emergency destination. Collier County’s adopted plan to construct up to 12 new bridges connecting local streets (two of which are the subject of this application) will substantially improve connectivity in the area and shorten travel distances (and time) for many trips, and reducing travel time to an emergency will save lives and property.

For emergency medical service, responding to emergency calls is often only one-half the journey. After stabilizing a medical emergency, a journey to one of the area’s regional medical centers (or to an awaiting med-



14th Avenue NE House Fire
(photo courtesy of NCRCRD)

flight transport location) requires emergency medical service personnel to traverse the frequently congested “boulevards”. Travel distance from the outer reaches of the Golden Gate Estates area can exceed twenty miles, and at congested speeds it can take over 40 minutes to reach a major medical facility (Figure 4). The additional options offered by the interconnected streets created through this project will improve the travel of emergency vehicles to points outside the Golden Gate Estates area.

Forest fires are a regular occurrence in Golden Gate Estates and the neighboring rural areas. Due to the heavily wooded nature of the area, single family homes are at risk from fires that have the potential to burn thousands of acres before they can be brought under control by firefighters. Due to limited access throughout the area, residents can be easily trapped when cut off from escape by road closures that are needed when fires are advancing too quickly, and due to frequent high winds are capable of “jumping” the narrow roadways.

During 2015 Forestry Service personnel responded to 50 wildfires in Collier County that consumed 1,516.1 acres. Working to contain the fires is a collaborative effort of the Florida Forest Service and the local fire and rescue districts, access and response time is critical in order to engage and contain/control a burgeoning fire as quickly as possible. Mobility and access will be improved by the construction of the bridge projects, enhancing the ability of fire department and forestry responders to act quickly to help save lives and property, and affording residents additional opportunities to escape/evacuate in an emergency.

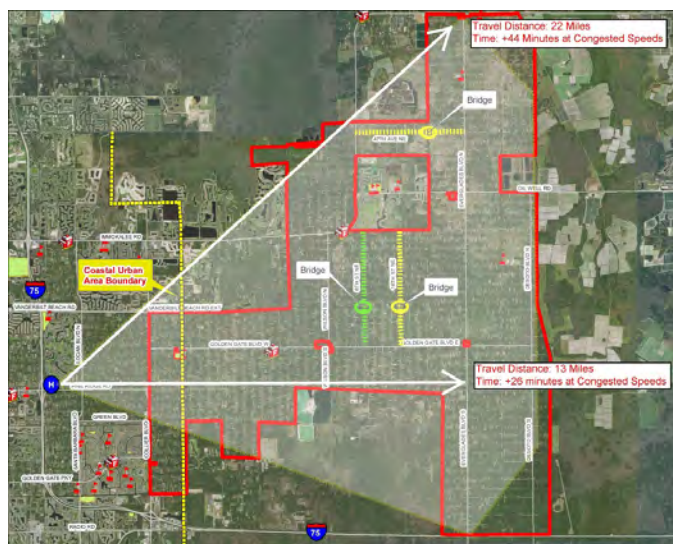


Figure 4: Distance Barriers to Major Medical Facilities

Innovation

Collier County intends to use a “design/build” approach for both bridges within this project. This approach, which has been successfully used by the County, reduces procurement time and by overlapping the engineering and construction phases to the maximum extent possible, allows for a streamlined, expedited project delivery process, thereby getting these much needed improvements “on the ground” sooner than the conventional “design then construct” process.

Partnership

The Collier County Board of County Commissioners is applying for the TIGER Grant to support all of the design and construction phase activities related to the Golden Gate Estates Mobility Catalyst Project – road and bridge improvements on 16th Street NE and 47th Avenue NE. Supporters of the project include the Collier Metropolitan Planning Organization, Southwest Florida Regional Planning Council, Collier County School District, Collier Area Transit, Florida Division of Forest Service, Golden Gate Estates Area Civic Association, Naples Pathway Coalition, North Collier Fire Control and Rescue District (NCFR), Greater Naples Fire Rescue District, Collier County Emergency Management Services and the Collier County Sheriff’s Office. Letters of support are included Appendix B.

At the beginning, and throughout the entire project, the County will establish and maintain a collaborative approach that will include the participation of those public and private partners that have a vested interest in seeing the project through to a successful completion. Only through a rigorous process can we be assured that in the end, the capital project will be worthy of advancement and funding.

Achieving Long-Term Benefits

The Congestion Management Plans envisioned by the Fixing America’s Surface Transportation (FAST) Act, encourages MPOs in Transportation Management Areas to develop regional goals to reduce vehicle miles traveled (VMT) during peak commuting hours. Strategies to reduce VMT take the form of improving mode choice opportunities, reducing trip frequency, and reducing

trip length. Enhancing connectivity is a key element in all three strategies and is a major component of this project.

The Golden Gate Estates Mobility Catalyst Project will improve interconnectivity, multi-modal mobility, pedestrian and bicycle safety, economic opportunity, and begin to restore the physical integrity of the transportation network in rural Golden Gate Estates.

By putting forth this TIGER Grant, Collier County has embarked on a plan to make systematic investments in the transportation modal systems that serve the vast community. The goal of this project is to improve the efficiency of the roadway system by improving connectivity. In addition to the construction of bridges to improve local road interconnectivity and mobility, short- and long-range improvements are planned to both the roadway and transit networks to better serve the community. Improvements include the Golden Gate Boulevard Enhancement Project Phase I, and the extension of fixed route transit service to areas not currently served.

Reducing travel demand along the major collector and arterial corridors is a central component to the success of the project as operational conditions have reached a critical level. As mentioned previously, the rural Golden Gate Estates area was one of the hardest hit areas in the County during the recession, and is only now witnessing a recovery in housing occupancy and the resulting traffic that comes with it. Recent historical traffic volume trends indicate a continued growth of volumes on area roadways.

The challenge facing the County is monumental given the area encompassing the rural Estates. **Many of the improvements needed are not eligible for any other type of non-local funding, and without the support from programs like TIGER, would simply not reach a high enough priority given the limited local funding available.** Collier County is committed to improving the mobility within this area by making strategic investments in the transportation systems. This project is another step towards breaking down barriers that constrain access to employment, offer enhanced mobility options through route and mode choice, and strengthen the community by promoting the continued recovery of the affordable housing market.

