Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path Project

DEPARTMENT OF TRANSPORTATION RAISE GRANT 2022

City of Tuscaloosa

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I. Project Description

The City of Tuscaloosa requests **$12,600,000** from the U.S. Department of Transportation for a RAISE grant for the *Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path project (SBBR & SSUP)*. In this project, the federal funds will be augmented with $3,150,000 Elevate Tuscaloosa funds. This next phase of the project will focus on multi-modal systems of transportation. This will include the construction of a new 6' sidewalk along Stillman Boulevard, Nick's Kids Ave, and 3rd Street. It will also include a 12' shared use path along Stillman Boulevard between Martin Luther King Jr. Boulevard and Nick's Kids Avenue. In the culmination of this phase, shared-use lane markings will be installed and signage along Nick's Kids Avenue and 3rd Street.

Many of the existing sidewalks along this current *Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path project* need replacement. Large sections of the route do not have sidewalks at all. Along Stillman Boulevard, the addition of sidewalks and shared-use paths would create direct connectivity to the *Lurleen Wallace Corridor* and into downtown Tuscaloosa. The sidewalks and shared-use lanes along Nick's Kids Ave and 3rd St will create connectivity to existing shared-use paths and to the pedestrian bridge over Jack Warner Parkway which was funded by the 2020 BUILD grant. The aerial utilities along Stillman Boulevard will need to be relocated to accommodate the new paths.

SBBR & SSUP addresses traditionally disparate components of the area in a unified manner. The scope includes innovative approaches that will address safety and accessibility throughout West Central Alabama. The project will address aging and functionally obsolete and deteriorating infrastructure, while connecting pedestrian access across the city. It will also address storm water issues while making critical and necessary technology upgrades. This will also include transportation improvements, technology upgrades, and storm-water drainage improvements to address resiliency and environmental issues while ensuring the overall state of good repair to serve the needs of rural and urban populations effectively and efficiently in this region. Environmental Justice (EJ) will be a major consideration component of this project. In line with EPA standards, Tuscaloosa works to create and maintain the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income.

The project focuses on investments in a geographic area that generates over $4 billion annually in economic productivity. The area also serves as a major education, employment, and health care hub in the region, and addresses transportation. The benefits and outcomes of the project are in close alignment with and directly meeting the merit criteria and goals of the RAISE grant program. A major goal of the SBBR & SSUP is to proactively address and increase racial equity for all of Tuscaloosa. This will further help reduce automobile dependence by adding other ways of commuting in and around the Tuscaloosa downtown area.

