FDOT DISTRICT 7

HEIGHTS MOBILITY CORRIDOR

RAISE GRANT

Project Narrative

FDOT

JULY 2021

HEIGHTS MOBILITY STUDY

Executive Summary

The Heights Mobility Corridor Project will bring resilient, multimodal choices to traditionally underserved historic neighborhoods. It will include making significant multimodal safety improvements, transit accommodations, and drainage to reduce roadway flooding. The project will provide multimodal transportation access that will connect Tampa's original suburbs of Tampa Heights and Seminole Heights to downtown's job centers.

This project will:

- Improve safety outcomes for all road users through the implementation of proven safety countermeasures including a road diet, protected pedestrian crossings, improved intersection geometry, and traffic calming
- Increase transportation choices, increase access to essential services, and reduce emissions by introducing a dedicated transit lane along the corridor
- Enhance walkability by widening sidewalks and installing a shared-use-path
- Improve corridor resiliency and prevent flooding through the construction of a robust drainage system

This project serves areas of persistent poverty that have been historically adversely affected by the removal of the historic streetcar system and construction of the Interstate that divided many of Tampa's urban neighborhoods. This project seeks to provide opportunities that will enhance safety for all modes of transportation, enhance the quality of life for traditionally underserved residents, improve the roadway's resiliency, and extend the current downtown redevelopment renaissance.

Grant Type:
RAISE

Project Type:
Urban

Project Name:
Heights Mobility Corridor
Florida Avenue/N Tampa Street
Tyler Street to Dr. Martin Luther King Jr Boulevard

Applicant/Project Sponsor:
FDOT District 7

Grant Request:
(YOE$) $25,000,000

Non-Federal Funding:
(YOE$) $13,820,432

Total Project Cost:
(YOE$) $38,820,432

Project Location:
Tampa, Florida

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A. Project Description

The Heights Mobility Corridor, located in the City of Tampa, within Hillsborough County, Florida, will bring resilient, multimodal choices to traditionally underserved, historic Tampa neighborhoods. The Heights Mobility Corridor refers to US 41 Business (US41B)/SR 685 from Tyler Street to Waters Street, an approximately 5-mile roadway segment that connects downtown Tampa to the Tampa Heights and Seminole Heights neighborhoods, some of Tampa's oldest residential neighborhoods. The project will transform the way residents access opportunities and provide critical infrastructure support to reduce flooding and exposure to major storm events along the Heights Mobility Corridor by:

- Improving the resiliency of the transportation system and reducing flooding impacts to businesses
- Introducing an exclusive transit lane that will accommodate Tampa's Historic Streetcar extension and future Bus Rapid Transit (BRT) Service that will ultimately connect the University of South Florida to Downtown Tampa, and
- Improving safe pedestrian access to transit and other destinations along the corridor.

The Heights Mobility Corridor is a minor arterial State Highway that runs parallel to and approximately 0.5 miles to the west of I-275, as shown in **Figure 1.** Along the northern half of the corridor (~2.4 miles), the street (Florida Avenue) is a four-lane undivided roadway. Along the southern half of the corridor (~2.6 miles), the street is a one-way pair of streets (Florida Avenue and Highland Avenue/Tampa Street) each with three lanes.

The RAISE Grant is intended to support the first phase of the Heights Mobility Corridor, which is the southern two (2) miles of the corridor, from Tyler Street to Dr. Martin Luther King Jr. Boulevard, as shown in **Figure 2.**

FIGURE 1: THE HEIGHTS REGIONAL MAP

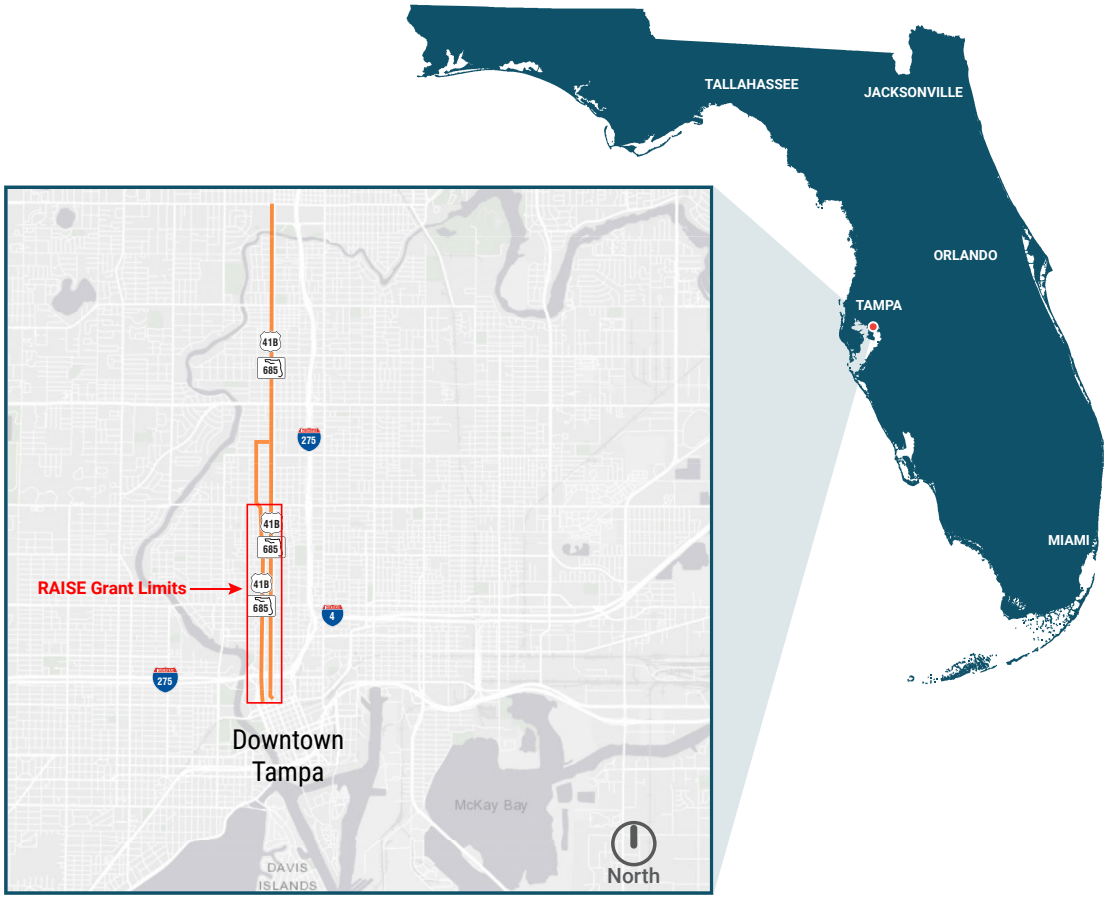
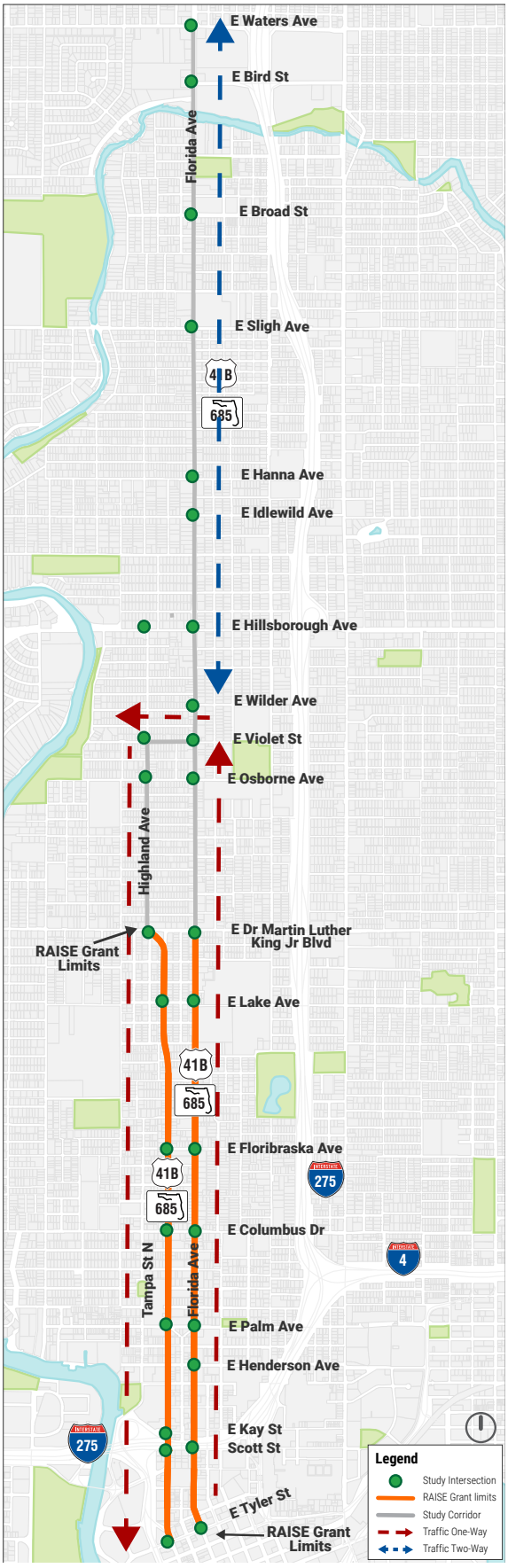


FIGURE 2: HEIGHTS MOBILITY CORRIDOR



1. Project History

Planning Efforts

The Heights Mobility planning efforts initially kicked-off in September 2017 when the Hillsborough Transportation Planning Organization (TPO) requested FDOT to complete the Heights Mobility Study. The goal of the initial planning study was to:

- Identify short term safety and mobility enhancements that could be implemented right away;
- Develop a clear understanding of existing community character and identify mobility strategies to support community needs;
- Build consensus around a vision for the Florida Avenue and Tampa Street corridor; and
- Develop a conceptual multimodal transportation plan for the corridor.

The study led to several near-term changes, including several new pedestrian crossings implemented in 2018 and 2019, and the recommendation to explore a long-term lane repurposing to support pedestrian and transit activity in the corridor.