The Golden Gate Mobility Catalyst Project will improve connectivity and reduce travel demand on congested roadways. This will then stimulate and improve access to goods and services, and add a much needed inducement to continue the recovery of an area that has been plagued by foreclosures and whose residents have been some of the hardest hit by the recession of recent years. The future capital project that is the subject of this TIGER Grant application, once constructed, will better connect people to jobs by removing the barriers to accessing the transportation system.



From this.....



.....to this.

(photos and rendering courtesy of Stantec)



II. Project Location

Located in rural Collier County, Florida, the two bridge/road components of the Golden Gate Estates Mobility Catalyst Project are strategically located within the 81 square mile area of Golden Gate Estates, as shown on Figure 3.

Together with a third bridge on 8th Street NE funded separately by the Florida Department of Transportation, the Golden Gate Estates Mobility Catalyst Project initiates the plan to construct the critical improvements needed to complete the interconnected grid network the

Golden Gate Estates residents and service providers so desperately need.

The bridge improvement on 16th Street NE creates a new north-south corridor while the bridge improvement on 47th Avenue NE establishes a new corridor to facilitate improved east-west travel. As mentioned previously, eight additional bridges, planned for the future, are identified as unfunded needs in the Collier MPO 2040 Long Range Transportation Plan.

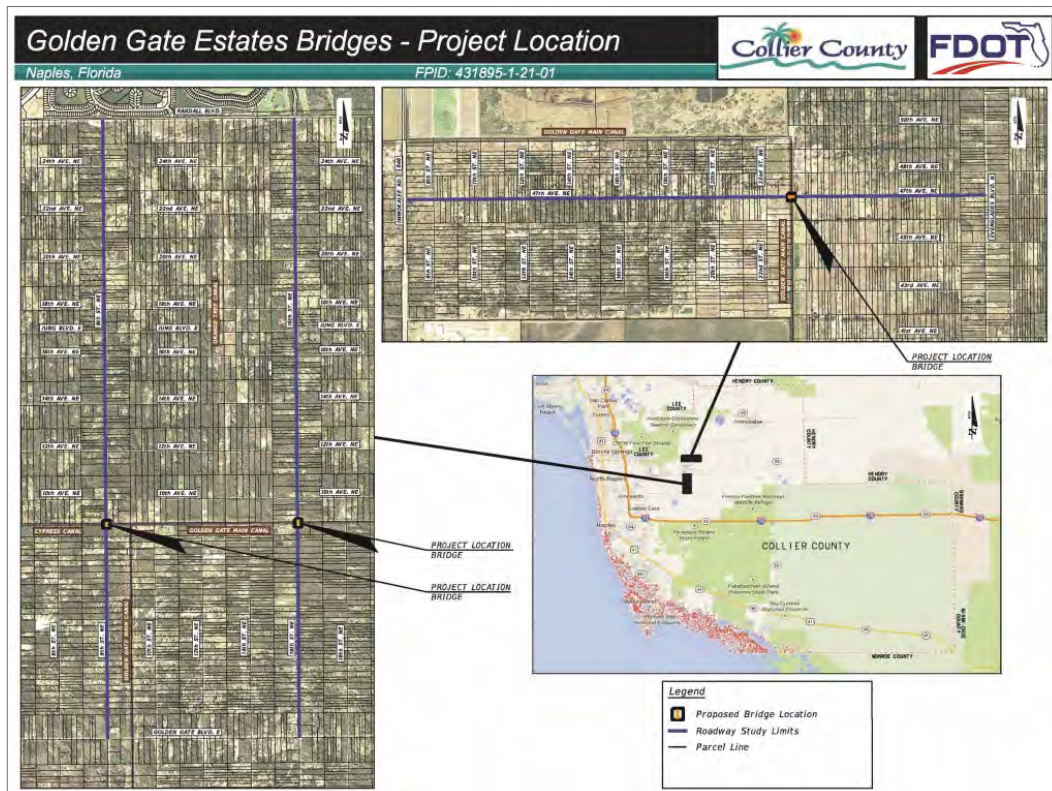


Figure 5: Project location exhibit from PD&E document



III. Project Parties

APPLICANT:

Collier County Board of County Commissioners

The Board of County Commissioners, consisting of five elected officials that serve as the chief legislative body of Collier County, is responsible for providing services to protect the health, safety, welfare and quality of life of the citizens of Collier County.

CO-APPLICANTS & PARTNERS:

None

SUPPORTERS:

Collier Metropolitan Planning Organization

The Collier Metropolitan Planning Organization (MPO) is a federally mandated transportation policy-making organization made up of representatives from local governing bodies and public transportation authorities, established to ensure that existing and future expenditures for transportation projects and

programs are based on a continuing, cooperative, and comprehensive (“3-C”) planning process. The Collier MPO is committed to providing a transportation planning process to assure that highway facilities, mass transit, bicycle/pedestrian, and other intermodal facilities are properly planned, located, and developed in relation to the overall development of the community. The bridges that are the subject of this application are included in the MPO’s priorities and 2040 Long Range Transportation Plan.

Collier County School District

The School District of Collier County has 48 traditional schools and serves a total student population of 46,633. There are 29 elementary schools, 10 middle schools, 8 high schools, and a PreK-thru-12 school (Everglades City School), 12 Alternative School Programs, 5 charter schools and two career/technical centers and adult education programs.

Within the Golden Gate Estates study area shown in Figure 1, the 5,951 students are representative of the diverse nature of our student population.

Table 2

Diversity within the Golden Gate Estates Study Area				
Hispanic	47%	Creole	2%	51% of the student population are considered “Economically Needy” making them eligible for the Free Lunch Program
White	42%	Indian	1%	
Black	5%	Asian	1%	An additional 8% eligible for Reduced Costs Lunches
Mixed	3%	Hawaiian/Pacific Islander	0%	



Brush Fire (photo Courtesy of FFS)

Florida Forest Service

The Florida Forest Service (FFS) consists of more than 1,250 dedicated employees with the mission to protect and manage the forest resources of Florida, ensuring that they are available for future generations. Wildfire prevention and suppression are key components in efforts to protect homeowners from the threat of damage in a natural, fire-dependent environment.