Figure 1: Project Overview



II. Project Location

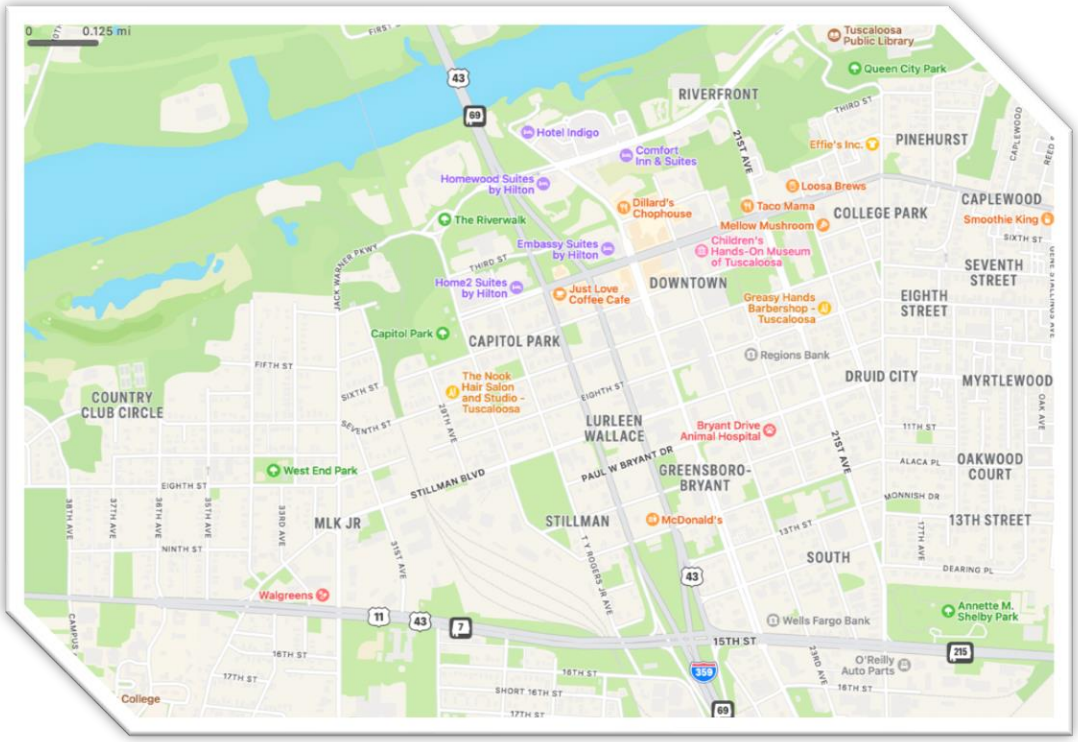
Project Area

The Black Warrior River's scenic beauty, history, cultural significance and proximity to several of Tuscaloosa's major features create a very distinctive palette for a public greenspace. The flora, fauna and other natural amenities along the Black Warrior River offer the anatomy of a park, offering residents and visitors the opportunity to engage in both passive and active outdoor activities.

The project area on the South side of the Black Warrior River has a western boundary of 43rd Avenue and extends east (upstream) to Holt High School. On the North side of the Black Warrior River, the project's western boundary is the connection to the Northport Riverwalk at the Northport city limits and extends east terminating at two locations. The first is near the Paul Bryant Bridge and the second terminus is at the Lake Tuscaloosa/Rock Quarry Schools/Phelps Activity Center area.

The project's study area is much larger. Stronger connections to other important land uses were identified and studied. These included local industry, Stillman College, additional connections to the University of Alabama and City Walk, a shared use path.

The West Tuscaloosa Community is one of the older parts of the city. It developed around and associated with the railroads and local industries. The planning study area initially was bounded generally on the north by the Black Warrior River, on the east by Martin Luther King Boulevard on the northeast and southeast and 10th Avenue in the center, on the south by Moody Swamp and on the southwest and west by ragged edges of existing development.



History of Tuscaloosa

The site of the future City of Tuscaloosa on the "Fall Line" of the Black Warrior River had long been well known to the various Native American tribes whose shifting fortunes brought them to West Alabama. The river shoals at Tuscaloosa represented the southernmost site of the river which could be forded under most conditions. Inevitably, a network of Native American trails converged upon the place, the same network which, in the first years of the 19th Century began to lead a few intrepid frontiersmen to the area. The pace of new settlement increased greatly after the War of 1812, and a small assortment of log cabins soon arose near the large Creek Native American village at the Fall Line of the river. In honor of the legendary "Black Warrior", the settlers named the place Tuscaloosa (from the Choctaw words "tushka" meaning warrior and "lusa" meaning black). In 1817, Alabama became a territory, and on December 13, 1819, the territorial legislature incorporated the town of Tuscaloosa, exactly one day before Congress admitted Alabama to the Union as a state. Thus, the City of Tuscaloosa is one day older than the State of Alabama.

Throughout the history of Tuscaloosa, the Black Warrior River has played a critical role in Tuscaloosa's growth and development. The construction of a system of locks and dams on the Black Warrior River by the U.S. Army Corps of Engineers in the 1890's created a more navigable connection to the Gulf seaport of Mobile, stimulating industry, particularly the mining and metallurgical industries of the region. Today, the Black Warrior River continues to operate as a vital commercial waterway, but also offers recreational opportunities.

Tuscaloosa is currently the fifth-largest city in Alabama and has experienced tremendous growth in the last ten years. The growth is attributed to the rapid enrollment increase at the University of Alabama, growth and expansion at the Mercedes-Benz manufacturing facility and the continued

investment by the City to improve quality of life. One of those quality-of-life projects has been the Riverwalk which has been a very popular addition to the City's park system.

Regional Context

Located in Tuscaloosa County, Tuscaloosa is the center of the West Alabama region which includes Bibb, Fayette, Greene, Hale, Lamar, Pickens, and Tuscaloosa counties. The city is well connected to the region by Interstates 20/59 with an hour's drive to Birmingham, the largest city in the state. As part of this corridor, the city is further well-connected to a larger mega-region centered in Atlanta, Georgia: the Birmingham-Atlanta-Greensville-Charlotte region.