FDOT subsequently completed a detailed traffic analysis and conceptual design for the corridor to repurpose a travel lane to become a transit only lane. Design is currently programmed and will be completed by FDOT in-house.

Public Involvement

Public engagement for the Heights Mobility Study centered around the themes of connecting with, providing information to, and gathering input from stakeholders to build consensus for project outcomes that reflect the needs and priorities of the communities it is intended to benefit. The following list of key stakeholders, in addition to the general public, were engaged during the outreach process:

- Old Seminole Heights Neighborhood Association
- South Seminole Heights Neighborhood Association
- Tampa Heights Civic Association
- Tampa Heights Junior Civic Association
- Heights Urban Core Chamber
- Hampton Terrace Neighborhood Association
- Sulphur Springs Action League
- Tampa Downtown Partnership
- Hillsborough Transportation Planning Organization
- City of Tampa
- Hillsborough Area Regional Transit Authority
- Tampa Bay Area Regional Transit Authority

There was a total of 23 public engagement events conducted including presentations to neighborhood association and community meetings, pop-up workshops at community events, walking audits, and formal public workshops. Based on the community engagement conducted to date, the top five most highly ranked outcomes desired from the project include:

- Wider Sidewalks
- More Bike Lanes/Routes
- More Pedestrian Crossings
- Premium Transit
- Traffic Calming

The Heights Mobility Corridor project was designed to meet each of the top priorities for the stakeholders and surrounding communities.

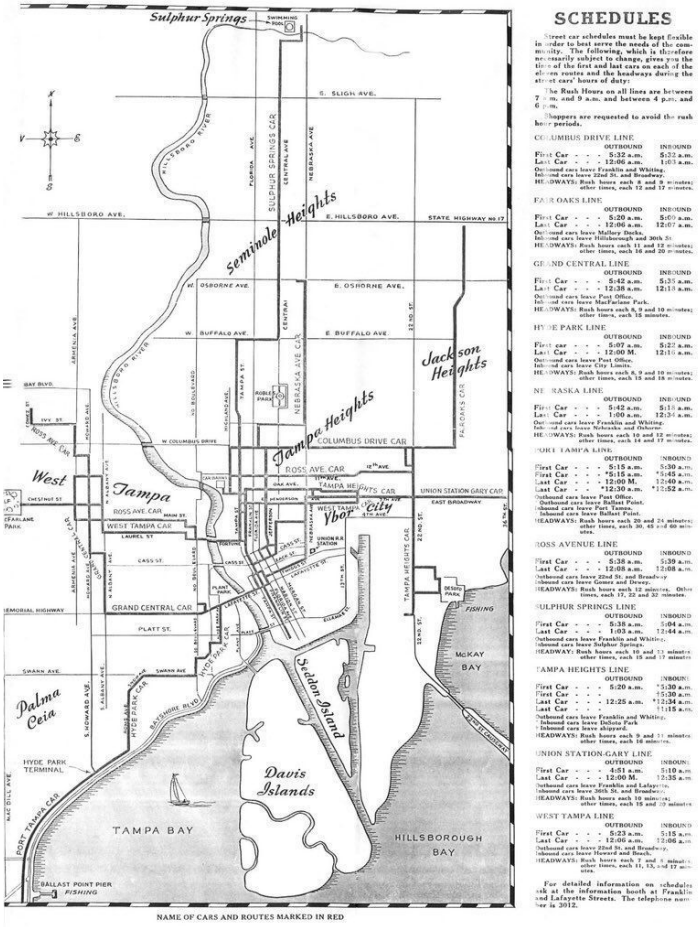
2. Project Elements

Improving Transportation Choices

In the early 20th century, Tampa Heights and Seminole Heights were vibrant walkable neighborhoods, served by a robust streetcar system connecting residents to downtown Tampa and other urban neighborhoods. Since then, generations of auto-oriented transportation policies have created barriers to walkability and transit access. As a result, transportation choices along the corridor are limited, especially for those without access to a personal vehicle.

As one of Downtown Tampa's first suburbs, the Tampa Heights neighborhood grew northward from Downtown at the end of Franklin Street, Tampa's original Main Street. Built on the northern extension of Tampa Street and Florida Avenue, the neighborhood was contained by the Hillsborough River to the west and north and Central Avenue to the east. Because there were limited routes into Downtown and Ybor City, the City developed a streetcar system that allowed the new neighborhood residents access into Downtown and the ability to change cars and get to Ybor City with relative ease, as shown in **Figure 3.** In fact, the southern edge of the neighborhood served as the location for a "Trolley Barn" that serviced and maintained Tampa's Streetcars.

FIGURE 3: 1940S STREETCAR MAP



With the ceasing of operations of the Trolley in the mid-20th Century, and the efforts to build the Interstate System through Downtown Tampa, the neighborhood became isolated from the surrounding communities. The Hillsborough River provided a natural border along the west and north sides of Tampa Heights and Seminole Heights, and the construction of I-275 along the eastern and southern edges of the neighborhood limited connections to the east and to the South. Subsequently, the residents of the neighborhood, still reeling from the loss of access to the retired streetcars, were now directly impacted by the severing of the street grid by the new Interstate and were forced to ride very specific bus lines with transfers to get to places that were once five to ten minutes away. After being cut off from Downtown, several residents moved out of the neighborhood to other locations with more direct access into Downtown leaving behind homes that were difficult to resell, lowering the value of the neighborhood.

Into the 1970's, more neighborhoods were built further away from the central city, and engineers focused on Tampa Street and Florida Avenue as the local conduit for these northern neighborhoods to reach downtown in the morning and get home in the afternoon. After isolating the neighborhood further with streetcar removal and interstate blockades, the two major streets through the neighborhood were designed to serve people who lived elsewhere. The neighborhood was further divided into the area between Florida Avenue and the Interstate, and Tampa Street and the Hillsborough River. Despite these physical changes and barriers, the people living in the neighborhood still required more transportation choices. They were forced to make do with a disconnected, disjointed transit system and streets with non-local motorists whose daily goal was to "get through," not "to" the neighborhood as fast as possible.

Today, the Heights Mobility Corridor still perpetuates automobile dependency and restricts viable transportation options for Tampa Heights and Seminole Height residents. Transportation decisions have valued regional automobile movement over the local needs. Many of the sidewalks and transit stops

are below current standards. Existing sidewalks are often broken or obstructed with limited buffer between the sidewalk and the fast moving automobile lane because of right-of-way constraints. Between the curbs on each of the one-way streets, the Heights Mobility Corridor includes 3-lanes and a bicycle lane. In the two-way segment, the street is 4-lanes and undivided. In the one-way segment, the roadways are separated by a block of development. There are also several historic buildings built to the original right-of-way line. When originally constructed, these buildings had a wider buffer from the roadway that included a wider sidewalk for retail establishments, or in some cases on-street parking. However, that buffer space was removed for travel lane expansion and the current sidewalk spans a short distance between the face of the historic building and the back of the curbed travel lane.

Transit services is provided along the Heights Mobility Corridor via three bus routes. Route 1 provides 15–20-minute headways throughout the entire length of the project area, connecting Downtown Tampa to Fletcher Avenue along Florida Avenue & Tampa Street/Highland Avenue. In the southern portion of the corridor, Route 5 provides 30-minute headways and Route 7 provides 20-minute headways as they travel between Downtown Tampa and the University of South Florida. The existing and proposed routes are shown in **Figure 4.**

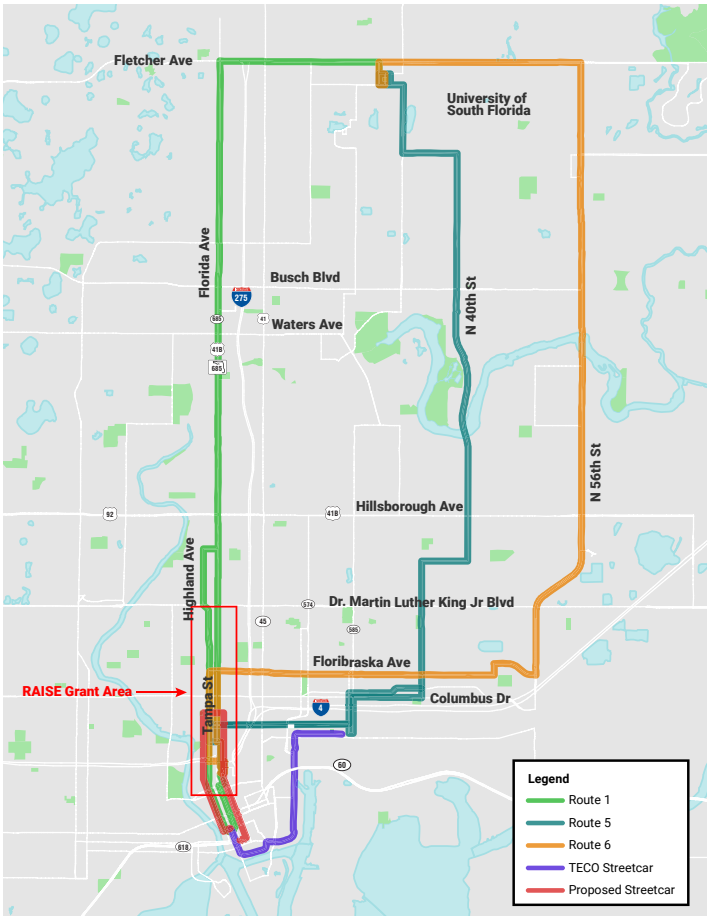
Lane Repurposing

The project includes a lane repurposing along Florida Avenue and Tampa Street, from Tyler Street to Dr. Martin Luther King Jr Boulevard to create an exclusive transit lane. The City of Tampa is currently designing an extension of the Historic Streetcar from its current terminus at Whiting Street up to Palm Avenue. The repurposed lane will therefore be used for both the streetcar and BRT from Tyler Street to Palm Avenue and for BRT from Palm Avenue to Dr. Martin Luther King Jr Boulevard in the long term, while improving travel times for the existing bus service in the interim. The lane repurposing is currently beginning FDOT's formal lane repurposing approval process.