The Florida Forest Service's forestry programs are implemented by its Field Operations staff within 15 field units across the state. Field personnel and equipment provide a more responsive and comprehensive approach to land management and wildfire control statewide. The Service employs 17 full time staff in Collier County. During 2015 the Service responded to 50 wildfires in Collier County that consumed 1,516.1 acres.

Golden Gate Estates Area Civic Association

The GGEACA is the largest and most active Civic Association in eastern Collier County with a membership dedicated to improving and protecting our neighborhoods and community. The Association is dedicated to information and education, and fostering better communication between citizens and our local government.

Naples Pathway Coalition

Naples Pathways Coalition is a non-profit advocacy group working to fully integrate and interconnect a transportation network of sidewalks, bike lanes, and multi-use pathways to be used by cyclists, pedestrians, and other non-motorized users throughout Collier County Florida. The NPC has been able to work in harmony with the city and county governments to help

design and create many of the bikeways, sidewalks, and pathways that are a part of the network today.

The North Collier Fire Control and Rescue District (NCFCRD)

The District was formed on January 1, 2015, by the merger of two existing special independent fire districts – the North Naples Fire Control and Rescue District and the Big Corkscrew Island Fire Control and Rescue District. NCFR includes two service delivery areas: the North Naples Service Delivery Area and the Big Corkscrew Island Service Delivery Area, both encompassing their original boundaries, but enhanced with additional firefighting and life safety capabilities from the neighboring service delivery area. The District's staffing level includes 190 firefighters, 8 sworn Chief Officers, 24 administration staff and 8 fire commissioners.



14th Avenue NE Brush Fire (photo Courtesy of NCFCRD)

Greater Naples Fire District (GNFD)

On November 4th the GNFD was formed by a special act of the Florida Legislature and a vote of the residents of East Naples and Golden Gate. Greater Naples responds to emergency incidents from 11 fire rescue facilities that house 144 firefighters/EMTs and paramedics. Fire fighters responded to 17,806 emergency incidents in 2015 including a wide variety of emergency and non-emergency situations such as; structure fires, wild land fires, motor vehicle accidents, vehicle extrication, emergency medical responses, water rescue, hazardous material, technical rescue and Urban Search and Rescue incidents.

Collier County Sheriff's Department

The Collier County Sheriff's Department has approximately 1,200 employees. Collier County is broken down into six Patrol Districts: North Naples, Golden Gate, East Naples, Golden Gate Estates, Immokalee, and Everglades. The men and women of the Collier County Sheriff's Department carry out Sheriff Kevin Rambosk's law enforcement philosophy of Community-Safety-Service 24 hours a day, seven days a week.

Collier County Emergency Medical Services

The Collier County Emergency Medical Services (EMS) Department responds to more than 38,000 911 calls annually. Currently, Collier EMS runs 24 stations with 25 full time ground transport ambulances as well as a MedFlight helicopter available for emergency

response 24 hours a day, 7 days a week. The department strategically places ambulances throughout the 2,025 square miles of Collier County for quick response capability.

Collier Area Transit (Alternative Transportation Modes Department)

The Public Transit and Neighborhood Enhancement (PTNE) Department oversees the public transit system, Collier Area Transit (CAT), and the Transportation Disadvantaged System (TD) para-transit service. CAT provides fixed-route transit service seven days a week to Immokalee, Marco Island, Golden Gate, and the Naples area. CAT's ridership has continued to increase with more than one million passenger boardings since its inception in February 2001.



(photo courtesy of Stantec)



(photo courtesy of Collier MPO)



IV. Grant Funds and Sources/Uses of Project Funds

Project Components

Project Planning & Development

Project development and environmental assessments (including early discussions with permitting agencies), agency coordination and public involvement activities, schematic design, preliminary design development, access management evaluations, right-of-way assessment, stormwater management options, etc., have already been completed.

It was during this phase of work that alternatives/enhancements were developed, different ideas and concepts evaluated, and the proposed improvements thoroughly vetted through the public engagement process.

Public Engagement Process

Collier County has a strong history of engaging the public during planning exercises and design projects. Most recently, during a County-wide Master Mobility Plan Study, the public was given unprecedented access to the staff and the consultant team, engaging in a continuous and cooperative dialog that helped shape the plan, and in the process helped to form a new trust between the government and the people it serves.

The Golden Gate Estates area takes active public involvement very seriously. Whether it is fighting for its share of

roadway improvements, or weighing in on proposed school rezoning, or promoting discussions with civic and political leaders on topics of keen local interest, the area's civic property owners associations are standing by to help engage the public in sometimes lively debate on topics of interest.

Working through Florida Department of Transportation, a Project Development and Environmental Study (PD&E) was completed which included a public involvement process to engage the neighbors living along the corridors approaching the new bridge locations. Roadway enhancements were added to the projects during these deliberations to ensure adequate safety of area residents. Additional public involvement activities customarily associated with design and

Proposed Intersection with Turn Lanes
8th St. N.E. at Golden Gate Blvd.

Golden Gate Estates Proposed Bridge Typical Section

Project Location Map

Improvement Areas

Public Hearing Handout

Introduction
Collier County and the Florida Department of Transportation (FDOT), District One, welcomes you to the public hearing for the Project Development and Environmental (PD&E) study of the Golden Gate Estates bridges in Naples, Florida.

Documents are on display at:
Collier County Public Library Estates Branch
1200 Golden Gate Boulevard West Naples, Florida 34120
and
Collier County Growth Management
2855 Horseshoe Drive South Naples, Florida 34104

Project Schedule

Public Hearing	Spring 2015
Design	Spring 2015
Construction	Summer 2015
Opening	Winter 2016

NEED INFORMATION? HAVE COMMENTS? PLEASE CONTACT
Collier County Project Manager
Gary Pylasinski, PE
239.252.8192
Gary.Pylasinski@collier.gov

Community Liaison
Cristina Berman
239.252.8192
Cristina.Berman@collier.gov

Americans with Disabilities Act
Persons with disabilities who may require special accommodations at the meeting under the Americans with Disabilities Act of 1990, or persons who require translation services (free of charge) should contact Gary Pylasinski, PE. Project Manager at (239) 252-8192 or by e-mail at Gary.Pylasinski@collier.gov, at least seven (7) days before the meeting.