Pedestrian Improvements

The project includes multiple elements that increase the mobility of pedestrians along and throughout the corridor. Sidewalks will be widened along both corridors to improve pedestrian comfort and safety. New pedestrian crossings are proposed to provide additional opportunities to cross the corridor between signalized intersections at locations with high pedestrian activity.

FIGURE 4: EXISTING & PROPOSED TRANSIT ON HEIGHTS MOBILITY CORRIDOR



Safety

A total of 1,311 crashes occurred along the corridor between 2015 and 2019. Of those crashes, 4 crashes included fatalities and 22 people sustained incapacitating injuries – injuries that affect people for life — 5 of which were pedestrian crashes. Another 433 people suffered less severe, but still mentally impactful injuries. While there was a slight decrease in crash frequency from 2018 to 2019, there has been a significant increase in crashes along the corridor **(Figure 5)**, with nearly 98 percent more crashes occurring in 2019 (331) than in 2015 (167). The severity of the crashes is exacerbated by the relatively high speeds along the corridor, with posted speeds of 35 to 40 mph along the majority of the corridor, although drivers routinely go faster, encouraged by the wide typical section.

Sidewalk Improvements

Along both Florida Avenue and Tampa Street, the existing sub-standard bicycle lane will be removed and the curb and gutter moved into the roadway to provide for widened sidewalks. The wider sidewalk will increase comfort of pedestrians along the corridor, allow for enhanced transit station amenities, provide space for bicycles off-roadway on Tampa Avenue, and support activities of the adjacent business. The narrowing of the roadway also encourages lower speeds, improving pedestrian safety. As the proposed typical sections are unable to accommodate a dedicated bicycle facility, FDOT partnered with the City of Tampa to provide parallel dedicated bicycle facilities on nearby routes. A bicycle boulevard project is funded for Central Avenue and Ola Avenue, parallel local roadways approximately ¼ mile to the east and 800' to the west of the project area.

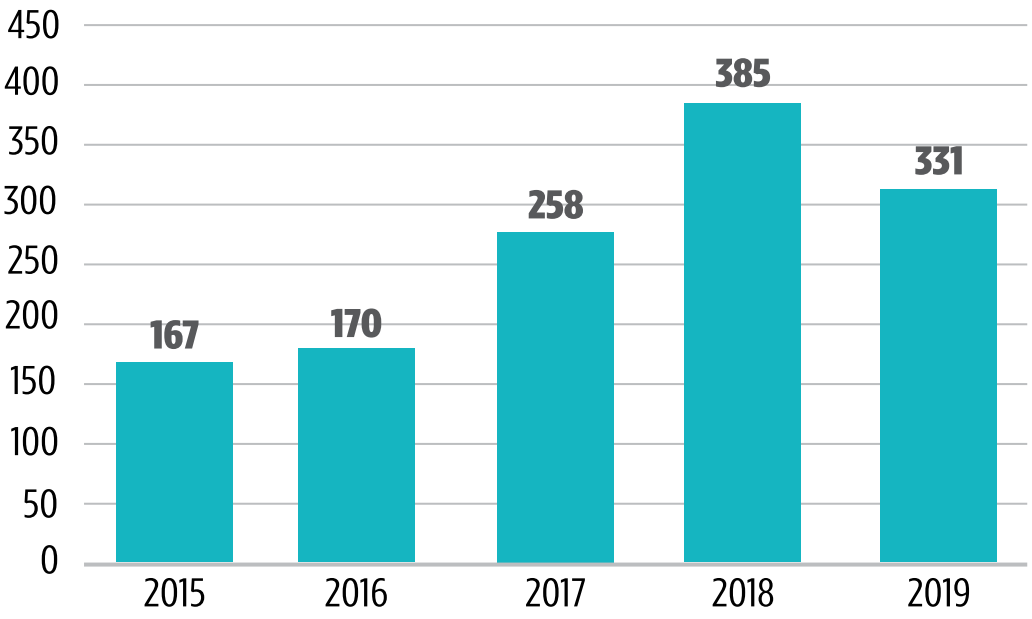
Intersection Geometry Improvements

Throughout the corridor, geometric improvements will be made at the intersections in order to reduce the crossing distances for pedestrians, reducing the time needed to cross the roadway and providing better visibility of pedestrians by drivers. Additionally, the turning radius will be reduced, to encourage lower vehicular speeds on turns, which can also improve pedestrian visibility to turning vehicles. Pedestrian crosswalks will be brought as close as possible to the intersection and provided on all legs of signalized intersections if not already marked.

Pedestrian Crossings

Pedestrian crossings will be installed at six locations throughout the corridor to provide crossing locations between the signalized intersections. Locations were selected based on pedestrian volumes, nearby attractors, generators, and spacing between existing pedestrian crossings. The additional pedestrian crossings will increase pedestrian visibility to vehicles, improving the safety of pedestrians crossing between signalized intersections.

FIGURE 5: ANNUAL TOTAL CRASH FREQUENCY



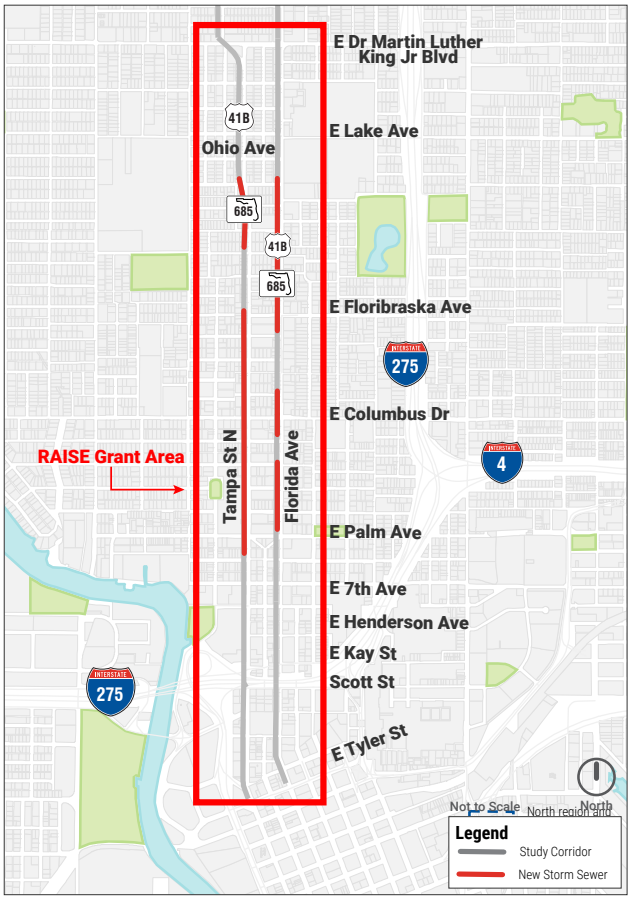
Drainage

The Heights Mobility Corridor has several existing drainage issues. Offsite drainage enters the project area from the east via several City of Tampa storm sewer systems and surface flow along City streets before ultimately discharging to the Hillsborough River to the west. The street is crowned throughout leading to the obstruction of surface flow between the east and west project areas during a regular rain event. The obstruction leads to ponding on the roadway, which is slow to recover after the rain event because of compacted soils and impervious surfaces. When this obstruction issue is combined with existing outfalls that are over capacity, the result is ponding, flooding, and spread issues. The spread and ponding within the vehicular wheel path have resulted in water intrusion and water damage to adjacent buildings (some historic) and complaints of splashing by pedestrians on the sidewalk. Often, adjacent businesses are forced to use sandbags at their respective entrances to prevent further flooding into their interior areas.

Drainage Improvements

New storm sewer systems will be built along Florida Avenue and Tampa Street between Palm Avenue and Ohio Avenue to provide better drainage along the roadway and improve the outfall system to the Hillsborough River, as shown in **Figure 6.** This will reduce flooding of the roadway and the adjacent businesses.

FIGURE 6: DRAINAGE IMPROVEMENTS



3. Detailed Statement of Work

The RAISE Grant is being sought to fund the first phase of the Heights Mobility Corridor project. This includes the improvements between Tyler Street and Dr. Martin Luther King Jr Boulevard, approximately 2 miles along Florida Avenue and Tampa Street. The project includes the following elements:

Florida Avenue Roadway Reconfiguration
(Tyler Street to Dr Martin Luther King Jr Blvd)

- Widen sidewalk on east side of roadway
- Convert right-most travel lane to an exclusive transit, allowing vehicular right-turns at intersections

Tampa Street Roadway Reconfiguration
(Tyler Street to Dr Martin Luther Kng Jr Blvd)

- Install multi-use path on west side of roadway
- Convert left-most travel lane to an exclusive transit lane, with a median for bus stops between the transit lane and the regular vehicle lanes

New Pedestrian Crossings

- Florida Avenue and 26th Avenue
- Florida Avenue and 7th Avenue
- Tampa Street at Fortune Street
- Tampa Street at Woodlawn Avenue
- Tampa Street at Indiana Avenue
- Highland Avenue at Chelsea Street

Curb Modifications at Intersections to Reduce Pedestrian Crossing Distance and Slow Vehicular Turns

- Florida Avenue at Columbus Drive
- Florida Avenue at Dr. Martin Luther King Jr Boulevard

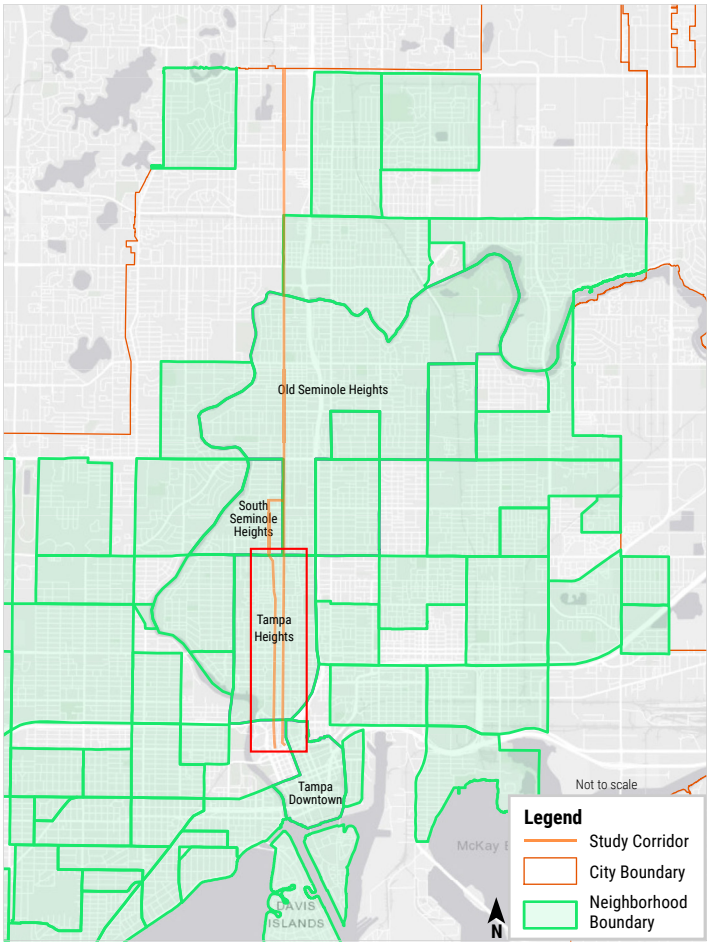
New Storm Sewer, as shown in the South Regional Alternative

- North Florida Avenue: East Ohio Avenue to West Keyes Avenue
- North Florida Avenue: East Euclid Avenue to Amelia Avenue
- North Florida Avenue: East Frances Avenue to Palm Avenue
- Tampa Street: Woodlawn Avenue to West Plymouth Street
- Tampa Street: Floribraska Avenue to 7th Avenue
- Palm Avenue: Tampa Street to Florida Avenue

B. Project Location

The project is located within the City of Tampa in Hillsborough County, Florida. Tampa is located on Florida's Gulf Coast, on the north coast of Tampa Bay and along the Hillsborough River. The project is located just north of downtown Tampa, within the Tampa Heights and Seminole Heights (now South Seminole Heights & Old Seminole Heights) historic neighborhoods, as shown in **Figure 7.**

FIGURE 7: TAMPA NEIGHBORHOOD MAP



1. Project Context

The Tampa Heights neighborhood was one of the original suburbs of Downtown Tampa, with homes built in the 1880's. The Seminole Heights Neighborhood followed approximately 30 years later just north of Tampa Heights. Tampa Street, Florida Avenue, Central Avenue, and Nebraska Avenue provided access from these neighborhoods to downtown Tampa. These neighborhoods were primarily occupied by the people who worked in and around Downtown Tampa, at the Port, and in Ybor City and could get to work with an easy streetcar ride or a 10-minute walk. During the 20th Century, the streetcar service along the corridor and throughout Tampa was removed and the construction of I-275, which closed streets and severely restricted the original grid of interconnecting neighborhood streets further disconnected the community from Downtown Tampa, the Port, Ybor City, and other adjacent neighborhoods. Today, the Heights Corridor is primarily focused on automobile-only travel and favors regional traffic vs. local connections.

2. Areas of Persistent Poverty

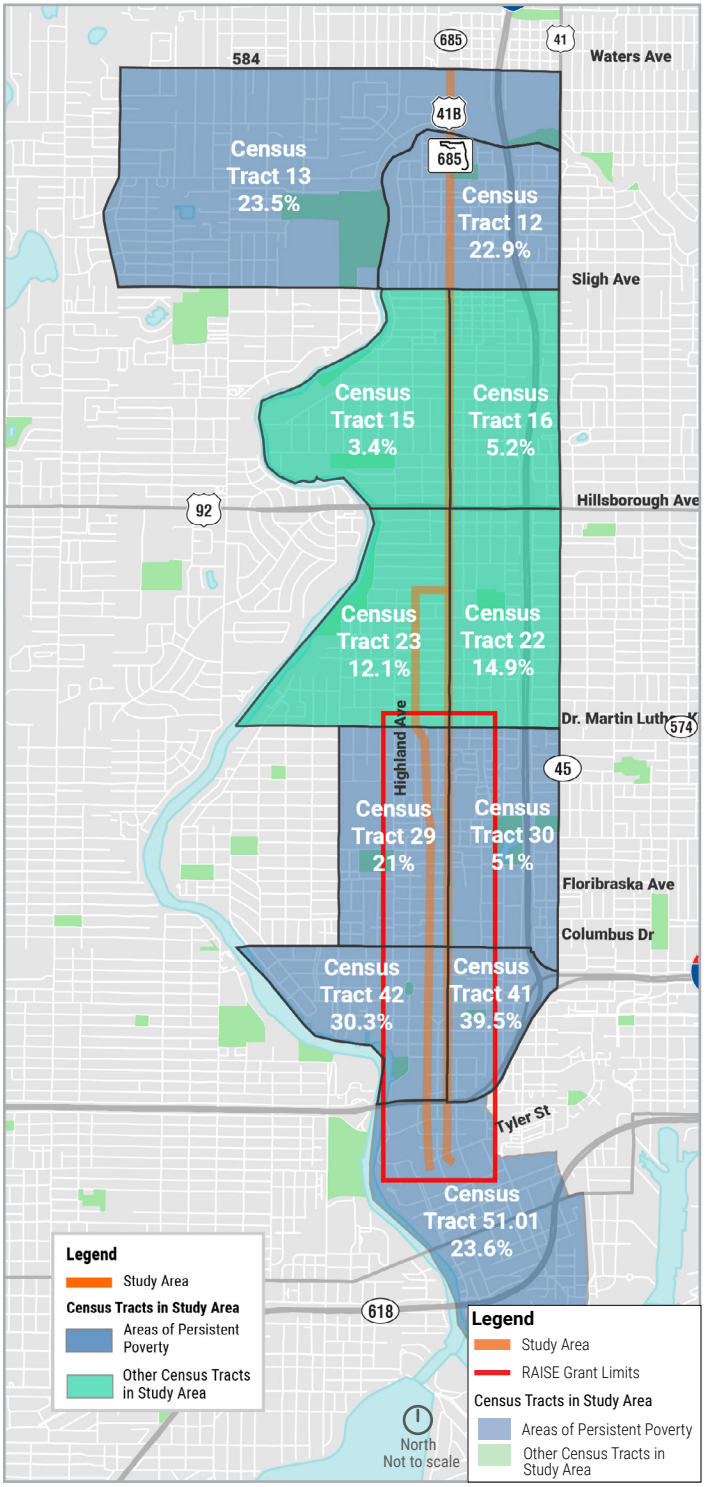
Based on the 2014-2018 census data from the American Community Survey of the Bureau of the Census, many of the census tracts within the study area had a poverty rate of at least 20 percent, and thus were determined to be Areas of Persistent Poverty as defined in the NOFO. Out of the eleven census tracts along the Heights Mobility Corridor, seven (7) are considered areas of persistent poverty per the RAISE grant definition, as shown in **Table 1.** All five of the census tracks south of Dr. Martin Luther King Jr Boulevard that make up the RAISE grant project are categorized as Areas of Persistent Poverty, as shown in **Figure 8.**

In addition to the areas of persistent poverty, Robles Park, a 432-unit project-based Section 8 community, is located along the corridor. It is conveniently located near downtown Tampa and borders the Old Seminole Heights historic district. A redevelopment plan seeks to add 1,000 additional affordable housing units. This project will provide a critical link to connect affordable housing to jobs along the corridor and in Downtown Tampa.

TABLE 1: AREAS OF PERSISTENT POVERTY BY CENSUS TRACT

CENSUS TRACT	POVERTY RATE	AREA OF PERSISTENT POVERTY
12	22.9%	Yes
13	23.5%	Yes
15	3.4%	No
16	5.2%	No
22	14.9%	No
23	12.1%	No
29	21.0%	Yes
30	51.0%	Yes
41	39.5%	Yes
42	30.3%	Yes
51.01	23.6%	Yes

FIGURE 8: AREAS OF PERSISTENT POVERTY



C. Grant Funds, Sources and Uses of Project Funds

The $38.8 million Project budget was established by identifying and combining costs associated with construction, and construction engineering and inspection. It does not include any previously incurred expenses or expenses which will be incurred prior to obligation of grant funding.

FDOT is seeking a $25.0 million RAISE grant which represents 64% of the project cost. The project balance is $13.8 million in secured funds from FDOT. A breakdown of project costs and funding sources is shown in **Table 2.**

TABLE 2: FUNDING BY SOURCE

FUNDING ITEMS	RAISE GRANT		NON-FEDERAL SECURED FUNDING		TOTAL (MILLIONS)
	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	
Construction	$25,000,000	69%	$11,112,029	31%	$36,112,029
Construction Engineering & Inspection	$0	0%	$2,708,403	100%	$2,708,403
Total	$25,000,000	64%	$13,820,432	36%	$38,820,432

D. Selection Criteria

1. Safety Criteria

Improving safety for all users is an important part of the Heights Mobility Corridor Project. The proposed project is anticipated to lower speeds within the corridor and provide safer pedestrian crossings.

Crash Analysis

Crash data along Florida Avenue and Tampa Street/ Highland Avenue (SR 685) for the five-year period of 2015 – 2019 was collected and reviewed from Tyler Street to just north of Dr. Martin Luther King Jr Boulevard. A total of 1,311 crashes occurred along the corridor during the review period. Of those crashes 4 resulted in a fatality and 433 in an injury or possible injury, with 22 being incapacitating injury crashes.

The most common crash type during the review period were Angle crashes, which accounted for 45 percent of the total crash along the corridor. The next most common crash types included Rear-End crashes at 22 percent and Sideswipe crashes at 18 percent. As shown in **Figure 9,** the most common severe injury (fatal or incapacitating injury) crash types were Angle crashes at 42 percent, Pedestrian crashes at 19 percent, and Hit Fixed Object crashes at 15 percent.