Title VI Compliance
This project is developed in compliance with Title VI of the Civil Rights Act of 1964 and related statutes. Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status.

Public Hearing Handout

construction are included in the project scope and will be carried out pursuant to a public involvement plan to be prepared by the design/build team.

Right-of-Way Identification

During the PD&E process “footprint” concepts were developed and evaluated, and a set of right of way schematics were developed that identified any right-of-way needed to complete each project. Collier County has committed to acquire any needed right-of-way in advance of obligating TIGER Grant funds for this project, and associated costs for such right-of-way are not included in this application.

Engineering Design & Construction/CEI Phase Services

The bridge projects are intended to be design/build projects. Collier County has had recent success with using such innovative ideas as design/build phases to streamline the project delivery process.

Previously Committed Investments

PD&E services are complete and any needed right-of-way will be acquired in advance of obligating TIGER Grant funds.

Pending or Past Federal Funding Requests

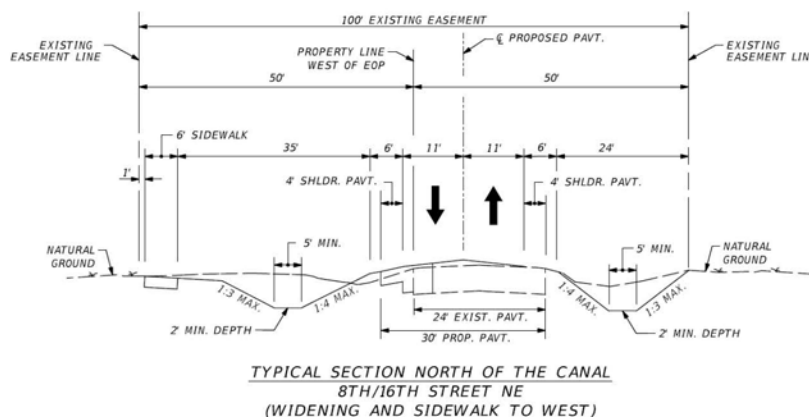
The two bridge improvements included in this TIGER Grant Application were previously included in a 2010 TIGER Grant Application for the entire Golden Gate Estates 12-Bridge Program. Federal funds were used

by FDOT in the performance of the PD&E services on this project. Right-of-way acquisition will be done by Collier County using local funds in order to expedite the project delivery process. Neither the previously expended federal funds (or associated state funds) nor are the local funds, to be used for right-of-way acquisition, being used as part of the local match. Collier County is committed to improving transportation access and interconnectivity for the area’s life/safety first responders, other public service providers, and for the residents of GGE area that have been historically underserved. Recognizing that the Collier MPO’s Highway Needs Assessment forecasts a \$2.36 billion (present day costs) need plagued by a shortfall of over \$1.7 billion, the County will continue to seek out funding opportunities in order to achieve the public health, safety and welfare objectives of the Bridge Program.

Proposed Investments

The project, taken in its entirety, is intended to serve as a catalyst in support of the development of a network of interconnected roadways that will reduce travel times (and especially emergency response times) and shorten trip lengths. During the planning/study phase of the project, alternative bridge locations were considered and evaluated through technical analysis, supported by a rigorous public engagement process. Over time, Collier County is committed to pursue the completion of the remaining unfunded bridge projects.

Proposed Roadway Typical Section for 8th/16th Streets NE north of 10th Avenue NE





V. Results of Benefit-Cost Analysis

Background

The TIGER (Transportation Investment Generating Economic Recovery) Program is intended to create the resource and partnerships necessary to create a transformative environment aided by this discretionary grant program. The following summarizes the calculations found in the accompanying MS-Excel™ workbook in terms of methods and outcomes, all of which adhere to the provisions contained in the TIGER 2016 BCA Guidance, Notice of Funding Opportunity of 2.26.2016 (NOFA), and external resources.¹

The BCA directly supports several of the application primary criteria listed in the NOFA, specifically those described in the following paragraphs. All assessments shown in this summary are in undiscounted, 2016 dollars unless stated otherwise. The benefit and cost streams ran 25 years, from 2020 (the first full year of operation) to 2045. Additional, residual benefits from the proposed project will still continue to accrue but were not estimated, making the following descriptions a conservative estimate of the total lifetime project benefits. The term of these residual benefits for the two bridge structures can easily exceed another 25 years beyond the 2045 lifetime estimate described in this summary and analysis. As encouraged by FHWA, the overall connectivity project is broken out into three components representing those elements of the overall

project that have independent utility (two) as well as the overall project. The benefits summarized below are always for the full project; the individual components and their respective benefits and costs are identified in additional detail at the end of this summary.

Safety.

The Florida Department of Transportation has initiated campaigns for seat belt awareness and older driver education in Collier County (and a number of other counties in Florida).² Safety is a major part of the culture in Florida, where historically high pedestrian crash rates have particularly challenged the State and local jurisdictions to make important investments in safety infrastructure. The Collier County Project would increase pedestrian safety by adding sidewalks to six miles of roadway. Vehicle mileage is reduced as well, commensurately reducing the exposure of the pedestrians and motorists alike to crashes through reduced VMT. A crash reduction factor of 20% was applied for this project based on available FHWA literature on the effects of guardrail, geometrical, signage, marking and other improvements.³ This assumption produces a benefit value of over \$9.3 million (undiscounted \$2016) for the estimated life of the Project stemming from over 13 fewer crashes over the life of the project (including eight fewer injury crashes).

¹ Quah, Euston and Toh, Raymond, *Cost-Benefit Analysis: Cases and Materials*, New York, NY: Routledge Taylor & Francis Group, 2012; and Campbell, Harry and Brown, Richard, *Benefit-Cost Analysis: Financial and Economic Appraisal Using Spreadsheets*, Melbourne, Australia: Cambridge University Press, 2003.