Approximately 39 percent of the total crashes along the Florida Avenue and Tampa Street/Highland Avenue corridor occurred at the following seven locations:

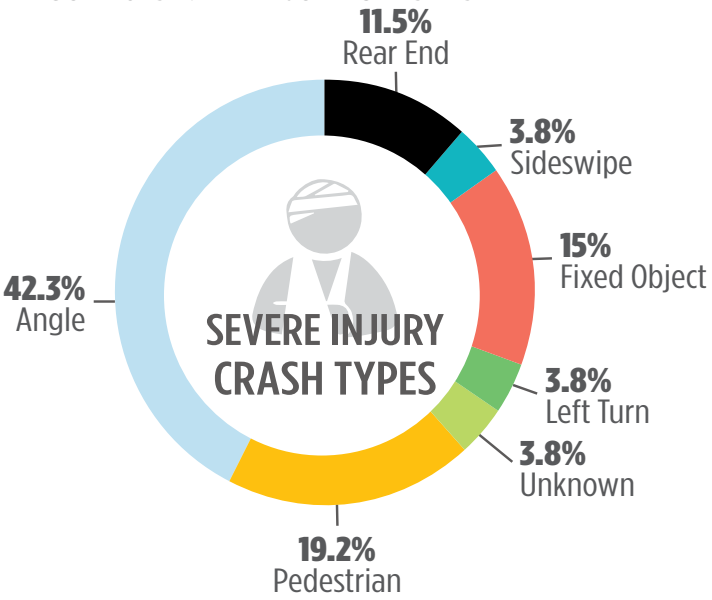
- Tampa Street between Estelle Street and Scott Street
- Tampa Street at Columbus Drive
- Tampa Street at I-275 Off-Ramp/Tyler Street
- Highland Avenue at Dr Martin Luther King Jr Boulevard
- Tampa Street at 7th Avenue
- Florida Avenue at Floribraska Avenue
- Florida Avenue at Scott Street

A heat map of crash locations is shown in **Figure 10.**

Safety Improvements

This project will include a variety of countermeasures to improve safety along the corridor. Road diets are

FIGURE 9: SEVERE INJURY CRASHES BY TYPE



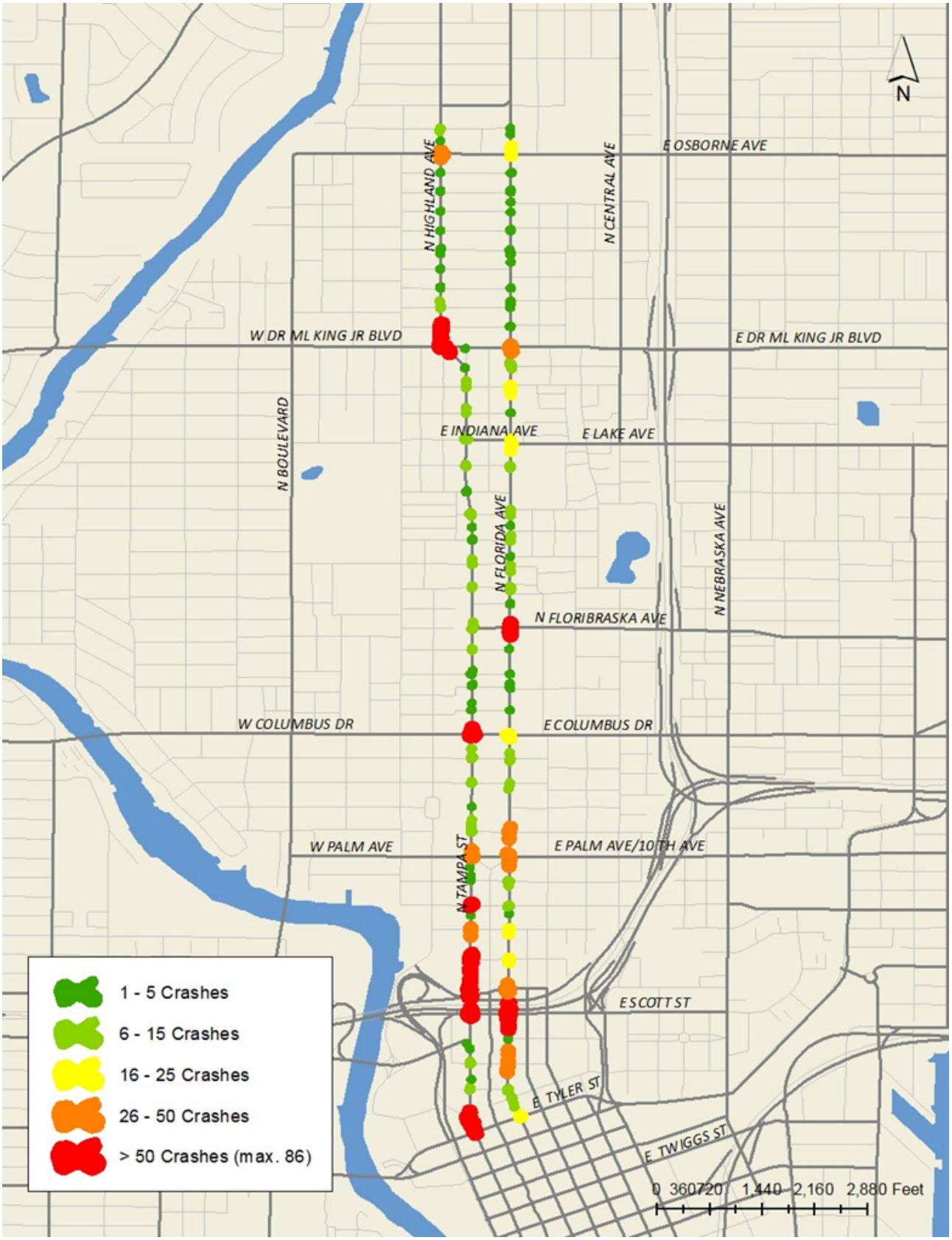
an FHWA recognized proven safety countermeasure that have been shown to significantly reduce crashes and decrease travel speeds.

Although crash modifications factors are not available for the conversion of a travel lane to a trolley/bus transit lane, the reductions in number of general purpose lanes are expected to reduce speeds, and thus reduce off-peak crashes away from the major signalized intersections. A 10 to 15 percent reduction in average speeds can reduce fatal crashes by 44 to 68 percent and injury crashes by 32 to 15 percent[1]. The addition of a transit lane will also increase sight triangles, provides a buffer between general purpose lanes and the utility poles at the back of curb, and reduces the pedestrian crossing distances.

This project supports the City of Tampa and Hillsborough TPO's Vision Zero initiatives to eliminate fatal and serious injury crashes on our streets. After Mayor Jane Castor announced a commitment to Vision Zero in October 2019, the City was named a Vision Zero City by the Vision Zero Network and is currently developing their Vision Zero Action Plan. A number of steps have been taken to increase safety throughout the City, such as traffic calming enhancements and raising motorists' awareness of bicyclists and pedestrians through the FDOT State Safety Office grants for enforcement and education. The Heights Mobility Corridor will further these efforts and greatly enhance the safety of all users traveling in the central Tampa area.

1. Elvik, R., Christensen, P., and Amundsen, A., "Speed and Road Accidents An Evaluation of the Power Model." Oslo, Norway, Transportokonomisk Institutt, (2004)

FIGURE 10: TOTAL CRASH FREQUENCY LOCATION MAP



2. Environmental Sustainability

FDOT, the City of Tampa, and the Hillsborough TPO are all in support of this project because it supports the merits of sustainability. As outlined in the NOFO there are a variety of criteria that would demonstrate a project's support of environmental sustainability. This project will address the following sustainability concerns as outlined in the NOFO.

1. Improves energy efficiency, reduces emissions, avoids or mitigates environmental impacts

This project will provide enhancements to sidewalks, provide a two-way bicycle facility along Tampa Street, provide a dedicated transit lane, as well as implement an enhanced drainage system to address systemic flooding issues. By enhancing non-motorized solutions such as sidewalks, crosswalks, and bike facilities, and by supporting future streetcar and BRT service, vehicle trips can be reduced and improve the overall congestion and air quality.

2. Explicitly considered climate change and environmental justice in the planning and design stage, particularly in communities that disproportionally experience climate change consequences

This project will serve several nearby communities that have been identified as Areas of Persistent Poverty. FDOT has conducted extensive public outreach in these areas as part of the Heights Mobility Study and other parallel planning efforts. This outreach has helped to shape the scope of this project in a way that addresses the needs of these areas, addresses historical inequities these neighborhoods have experienced, and improves the neighborhoods' resiliency to the impacts of climate change. The Quality of Life Section on page 17 offers more detail on what those outreach efforts have entailed.

3. Results in a modal shift that reduces emissions

By providing enhanced facilities for walking and biking, improving access to transit, and accommodating future transit investments this project will help to make walking, biking, and transit more viable transportation options, promoting a modal shift and in-turn reducing emissions.

4. Increases resiliency and disaster preparedness

Providing adequate drainage will help offset runoff and improve water quality for the Hillsborough River and adjacent tributaries, making the corridor more resilient to flooding and major weather events. For the residents and business community this will help mitigate flooding concerns during storm events.

Climate Change and Resiliency

The Tampa Bay region is home to a variety of sensitive habitats and is vulnerable to climate change due to its proximity to the Gulf of Mexico. A number of state and regional plans to address climate change are in place as highlighted below.

Climate Change Planning and Policy

Florida Transportation Plan (FTP)

In 2020 FDOT released an update to the Florida Transportation Plan (FTP). The FTP is the single overarching plan guiding Florida's transportation future. It establishes Florida's transportation vision, and defines goals, objectives, and strategies to guide FDOT and its partners as they implement policies, plans, and programs.