² Florida Department of Transportation, *Fiscal Year 2015 Highway Safety Plan Annual Report*, December 31, 2015: www.dot.state.fl.us/safety/3-Grants/Annual%20Reports/Florida%202015%20Annual%20Report%20Final%20-%20v2.pdf

³ Full citations for all data sources are listed in the accompanying spreadsheet calculations page.

Economic Competitiveness

The two bridges provide critical links for people and goods to move across and through the canal-crossed environment of Naples. The travel time savings from these projects is significant, and represents the single-largest source of benefits: \$85.7 million (undiscounted \$2016).

State of Good Repair.

The 2016 TIGER BCA Guidance (and other supporting resources shown on the FHWA Internet site) encourages full cost accounting, including maintenance as well as capital construction costs. The combined capital construction costs for the bridges and over six miles of roadway reconstruction represent a capital investment of \$19.7 million and ongoing maintenance costs (annualized) totaling more than \$12.6 million (undiscounted \$2016). Figures obtained from Collier County experience for bridge maintenance, and Florida-based figures for per-mile expenditures on roadway maintenance, were used to estimate and forecast the annualized figures for maintenance.

Quality of Life.

The Collier County Connectivity Project will provide the safety and mobility benefits described previously as well as create pollution reduction benefits discussed in the next section. The project will generate an estimated \$3.7 million of economic benefit to adjacent property owners by creating a safer, more aesthetically pleasing and functional walking and biking environment. These benefits translate directly to both the resale value of the home and homeowner specifically, and to the overall economy of the study region. These benefits will not occur immediately after construction, but are anticipated to be fully realized by year 10 of the operational life of the project.

The analysis for this project also involved considering the jobs and wages impact to Collier County from the construction. RIMSII data was purchased from the Bureau of Economic Analysis (BEA) to represent the impact to jobs and wages in the Collier County area (note: some work for the construction and design work will occur outside of Collier County, but likely remain almost entirely within the State of Florida).⁴ The following table indicates the results of this analysis.

Table 3: Economic Effects of Project’s Construction on Collier County, Florida

Bridge 16th Street	Cost (\$2016)	Total Output (\$2016)	Earnings (\$2016)	Employment (Jobs)
Construction +CEI	\$7,920,000	\$12,714,356	\$3,531,164	124
PE	\$990,000	\$1,692,449	\$582,019	18
Total	\$8,910,000	\$14,406,805	\$4,113,183	142
Bridge 47th Avenue	Cost (\$2016)	Total Output (\$2016)	Earnings (\$2016)	Employment (Jobs)
Construction +CEI	\$9,600,000	\$15,411,341	\$4,280,198	151
PE	\$1,200,000	\$2,051,453	\$705,478	22
Total	\$10,800,000	\$17,462,794	\$4,985,676	172
Full Project Costs	Cost (\$2016)	Total Output (\$2016)	Earnings (\$2016)	Employment (Jobs)
Construction +CEI	\$17,520,000	\$28,125,697	\$7,811,362	275
PE	\$2,190,000	\$3,743,901	\$1,287,497	40
Total	\$19,710,000	\$31,869,598	\$9,098,859	315

Note that these impacts are not included in the BCA figure,⁵ but are shown here to represent the magnitude of the qualitative boost to the still-flagging manufacturing/construction sectors of the local economy. Nearly 315 jobs and \$31 million of total economic output result from these projects.

⁴ Refer to: BEA, US Department of Commerce, RIMSII User's Guide: www.bea.gov/regional/pdf/rims/rimsii_user_guide.pdf.

⁵ The benefits not considered in the BCA include ongoing realization of increased tax revenues to Naples and Collier County after the project(s) are completed and reassessment of properties; the jobs and wages benefits described herein; and residual benefits after the 2045 time horizon (especially for the bridge structures).

Environmental Sustainability.

A MIT study reported in 2013 that mobile source pollutants are the direct cause of an estimated 53,000 premature deaths across the U.S. each year. No other source of pollution is more responsible for human mortality to the degree that pollutants from cars and trucks. The estimated and forecasted benefits from all pollutant reductions are equivalent to nearly \$2.7 million over the life of this project.

Summary of Benefits.

Beyond the traditional benefit-cost ratio, the assessment team also prepared estimated values for a modified internal rate of return (MIRR, assumed to be calculated

at a 75% public reinvestment rate) and payback period to realize the moment when revenues exceed costs. The BCA for this project is estimated to be 2.7 at the 3% discount rate (1.5 for the 7% rate). A MIRR of 58% and a payback period of just over 12 years for the 3% discount rate were also calculated.

The three tables on the following pages illustrate the benefit and cost streams, and performance metrics for the full project as well as separate assessments for the 16th Street and 47th Avenue components. Note that the two sub-components are not completely additive to the full project, and were therefore analyzed separately from the full project benefit-cost analysis.



⁶ Fabio Caiazzo, Akshay Ashok, Ian A. Waitz, Steve H.L. Yim, and Steven R.H. Barrett , "Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005," Massachusetts Institute of Technology, June 2013, accessed 4.2016: www.sciencedirect.com/science/article/pii/S1352231013004548.

16th Street NE Bridge & Roadway Improvements											
Years	Operational Year	Drivers Affected Annually	Travel Time Benefits (\$2016)	Crash Reduction Benefits (\$2016)	Pollution Reduction Benefits (\$2016)	Property Value Increase Benefits (\$2016)	Construction + Maintenance Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Total Discounted Benefits - Costs	Total Discounted Benefits - Costs2	
									3%	7%	
2016 - 2019	0	0	0	0	\$0		(\$8,910,000)	(\$8,910,000)	(\$8,910,000)	(\$8,910,000)	
2020	1	696,106	\$1,124,351	\$95,966	\$29,292		(\$255,629)	\$993,979	\$964,160	\$924,401	
2021	2	731,271	\$1,181,149	\$100,813	\$30,772		(\$255,629)	\$1,057,105	\$994,630	\$914,290	
2022	3	768,212	\$1,240,816	\$105,906	\$32,760		(\$255,629)	\$1,123,853	\$1,025,710	\$903,979	
2023	4	807,019	\$1,303,497	\$111,256	\$35,326		(\$255,629)	\$1,194,450	\$1,057,438	\$893,511	
2024	5	847,787	\$1,369,345	\$116,876	\$37,589		(\$255,629)	\$1,268,182	\$1,089,031	\$882,259	
2025	6	890,613	\$1,438,519	\$122,780	\$39,991		(\$255,629)	\$1,345,662	\$1,120,899	\$870,630	
2026	7	935,604	\$1,511,187	\$128,983	\$42,540		(\$255,629)	\$1,427,081	\$1,153,057	\$858,676	
2027	8	982,867	\$1,587,527	\$135,499	\$45,244		(\$255,629)	\$1,512,640	\$1,185,522	\$846,446	
2028	9	1,032,518	\$1,667,723	\$142,343	\$48,112		(\$255,629)	\$1,602,550	\$1,218,308	\$833,985	
2029	10	1,084,677	\$1,751,970	\$149,534	\$50,543	\$2,118,802	(\$255,629)	\$3,815,220	\$2,813,435	\$1,846,499	
2030	11	1,139,471	\$1,840,473	\$157,088	\$53,739		(\$255,629)	\$1,795,671	\$1,284,446	\$808,238	
2031	12	1,197,032	\$1,933,447	\$165,023	\$57,806		(\$255,629)	\$1,900,647	\$1,318,750	\$795,604	
2032	13	1,257,502	\$2,031,117	\$173,360	\$61,436		(\$255,629)	\$2,010,284	\$1,352,976	\$782,593	
2033	14	1,321,026	\$2,133,721	\$182,117	\$65,286		(\$255,629)	\$2,125,496	\$1,387,601	\$769,523	
2034	15	1,387,759	\$2,241,509	\$191,317	\$69,367		(\$255,629)	\$2,246,565	\$1,422,640	\$756,420	
2035	16	1,457,864	\$2,354,741	\$200,982	\$73,695		(\$255,629)	\$2,373,789	\$1,458,109	\$743,309	
2036	17	1,531,510	\$2,473,694	\$211,135	\$78,282		(\$255,629)	\$2,507,482	\$1,494,023	\$730,210	
2037	18	1,608,876	\$2,598,656	\$221,800	\$83,145		(\$255,629)	\$2,647,973	\$1,530,399	\$717,144	
2038	19	1,690,150	\$2,729,930	\$233,005	\$88,300		(\$255,629)	\$2,795,606	\$1,567,252	\$704,129	
2039	20	1,775,530	\$2,867,836	\$244,775	\$94,766		(\$255,629)	\$2,951,748	\$1,605,144	\$691,414	
2040	21	1,865,223	\$3,012,708	\$257,141	\$100,606		(\$255,629)	\$3,114,826	\$1,643,010	\$678,540	
2041	22	1,959,447	\$3,164,899	\$270,130	\$106,795		(\$255,629)	\$3,286,195	\$1,681,402	\$665,761	
2042	23	2,058,431	\$3,324,778	\$283,776	\$112,190		(\$255,629)	\$3,465,115	\$1,719,759	\$652,868	
2043	24	2,162,415	\$3,492,733	\$298,112	\$119,078		(\$255,629)	\$3,654,294	\$1,759,240	\$640,316	
2044	25	2,271,652	\$3,669,173	\$313,171	\$126,377		(\$255,629)	\$3,853,091	\$1,799,296	\$627,889	
2045	26	2,386,407	\$3,854,525	\$328,991	\$134,108		(\$255,629)	\$4,061,996	\$1,839,944	\$615,597	
Total Benefit-Cost (\$2016)									\$51,221,502	\$28,576,181	\$12,244,231
Benefit/Cost Ratio										4.2	2.4
MIRR (@75% reinvestment)										63%	62%
Payback Period (years)										8.3	9.5

Table 4: 16th Street NE Bridge & Roadway Improvements

47th Avenue NE Bridge & Roadway Improvements											
Years	Operational Year	Drivers Affected Annually	Travel Time Benefits (\$2016)	Crash Reduction Benefits (\$2016)	Pollution Reduction Benefits (\$2016)	Property Value Increase Benefits (\$2016)	Construction + Maintenance Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Total Discounted Benefits - Costs	Total Discounted Benefits - Costs2	
									3%	7%	
2016 - 2019	0	0	0	0	\$0		(\$10,800,000)	(\$10,800,000)	(\$10,800,000)	(\$10,800,000)	
2020	1	121,910	\$196,909	\$43,266	\$5,130		(\$240,277)	\$5,028	\$4,877	\$4,676	
2021	2	135,998	\$219,664	\$48,266	\$5,723		(\$240,277)	\$33,376	\$31,404	\$28,867	
2022	3	151,715	\$245,049	\$53,844	\$6,470		(\$240,277)	\$65,086	\$59,402	\$52,352	
2023	4	169,247	\$273,368	\$60,066	\$7,409		(\$240,277)	\$100,566	\$89,030	\$75,228	
2024	5	188,806	\$304,959	\$67,008	\$8,371		(\$240,277)	\$140,061	\$120,275	\$97,439	
2025	6	210,624	\$340,201	\$74,751	\$9,458		(\$240,277)	\$184,133	\$153,377	\$119,132	
2026	7	234,965	\$379,515	\$83,390	\$10,683		(\$240,277)	\$233,311	\$188,511	\$140,384	
2027	8	262,118	\$423,373	\$93,027	\$12,066		(\$240,277)	\$288,188	\$225,866	\$161,265	
2028	9	292,409	\$472,299	\$103,777	\$13,625		(\$240,277)	\$349,424	\$265,643	\$181,844	
2029	10	326,200	\$526,879	\$115,770	\$15,200	\$1,644,815	(\$240,277)	\$2,062,386	\$1,520,853	\$998,158	
2030	11	363,897	\$587,766	\$129,148	\$17,162		(\$240,277)	\$493,799	\$353,215	\$222,261	
2031	12	405,950	\$655,690	\$144,073	\$19,604		(\$240,277)	\$579,089	\$401,797	\$242,405	
2032	13	452,862	\$731,463	\$160,722	\$22,125		(\$240,277)	\$674,033	\$453,643	\$262,397	
2033	14	505,196	\$815,992	\$179,296	\$24,967		(\$240,277)	\$779,978	\$509,198	\$282,386	
2034	15	563,578	\$910,291	\$200,016	\$28,171		(\$240,277)	\$898,200	\$568,786	\$302,425	
2035	16	628,706	\$1,015,486	\$223,130	\$31,781		(\$240,277)	\$1,030,120	\$632,755	\$322,563	
2036	17	701,361	\$1,132,838	\$248,916	\$35,850		(\$240,277)	\$1,177,326	\$701,482	\$342,852	
2037	18	782,412	\$1,263,752	\$277,681	\$40,434		(\$240,277)	\$1,341,590	\$775,374	\$363,340	
2038	19	872,829	\$1,409,794	\$309,770	\$45,600		(\$240,277)	\$1,524,887	\$854,871	\$384,073	
2039	20	973,695	\$1,572,713	\$345,568	\$51,969		(\$240,277)	\$1,729,973	\$940,750	\$405,227	
2040	21	1,086,218	\$1,754,459	\$385,503	\$58,588		(\$240,277)	\$1,958,274	\$1,032,951	\$426,595	
2041	22	1,211,744	\$1,957,209	\$430,053	\$66,043		(\$240,277)	\$2,213,028	\$1,132,309	\$448,344	
2042	23	1,351,776	\$2,183,389	\$479,750	\$73,675		(\$240,277)	\$2,496,538	\$1,239,048	\$470,377	
2043	24	1,507,991	\$2,435,707	\$535,192	\$83,041		(\$240,277)	\$2,813,662	\$1,354,546	\$493,018	
2044	25	1,682,258	\$2,717,183	\$597,040	\$93,587		(\$240,277)	\$3,167,533	\$1,479,158	\$516,172	
2045	26	1,876,664	\$3,031,187	\$666,035	\$105,462		(\$240,277)	\$3,562,408	\$1,613,648	\$539,884	
Total Benefit-Cost (\$2016)									\$19,101,999	\$5,902,768	-\$2,916,335
Benefit/Cost Ratio										1.5	0.7
MIRR (@75% reinvestment)										44%	42%
Payback Period (years)										21.8	-