The FTP puts a large emphasis on resiliency from external disputers such as sea level rise and climate change. One of the key strategies highlighted in the FTP is to "Identify and Mitigate Risk". The plan commits that Florida will do this by:

- Identify vulnerabilities to hazards such as sea level rise, storm surge, coastal and inland flooding, and extreme heat and precipitation.
- Improve the agility of the transportation system during emergencies and disruptions by expanding real-time information sharing, enhancing system management, providing more multimodal options, and supporting greater redundancy for critical infrastructure.
- Adapt transportation planning, design, construction, and maintenance techniques to reduce vulnerability and improve resilience of existing and new transportation facilities, such as use of emerging technologies and advanced materials, stormwater management, and infrastructure modifications.
- Identify and implement approaches for coordinating environmental management, land use, and urban design decisions to improve overall infrastructure and community resilience.

The Heights Mobility Project will support many of the strategies laid out in the FTP by providing more multi-modal options, improving corridor resilience, and implementing storm-water management infrastructure.

Hillsborough County Metropolitan Transportation Planning Organization (MPO) 2045 LRTP

The Hillsborough TPO's 2045 Long Range

Transportation Plan (LRTP), which was adopted in November 2019, identified resiliency as a major focus. It established the "State of Good Repair and Resiliency" program, which prioritizes projects that support the maintenance of the existing transportation system and that enhance resiliency to storms, flooding, and sea level rise. The TPO has also developed performance measures that quantify the economic impact and recovery time resulting from a major storm.

The Heights Mobility Project will support the State of Good Repair and Resiliency program by constructing a robust drainage system to improve resiliency to storm events, by addressing deteriorating pavement conditions along the project corridor, and by upgrading substandard pedestrian facilities.

Tampa Bay Regional Planning Council (RPC) Regional Resiliency Action Plan

In early 2020 the Tampa Bay Regional Planning Council began a regionwide effort at creating the first "Regional Resiliency Action Plan" which includes the project area for this grant application. There are 29 local governments from throughout the region represented for the Plan, including the City of Tampa and Hillsborough County. The Plan, when completed in late 2021, will include several goals:

- Public infrastructure, services and assets become more resilient through innovative best practices.
- The Region has a connected multi-modal transportation network that is resilient to extreme weather, reduces local emissions and enhances equitable mobility and public safety.

3. Quality of Life

Transportation improvements in a community directly affect the quality of life for residents in multiple ways. Potential sociocultural, socioeconomic, and natural environmental effects must all be considered. Social effects include safety, community cohesion, and demographic changes among other factors. Consistency with local land use plans is critical to maintaining an effective multi-modal transportation system. Mobility issues focus on providing multiple options for transportation, accessibility to various community assets, increased connectivity between adjacent neighborhoods, circulation of traffic within the area, and public parking options

The Heights Mobility Corridor project will improve the quality of life for the Seminole Heights and Tampa Heights/Riverwalk communities by expanding transportation choices for individuals. This encompasses improving the connectivity for citizens to jobs, health care, fresh foods, and other critical destinations, and increasing access to essential services for those in disadvantaged neighborhoods & Areas of Persistent Poverty. A primary focus of the Heights Mobility Corridor project is the enhancement of pedestrian and bicycle facilities and safety upgrades. In addition to wider sidewalks, a shared use path, spot bicycle pedestrian improvements, and drainage upgrades, the plan addresses opportunities for future lighting enhancements in the corridor. Additional lighting features will increase the project area safety and further contribute to a better quality of life. By providing a safer, multi-modal transportation network to local neighborhoods, and promoting active transportation options, the project will have a positive impact on health and overall livability of the area, while also increasing environmental sustainability.

These multi-modal transportation upgrades are also consistent with the Hillsborough County Transportation Planning Organization's (TPO) adopted "Health in All Policies" directive that requires that health considerations be incorporated into all system or policy decisions. By encouraging active transportation, the Heights Corridor Mobility project is providing additional connection possibilities from the project area to numerous recreational, entertainment, commercial, civic, and educational destination points. Construction of these improvements offers residents within the project area better access to key focal points of the community such as the Tampa Heights Greenway, Hillsborough River, Riverwalk, Waterworks Park, Armature Works, Curtis Hixon Waterfront Park, Julian B. Lane Park, and Perry Harvey Parks.

The proposed improvements compliment another TPO initiative, the Garden Steps Program. This program seeks to create community gardens, and accompanying wayfaring signage, with easy pedestrian and bicycle access to identified food deserts with the City. Two of these community gardens are located within the project area: the Tampa Heights and Seminole Heights Community Gardens. These gardens offer safe, healthy, and affordable fruits and vegetables and can be accessed by the local pedestrian/bicycle trail system. In May 2019, this program was selected as the first runner-up in the Healthiest Cities and Counties Challenge that seeks to improve health equality within an area. This project offers an important connection for economically distressed neighborhoods within the project corridor to healthier food sources such as these gardens.

Another factor influencing an individual's quality of life are potential affects to the natural environment (air, noise, visual landscape, etc.) due to the proposed transportation improvements. Since this project's focus is primarily bicycle pedestrian safety, minor improvements to air quality and noise are expected as residents may choose to walk or bike versus drive shorter trips. Drainage upgrades along the project corridor have been incorporated into the design and will address flooding issues in the area and promote improvements to water quality and stormwater management. The FDOT will work with local agencies and the community to develop and implement a transportation project that is reflective of the local desires regarding visual landscaping.

The Heights Mobility Corridor project will create a community asset that will link downtown to the historic neighborhoods of Tampa Heights and Seminole Heights. The transportation multi-modal upgrades will safely expand pedestrian and bicycle access to many cultural, civic, recreational, commercial, retail, and critical service destinations. It is envisioned the development of this multi-modal transportation corridor will improve quality of life, balance local infrastructure needs, and promote further urban revitalization within the project area. Additionally, the repurposing of transportation facilities along the project corridor will enhance future transit operations and encourage the community to use transit or other non-vehicular sources of transportation versus personal vehicles.

Environmental Justice and Social Equity

One of the key components for the Heights project has included a variety of public engagement efforts since 2017.

Twenty-three stakeholder events were held from 2017 through 2019. In addition, the team created a public website and invited the public to comment on key areas of concern using on-line wiki map. In addition to the Heights project, the District recently completed an extensive public outreach campaign for the Tampa Interstate System Supplemental Environmental Statement (SEIS). The Record of Decision (ROD) was signed in late 2020. The SEIS project team worked closely with stakeholders in the Heights community and focused on environmental justice and social equity concerns. The Heights study came about, in part, due to the feedback that was received during the SEIS outreach. The residents were concerned that FDOT was too focused on interstate expansion and not enough on addressing the needs of the neighborhoods.

The SEIS public outreach began in spring 2017 and concluded in spring of 2020. FDOT met with numerous civic organizations in the Heights area including, the Tampa Heights Civic Association, Tampa Heights Junior Civic Association, Old Seminole Heights Neighborhood Association, the National Association for the Advancement of Colored People (NAACP) Hillsborough Chapter, West Tampa Chamber of Commerce, Tampa Heights Community Redevelopment Agency, and the East Tampa Community Redevelopment Partnership. FDOT hosted design charrettes, library tours, safety walk-throughs and neighborhood tours. In addition, FDOT also participated in events in the area during that time, including the Seminole Heights Market, Tampa Bay Hispanic Impact Summit, and the Hillsborough County Black History Celebration.

FDOT also had a project office located within the Heights project study area from March 2016 until November 2017. Representatives were available on certain days/times and by appointment. Staff were also available on weekends at a neighborhood library.

As a result of the SEIS outreach the Heights project came to fruition. Concerns over community cohesion were revealed during the SEIS process. The focus for FDOT was on social equity and ensuring that the implementation strategy for the Heights project would help resolve the concerns that were identified in the SEIS outreach.

4. Economic Competitiveness

The Heights Mobility Corridor project is an element of Mayor Jane Castor's "Citywide Vision Plan" developed by the City of Tampa, with community input from the historic neighborhoods of Tampa Heights and Seminole Heights, the Hillsborough Area Regional Transit Authority (HART) and FDOT to balance the needs of local businesses and neighborhoods with various travel modes and users, while updating the transportation infrastructure. This multimodal project will be a component of an interconnected system that provides long-term, sustainable transportation options to generate economic development opportunities within downtown and surrounding neighborhoods - many of which are in economically distressed neighborhoods. As stated earlier, Phase I of the Heights Mobility project, and the subject of this RAISE grant application, focuses on pedestrian, bicycle & minor safety/operational improvements to Florida Avenue/Tampa Street from Downtown Tampa north to Martin Luther King, Jr. Avenue. The project is in a prime location to extend the downtown renaissance and urban revitalization occurring within the project corridor.

Industry Drivers/Proven Success

Much revitalization has occurred throughout the Tampa Street/Florida Avenue/Highland Avenue project corridor. Extensive residential redevelopment, including the restoration of historic bungalows and houses, has attracted many young professionals to the area thereby extending the current downtown renaissance. This residential expansion has spurred the growth of numerous restaurants, micro- breweries, small businesses, condominiums and hotels. The resurgence and attractiveness of these communities continues to encourage further residential and commercial growth that compliments the current economic expansion of the Tampa Bay Area.

According to the U.S. Bureau of Economic Analysis (BEA), the Tampa Bay Area is the 24th largest metropolitan area in the U.S. It has the largest concentration of medical device manufacturers outside of California and strong health care and finance clusters. Handling over 37 tons of cargo a year, the Port of Tampa Bay, located east of downtown, is the largest port in Florida by both size and tonnage. The Port's diversity in all cargo types

(liquid, dry bulk, auto, containers, ship building/ repair, and passengers) make it the most diversified in the state of Florida and one of the most diversified in the nation. Additionally, Tampa International Airport (TPA) is one of the nation's largest and busiest airports. It is served by over 20 major air carrier airlines, 4 regional airlines, and 3 air cargo carriers. In 2019, the airport accommodated over 20 million people making it the 28th busiest airport by passenger movements in North America. This diversification of people and product movement emphasizes the need for an extensive, efficient, and complete multi-modal transportation system.