Table 5: 47th Avenue NE Bridge & Roadway Improvements

Both Bridges & Roadway Improvements										
Years	Operational Year	Drivers Affected Annually	Travel Time Benefits (\$2016)	Crash Reduction Benefits (\$2016)	Pollution Reduction Benefits (\$2016)	Property Value Increase Benefits (\$2016)	Construction + Maintenance Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Total Discounted Benefits - Costs	Total Discounted Benefits - Costs2
									3%	7%
2016 - 2019	0	0	0	0	\$0		(\$19,710,000)	(\$19,710,000)	(\$19,710,000)	(\$19,710,000)
2020	1	818,016	\$1,321,260	\$144,111	\$34,422		(\$485,906)	\$1,013,886	\$983,470	\$942,914
2021	2	872,219	\$1,408,808	\$153,660	\$36,703		(\$485,906)	\$1,113,264	\$1,047,471	\$962,862
2022	3	930,013	\$1,502,157	\$163,841	\$39,660		(\$485,906)	\$1,219,753	\$1,113,235	\$981,117
2023	4	991,637	\$1,601,692	\$174,698	\$43,408		(\$485,906)	\$1,333,892	\$1,180,885	\$997,820
2024	5	1,057,344	\$1,707,822	\$186,273	\$46,881		(\$485,906)	\$1,455,071	\$1,249,519	\$1,012,276
2025	6	1,127,405	\$1,820,984	\$198,616	\$50,624		(\$485,906)	\$1,584,319	\$1,319,693	\$1,025,039
2026	7	1,202,108	\$1,941,645	\$211,777	\$54,657		(\$485,906)	\$1,722,173	\$1,391,486	\$1,036,233
2027	8	1,281,761	\$2,070,301	\$225,809	\$59,003		(\$485,906)	\$1,869,207	\$1,464,978	\$1,045,974
2028	9	1,366,692	\$2,207,481	\$240,772	\$63,684		(\$485,906)	\$2,026,031	\$1,540,252	\$1,054,369
2029	10	1,457,251	\$2,353,752	\$256,726	\$67,904	\$3,763,617	(\$485,906)	\$5,956,092	\$4,392,166	\$2,882,643
2030	11	1,553,810	\$2,509,714	\$273,736	\$73,280		(\$485,906)	\$2,370,825	\$1,695,855	\$1,067,117
2031	12	1,656,768	\$2,676,011	\$291,875	\$80,007		(\$485,906)	\$2,561,987	\$1,777,615	\$1,072,438
2032	13	1,766,547	\$2,853,327	\$311,215	\$86,306		(\$485,906)	\$2,764,942	\$1,860,881	\$1,076,377
2033	14	1,883,601	\$3,042,392	\$331,836	\$93,088		(\$485,906)	\$2,981,410	\$1,946,373	\$1,079,402
2034	15	2,008,410	\$3,243,984	\$353,824	\$100,391		(\$485,906)	\$3,212,293	\$2,034,188	\$1,081,582
2035	16	2,141,490	\$3,458,935	\$377,269	\$108,252		(\$485,906)	\$3,458,550	\$2,124,427	\$1,082,982
2036	17	2,283,388	\$3,688,128	\$402,267	\$116,714		(\$485,906)	\$3,721,203	\$2,217,190	\$1,083,661
2037	18	2,434,688	\$3,932,508	\$428,922	\$125,823		(\$485,906)	\$4,001,346	\$2,312,583	\$1,083,675
2038	19	2,596,013	\$4,193,080	\$457,343	\$135,626		(\$485,906)	\$4,300,143	\$2,410,715	\$1,083,076
2039	20	2,768,028	\$4,470,919	\$487,647	\$147,739		(\$485,906)	\$4,620,399	\$2,512,547	\$1,082,277
2040	21	2,951,441	\$4,767,168	\$519,959	\$159,195		(\$485,906)	\$4,960,415	\$2,616,522	\$1,080,588
2041	22	3,147,007	\$5,083,046	\$554,412	\$171,520		(\$485,906)	\$5,323,072	\$2,723,582	\$1,078,418
2042	23	3,355,532	\$5,419,855	\$591,148	\$182,885		(\$485,906)	\$5,707,982	\$2,832,908	\$1,075,450
2043	24	3,577,873	\$5,778,981	\$630,318	\$197,024		(\$485,906)	\$6,120,417	\$2,946,474	\$1,072,437
2044	25	3,814,948	\$6,161,903	\$672,084	\$212,233		(\$485,906)	\$6,560,314	\$3,063,501	\$1,069,051
2045	26	4,067,731	\$6,570,199	\$716,617	\$228,593		(\$485,906)	\$7,029,502	\$3,184,122	\$1,065,323
Total Benefit-Cost (\$2016)								\$69,278,490	\$34,232,638	\$9,465,101
Benefit/Cost Ratio									2.7	1.5
MIRR (@75% reinvestment)									58%	58%
Payback Period (years)									12.3	17.2