One of the more recent successful economic development projects was completion of the City's Riverwalk. Located along the east side of the Hillsborough River and surrounding the downtown Central Business District, it has spurred massive private and public investment in downtown and surrounding neighborhoods. Due to the construction of the Riverwalk, a $3 billion project is underway that includes hotels, a medical center, condominiums, and mixed-use retail developments. In addition, the City completed the Curtis Hixon Waterfront Park in downtown and the Waterworks Park immediately to the north. Curtis Hixon Park also hosts community events and concerts; the Waterworks Park was a vacant lot that has been turned into a playground, dog park, and outdoor stage. Completion of the Waterworks Park was the impetus for a $6 million investment in a fine dining restaurant, Ulele, and an additional $16.5 million dollar renovation of Tampa's historic Armature Works into a 21,000 square foot market hall. These investments have connected the growing, revitalized neighborhoods of Seminole Heights and Tampa Heights/Riverwalk to the downtown core.

The Heights Mobility project improvements will provide a multi-modal transportation corridor from its' northern limit at MLK Jr. to the downtown waterfront. From there, users can use the multi-use Riverwalk to access the Channelside District to the east. Conversely, the Tampa Convention Center & numerous hotels and restaurants are located to the west. Continuing north along the Riverwalk and terminating at the Armature works just south of MLK, are multiple community destinations such as the Straz Center, the Glazer Children's Museum, multiple water parks and playgrounds, and restaurants. Access is also improved to Julian B. Lane Park on the west side of the river and Perry Harvey, Sr. Park in downtown.
Based on the successful results outlined above, it is anticipated that the Heights Mobility Corridor project will further stimulate economic development within these communities. The FDOT recently completed a macroeconomic analysis that showed that for every transportation dollar invested, a $4 benefit is realized by the community. The Heights Mobility improvements will provide safe, multimodal facilities that improve the quality of life for residents, enhance the neighborhoods' connection to downtown, and extend the current downtown renaissance to the north.

Areas of Persistent Poverty (APP)

While the overall job market for the Tampa Bay Area is strong, most of the jobs are concentrated in the Westshore area and downtown; and to a lesser extent, East Tampa and Ybor City. The project traverses several economically distressed neighborhoods, including portions of Tampa Heights and Seminole Heights. Along the project corridor, the minority population percentage consistently approaches the upper 70th percentile. Additionally, these communities have a shortage of employers in diverse industries that offer well paid employment. A high percentage of residents in these areas live below or just above the poverty line, with 20% earning $10,000 or less annually. These neighborhoods also have a high percentage of Zero Vehicle households for various reasons: inability to get a driver's license, disabilities, choice, or economic circumstances. Therefore, these individuals must rely on public transit or active transportation (walking or biking) to access jobs, schools, health services and grocery stores or other food sources.
Residents from these areas will benefit from the safer and improved multi-modal transportation facilities constructed with the Heights Mobility Corridor project. The improved facilities will provide enhanced local access to employment, food, schools, public facilities, health services and entertainment – particularly for individuals who can't utilize vehicular travel. Tampa's walkability and livability are key attractions for employees, residents, and businesses considering moving to the city. It is anticipated that multi-modal improvements constructed along the Heights Mobility Corridor will experience a net increase in property values and create a community asset that will encourage continued economic development of the area connecting it with the revitalization of downtown Tampa. Residents of Robles Park, who have been historically low income, will benefit from improved access to transit.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, defines

environmental justice as the fair treatment and meaningful involvement of all people – regardless of race, ethnicity, income, or education level – in transportation decision making. Proactive EJ measures conducted for this project included a series of walking audits along Florida Avenue, Tampa Street/Highland Avenue, and Nebraska Avenue. Participants of these walking audits included members of communities within and surrounding the project corridor, and staff from FDOT, the City of Tampa, HART, and the Tampa Police Department. The focus of these walking audit teams was to identify potential safety and mobility improvements, note potential issues, and discuss possible solutions. Additionally, input from the community was obtained through several different methods that included neighborhood meetings, community working group meetings, presence at community events, and through an interactive web map via the Study's website. The website also provided members of the community the opportunity to comment on transportation related issues and concerns. Finally, the Mobility project falls within the limits of the TIS SEIS, which conducted extensive community outreach efforts from 2017 through 2020.

Job Creation

Across the nation, there is a shortage of construction industry related employees. This is especially true for the Tampa Bay area where construction, both commercial and residential, is booming. Statistics have shown that for every construction laborer entering the construction work force, five workers retire. By 2024 the construction labor industry will have grown 13% creating 180,000 new construction related jobs. However, by that same time the number of laborers retiring from the construction industry will necessitate the need for an additional 458,000 laborers. Studies conducted by the US Department of Labor indicate that the median annual income for fast food workers in the Tampa Bay area earn $19,000 a year. If that same worker can participate in a 6-week training program (offered by many contractors with support from the FDOT), their median annual income will increase to $31,000 – an increase of 63% in median income. In pockets of the project area, 43.3 % of adults 25 – 64 are not working. Construction of the Heights Mobility Corridor will be an example of how a transportation project can help meet the needs of a community. Implementation of the Heights Mobility Study Action Plan will directly create numerous construction employment opportunities, including the need for qualified professional such as engineers, contractors and other labor forces associated with transportation improvements.

5. State of Good Repair

Tampa Street was last resurfaced in 2006 and Florida Avenue (south of Violet St) was last resurfaced in 2012. Thus, by project initiation in 2023, Tampa Street will have 17 years since the previous resurfacing and Florida Avenue will have 11 years since the previous resurfacing. Previously, Tampa Street had gone 23 years between resurfacing projects while Florida Avenue had gone 18 years and 12 years between resurfacing projects. Based on current pavement condition standards and pavement deterioration rates, it is estimated that roadways in FDOT District 7 have an average resurfacing cycle of 10-15 years. The average cost for roadway resurfacing is estimated to cost $444,178 per lane mile. The proposed project will include reconstruction and repaving of a corridor that is due for resurfacing and/or past due for resurfacing.

Additionally, storm events result in significant flooding throughout the corridor, which can go above the sidewalk and into adjacent businesses. The proposed drainage improvements will lessen routine pavement/drainage maintenance that result from standing water on roadway.

6. Partnership

Collaboration between local agencies, businesses, and the public has been crucial to the development of the project to ensure that the project outcomes reflect the needs and priorities of the communities it is intended to benefit. The Heights Mobility Corridor builds on the Tampa Arterial BRT Study and Tampa Streetcar project. The following stakeholders listed in **Table 3,** in addition to the general public, were engaged for input through a wide variety of in-person meetings, engagement canvassing (flyers), electronic platforms, and media outlets, with twenty-three stakeholder events between September 28, 2017 and April 4, 2019.

Based on the community engagement conducted to date, the top five most highly ranked outcomes desired from the project include:

- Wider Sidewalks
- More Bike Lanes/Routes
- More Pedestrian Crossings
- Premium Transit
- Traffic Calming

The Heights Mobility Corridor, in coordination with the parallel bicycle boulevard projects on Central Avenue and Ola Avenue, was designed to meet each of the top priorities for the stakeholders and surrounding communities.

Letters of support are linked in the appendix.

7. Innovation

Innovative Technologies

The Heights Mobility Corridor will repurpose an existing travel lane into a trolley/bus rapid transit lane. This provides an opportunity for transit signal priority throughout the corridor to allow for more reliable transit service on the corridor. This will be an expansion of the City and HART's current signal priority on the MetroRapid line operating along Nebraska and Fletcher Avenues between downtown Tampa and Hidden River Parkway. HART has found that on-time performance on the MetroRapid is almost 90%, the highest in the system. HART aims to bring this same success to the Tampa Street and Florida Avenue corridors.

Innovative Project Delivery

The Heights Mobility Corridor project combines multiple projects which are often separate projects. This includes:

- Roadway reconstruction to support the Tampa Streetcar Extension,
- Roadway reconstruction to update the drainage system,
- Roadway reconstruction to move curb and widen sidewalks, and
- Restriping to repurposing a travel lane to an exclusive transit lane.

This interagency and interdisciplinary approach to project delivery will minimize disruption to the roadway users and reduce overall project costs that would have been duplicative if the projects were constructed individually.

TABLE 3: STAKEHOLDER SUPPORT

Transportation/Planning Agency Stakeholders	
Agency	**Stakeholders Comments**
FDOT District Seven	
Hillsborough Transportation Planning Organization ***Beth Alden*** **Executive Director**	This project will enhance safety, improve resiliency, and facilitate future premium transit along the corridor.
City of Tampa ***Mayor Jane Castor***	This project will address one of the most dangerous metropolitan areas for bicyclists and pedestrians in the country by supporting the City of Tampa's Vision Zero, stormwater/resiliency, and mass transit/affordable housing initiatives. This project will also help facilitate more equitable outcomes for several at-risk communities that are reliant on walking, biking, and transit.
Hillsborough Area Regional Transit Authority	
Tampa Bay Area Regional Transit Authority	
Civic/Community Stakeholders	
Old Seminole Heights Neighborhood Association	
South Seminole Heights Neighborhood Association	
Tampa Heights Civic Association	
Tampa Heights Junior Civic Association	
Heights Urban Core Chamber	
Hampton Terrace Neighborhood Association	
Sulphur Springs Action League	
Tampa Downtown Partnership	
Metropolitan Ministries ***Tim Marks*** **President & CEO**	This project will improve drainage along the corridor, will complement the proposed Bus Rapid Transit (BRT) project, and will serve as a crucial connection between Downtown Tampa and the University of South Florida (USF).
U.S. Senator ***Marco Rubio***	This project will expand the safety, travel, and mobility needs of the Tampa area to revitalize the city's center and waterfront districts.
Florida House of Representatives ***Jacki Toledo*** **State Representative District 60** ***Susan L. Valdes*** **State Representative District 62**	The project directly impacts Smart Growth America's Dangerous by Design Report where the Tampa Bay area ranked 9th most dangerous metropolitan area for bicyclists and pedestrians in the country. This project will improve the corridor's resiliency and include enhanced bicycle and pedestrian facilities along the corridor.
Florida Senate ***Darryl Ervin Rouson*** **State Senator District 19**	This project will provide Bus Rapid Transit (BRT) along the corridor which will provide space to promote transit-oriented development along the corridor.

8. Performance Measures

In order to measure the projects impact on the selection criteria, a series of Performance Measures were developed along with criteria to support for each one **(Table 4).** These were developed at the project's inception and will be carried through to implementation.

TABLE 4: HEIGHTS MOBILITY CORRIDOR AND RAISE GRANT PERFORMANCE MEASURES

Safety	Community Vision	General Mobility	Pedestrian Mobility
• Contributes to safer streets, speed management, and improved awareness of all modes • Improves safety at high crash locations • Reduces likelihood of severe injury crashes • Improves overall safety	• Consistent with community plans and adopted projects • Addresses community concerns • Identified as a priority by the community • Supported by community outreach	• Improves neighborhood connectivity • Improves mobility options • Improves person capacity • Reduces person delay • Maintains person travel speed/time	• Improves connectivity • Improves pedestrian comfort • Improves sidewalk conditions • Improves crossing conditions
Bicycle Mobility	**Transit Mobility**	**Automobile Mobility**	**Public Realm**
• Improves access to dedicated facilities • Improves neighborhood connectivity • Improves comfort and lateral separation • Improves crossing conditions	• Improves access to transit stops • Improves transit reliability • Improves peak travel time/speed • Opportunity for enhanced facilities (e.g. stations) • Incorporated premium transit service	• Improves/maintains travel consistency and reliability • Reduces vehicle delay • Maintains travel times/speeds • Duration of congestion	• Improves streetscapes, landscaping, and public spaces • Opportunity to add amenities to the public realm
Equity	**Implementation**	**Cost $**	
• Serves a range of socioeconomic groups • Promotes equity among disadvantaged populations • Protects vulnerable individuals • Opportunity to improve ADA accessibility	• Project Complexity	• Estimated improvement costs (High, Medium, Low)	

E. Environmental Risk

Design, Permitting, and PD&E are currently underway. Procurement is anticipated to begin in late 2021 with Construction starting in spring of 2024, as shown in **Table 5.**

NEPA and Permitting

A Type I Categorical Exclusion (CE) will be prepared for this project. The environmental document is anticipated to be completed by early 2022.

It is anticipated that there will be no impacts to contamination, noise, historic and/or archaeological resources, Section 4f properties, or endangered species. No US Coast Guard and/or bridge permits are anticipated. Impacts caused by construction, floodplains, wetlands, or right of way (TBD)

No legislative approvals are required for this project. The HEIGHTS area is a regional component to the redevelopment of downtown Tampa and its adjacent neighborhoods. This project has been supported substantially by the agency partners at the City of Tampa and the TPO. The project components in the grant application have met the necessary state and local requirements with respect to transportation planning and comprehensive planning.

Assessment of Project Risks and Mitigation Strategies

The FDOT is astute at measuring and accounting for construction costs, including contingencies. This project will require a Type I CE NEPA document. The analysis conducted during project development will consider what is most appropriate for the selected alternative. The CE would address mitigation measures where necessary.

The funding for this project is being generated with Federal and Non-Federal funding and is shown in the FDOT's Work Program. Construction costs are included. The FDOT is reliant upon Federal monies for its operation and therefore is capable of managing the process through implementation and beyond to construction.

TABLE 5: MILESTONES FOR HEIGHTS RAISE GRANT IMPLEMENTATION

	2020	2021	2022	2023	2024
Design					
Permits and Approvals					
PD&E					
Procurement					
Construction					

F. Benefit Cost Analysis

A benefit-cost analysis (BCA) was prepared to demonstrate how a modest investment in the corridor will create real and long-term benefits for the region. The benefits of the Heights Mobility Project consist of:

- A decrease in the likelihood and severity of vehicle and pedestrian/bicycle crashes
- A decrease in mileage dependent vehicle emissions
- An offset of annual maintenance and major rehabilitation costs for existing drainage structure that are approaching the end of their useful life.
- An increase in area property values and retail profits due to increased walkability and resiliency to flood impacts.

These benefits are compared to the costs of the project using quantitative and qualitative measures, as shown in **Table 6.** The BCA has been documented in a spreadsheet format consistent with the application requirements. Calculation methodology and other assumptions are documented in a technical memorandum linked in the appendix.

It is anticipated that the calculated benefits will be shared by Hillsborough County and corridor residents, employers, employees, visitors, and retail patrons.

TABLE 6: SUMMARY OF BENEFIT COST ANALYSIS

Possible Societal Benefits for Consideration	Key Benefits Quantified	Total Benefits (-costs)	Present Value (7% Discount Rate)
Operations and Maintenance	Change in cost of regular maintenance and inspection of assets, including savings due to state of good repair benefits	$5,065,730	$1,548,736
Safety	Reduction in fatal, injury and PDO crashes for both motorized and non-motorized crashes	$79,150,103	$26,218,997
Travel Time Costs	Increased travel time due to increased congestion with introduction of transit lane	-$9,487,925	-$2,784,669
Emissions Savings	Decrease in CO2, VOC, NOx, PM2.5, SO2 emissions due to reduced VMT	$3,289,829	$1,010,561
Residual Value	Residual value of assets at the end of the analysis period	$10,308,027	$1,774,996
Real Estate Value Increase	Increase in property values due to increased access to transit and bike and pedestrian facilities	$42,276,069	$26,327,411
Unquantified Benefits	Additional benefits not quantified	N/A	N/A
Total Benefits		$130,601,833	$54,096,032
Total Costs		-$34,767,683	-$24,405,435
Benefit / Cost Ratio		**3.76**	**2.22**
New Present Value		**$95,834,150**	**$29,690,596**

It is noted that the benefits and costs quantified in this analysis are not exhaustive—there are many benefits and costs for which direct monetary values are difficult to express. These benefits have been described, in part, throughout this application narrative.

Key project impacts that were quantified were those which had a more significant value (either positive or negative), and those that could be determined independently without any transfer, double counting, or offset of benefits. As such, this BCA represents a high-level analysis of the major calculable benefits compared to the major calculable costs of each component. Efforts were made to be conservative—contingencies were included for construction costs and most calculated project benefits are based on peak-hour analysis (opposed to whole-day benefits).

The BCA considered an analysis period between 2020 and 2046, which considers the period during which initial project costs will be expended and during which 20 years of operation will be achieved.

The combined BCA of the Heights Mobility Corridor, with an applied 7 percent discount, demonstrates a project benefit of $54.1 million, a project cost of $24.4 million, resulting benefit-cost ratio of 2.22, and resulting net present value (NPV) of $29.7 million.

Benefit-cost ratios greater than one are indicative of return on a capital investment. This indicates that project is a strategic and positive investment of FDOT and federal funds.

Benefits of the project that are not quantified, but no less important in elevating the safety, opportunity, and economic property of the Height Mobility Corridor include:

- Transit Efficiency Ridership: The inclusion of dedicated transit lanes will improve the efficiency of transit operations, routing, and scheduling. These efficiencies will attract more riders who will move through the corridor with less delay and improved connectivity to activity centers and employment.
- Fuel Consumption: Mode shift from SOVs to active transportation modes will result in less fuel consumption for Heights Mobility Corridor travelers. Each 1% shift from automobile to active travel typically reduces fuel consumption 2-4% based on case study research.
- Reduced Parking Costs: Fewer parking spots are needed when fewer people rely on automobiles to get to their destinations. Shifting from automobile to active travel is estimated to provide parking savings of $2-4 per urban-peak trip (a typical commute has $4-8 per day parking costs), $1-3 per urban off-peak trip, and about $1 per rural trip. This additionally makes more destinations available to Height Mobility Corridor users due to eliminating the burdens of parking cost.
- Increased Transportation Capacity: The Heights Mobility Corridor reduces short-distance car trips thereby increasing the street's overall capacity to accommodate more travelers during busy commuting peak hours.
- Reduced Household Transportation Costs: Households in auto-dependent communities devote 20% of household income more to transportation than communities with complete streets. The Height Mobility Corridor will enhance transportation choice, emphasizing low cost alternatives for short trips.
- Improved Equity: The combined benefits of the Heights Mobility Corridor will allow different populations (children, elderly, and economically, socially, or physically disadvantaged people) to fairly use and share in public resources by increasing accessibility, connectivity, and affordability. More than 50% of older Americans who do not drive stay home on a given day because they lack transportation options. The Heights Mobility Corridor directly address this by creating travel options that are accessible to vulnerable and traditionally underserved communities.
- Increase Health and Fitness: Significant health outcomes are likely when walking and biking replace short vehicle trips. People are more likely to achieve delay recommended activity levels, and the risk of obesity, heart disease, and mortality are reduced.

TABLE 7: DISCOUNTED AND UNDISCOUNTED BENEFIT COST CALCULATIONS

	Undiscounted	7% discount
Benefits	$130,601,833	$54,096,032
Costs	$34,767,683	$24,405,435
BCR	3.76	2.22
NPV	$95,834,150	$29,690,596

Additionally, Studies by the Council of Economic Advisors (CEA) within the Executive Office of the President have shown that federal investment leads to the creation of additional jobs and an increase in economic activity in the area associate with rising wages and employment.[2] These impacts are not included within the BCA analysis, but they have been separately quantified using the aggregate Florida-specific Region Input-Output Modeling System (RIMS II), Type II multipliers were obtained from the Bureau of Economic Analysis. These multipliers provide an estimate of the total economic gains in all industries in the region per dollar of expenditure for specific industries. These multipliers were applied to the total anticipated federal expenditure and proportioned across each of the construction years based on the anticipated constructions schedule provided by FDOT. The economic impact of a $25M injection of federal dollars will result in $44M in economic output, $16M in regional earnings, and the creation of 351 good-paying jobs.

2. https://www.fhwa.dot.gov/policy/otps/pubs/impacts/

APPENDICES

Appendices

BCA Excel Document
BCA Memorandum
Detailed Project Schedule
Letters of Support
Project Fact Sheet