Table 6: Both Bridge & Roadway Improvements



VI. Project Readiness

Long Range Transportation Planning Consistency

Golden Gate Estates roadways and bridges on 16th Street NE and 47th Avenue NE are federal aid eligible roads under title 23, United States Code, functionally classified as Rural Major Collectors. The roadway are in the rural area outside of the Bonita Springs Urbanized Area boundary. The bridge improvements are identified in the Collier Metropolitan Planning Organization’s currently adopted 2040 Long Range Transportation Plan.

Environmental Permitting

Activities related to environmental permitting were begun during the PD&E phase of work that began in

the fall of 2014 and culminated in a March 2015 Public Hearing, including identifying the projects as a Class of Action consistent with a Type 2 Categorical Exclusion. Local, State, and Federal permitting agencies were contacted early during the planning and development phase to insure coordination and to fully understand the permitting and mitigation issues. All remaining permitting requirements will be undertaken and completed as part of this project.

A Type 2 Categorical Exclusion Determination was prepared by FDOT for the three companion bridge projects; 8th Street NE, 16th Street NE, and 47th Avenue NE (Appendix D). All three bridges have generally the same footprint and resulting impact. The projects were evaluated for the following topical categories, and in no instance were any significant impacts identified:

	Impact Determination
A. Social & Economic	
1. Land Use Changes	No Involvement
2. Community Cohesion	No Involvement
3. Relocation Potential	No Involvement
4. Community Services	No Involvement
5. Nondiscrimination Considerations	None
6. Controversy Potential	No Significant Input
7. Scenic Highways	No Involvement
8. Farmlands	No Involvement
B. CULTURAL	
1. Section 4(f)	No Involvement
2. Historic Sites/Districts	None
3. Archaeological Sites	None
4. Recreation Areas	No Involvement

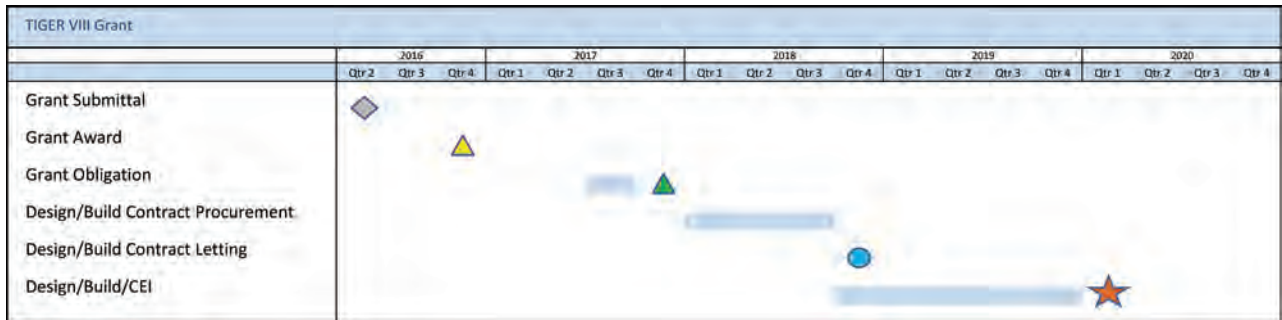
Impact Determination	
C. NATURAL	
1. Wetlands	No Significant Input
2. Aquatic Preserves	No Involvement
3. Water Quality	No Impact
4. Outstanding FL Waters	No Involvement
5. Wild and Scenic Rivers	No Involvement
6. Floodplains	No Impact
7. Coastal Zone Consistency	No Involvement
8. Coastal Barrier Resources	No Involvement
9. Wildlife and Habitat	No Significant Input
10. Essential Fish Habitat	No Involvement
D. PHYSICAL	
1. Noise	No Impact
2. Air Quality	No Impact
3. Construction	No Significant Input
4. Contamination	No Impact
5. Aesthetic Effects	No Involvement
6. Bicycles and Pedestrians	No Impact
7. Utilities and Railroads	No Impact
8. Navigation	No Involvement

* Basis of decision is documented in the referenced attachment(s).

- A biological opinion is pending with the US Fish and Wildlife Service.
- The Type 2 CE Determination application will be submitted to FHWA.
- Previous pre-construction activities include the PD&E Study and associated public involvement activities. The proposed bridge and associated roadway improvements are intended to be let as design/build projects.
- Based on guidance received thus far from US DOT, TIGER Grant Award Notices are likely to be received in the fall of 2016 with agreements to be in place as soon as the end of 2016.

The Collier County Board of County Commissioners is capable of obligating the local funds from a combination of gas taxes and general fund revenues necessary to support the local match by October 1, 2018 so that full federal obligation can be completed well before September 30, 2019. We anticipate the project will be completed within 36 months from award, well in advance of the September 30, 2024 deadline to expend the grant funds.

Figure 6: Project Timeline





VII. Federal Wage Rate Certification

2016 TIGER DISCRETIONARY GRANT PROGRAM
FEDERAL WAGE RATE CERTIFICATION

Date:

Project Name: Golden Gate Estates Mobility Catalyst Project

I hereby certify that Collier County will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code (Federal wage rate requirements), in the utilization of any funds granted to Collier County under the FY 2016 TIGER Discretionary Grant Program, as required by the FY2016 Consolidated Appropriations Act.

Leo E. Ochs, Jr.
County Manager