Elevate Tuscaloosa

Elevate Tuscaloosa is a community-driven plan and process for strategically investing in education, cultural arts, tourism, parks, recreation, and connectivity. A 30-member volunteer advisory council led by two co-chairs, the council represents a wide swath of the local economy and community. This body is divided into three subcommittees: (1) Connectivity; (2) Cultural Arts and City of Tuscaloosa Tourism; and (3) Parks and Recreation. From each subcommittee, two members also serve on the Financial Analysis Subcommittee. This subcommittee is charged with considering accountability, transparency, economic impact, and financial sustainability of Elevate initiatives. When the Elevate Tuscaloosa plan was adopted by the City Council, specific initiatives were included for immediate funding, future construction, or additional study to determine feasibility. The Advisory Council engages with the community at large, city staff, and technical experts to gather input, ideas, feedback, and guidance for the process. This approach ensures the investments made with Elevate Tuscaloosa will be impactful in the city for years to come.

Elevate is currently proposing to invest $127,500,000 over the next 10 years in Tuscaloosa's Experience Economy. Projected investments in the economy of experiences include experience-dedicated venues, outdoor and recreational facilities, and organized events. The decision to invest in an experience-based economy through Elevate was based on the unique demographics of Tuscaloosa's. Three local colleges and universities afford Tuscaloosa with a student enrollment of nearly 40,000, resulting in a noticeably younger and vibrant population. Currently, nearly three-quarters of graduates choose where to live based on quality-of-life. A major goal of Elevate Tuscaloosa is to expand offerings to residents through high-quality experiences, including performing arts, sporting events, parks, and recreation.

Project Location

Tuscaloosa is a regional center for education, employment, and health care opportunities. These include the University of Alabama, Mercedes Benz USI (MBUSI, the North American factory for Daimler), the DCH Health System (DCH), and the Alabama Department of Mental Health Bryce Hospital (ADMH). The table below shows some of their key characteristics.

Project Location			
Noted Facilities	**Characteristics**		
University of Alabama	13,200 Employees	38,500 Students (Tuscaloosa Campus)	
Mercedes Benz USI	7,000 Employees	8,000,000 Square Feet	
Alabama Dept. of Mental Health	539 Employees	268 Beds	300 Patients
DCH Health System	3,500 Employees	568 Beds	600 Patients (per day)

In partnership with ALDOT, the University of Alabama has been investing in significant infrastructure improvements along the University Boulevard corridor as well as across the UA campus guided by their University Campus Master Plan. The *Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path project* would align with the University's goal of creating a more pedestrian-friendly campus and facilitating improved traffic operations.

Census Tract Location

Persistent Poverty Census Tracts				
State	**County**	**Census Tract Name**	**Tract Meets Definition**	**Meets HDC Tract Definition**
Alabama	Tuscaloosa	Tract 112	No	Yes
Alabama	Tuscaloosa	Tract 114.01	Yes	No
Alabama	**Tuscaloosa**	**Tract 114.02**	Yes	No
Alabama	**Tuscaloosa**	**Tract 116**	**Yes**	**Yes**[1]

SBBR & SSUP will connect several of the ten census tracts of Tuscaloosa that meet the definition of Opportunity Development Zones. SBBR & SSUP is specifically located in two census tracts: 116 and 114.02. *SBBR & SSUP project* is located within Opportunity Zones 01125011600 and 01125011800. Tract 116 is considered a historically disadvantaged community, as noted in the table above.

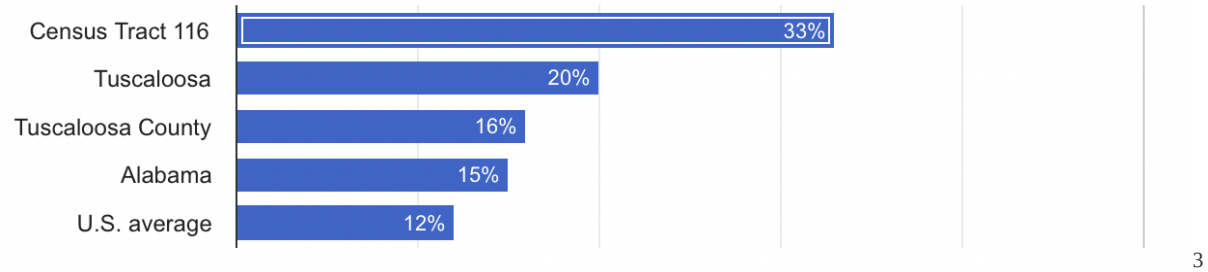
Opportunity Zone 01125011600 has a median household income of $28,000. This is 46% lower than the median income for the state of Alabama, which is at $52,000.



[2]

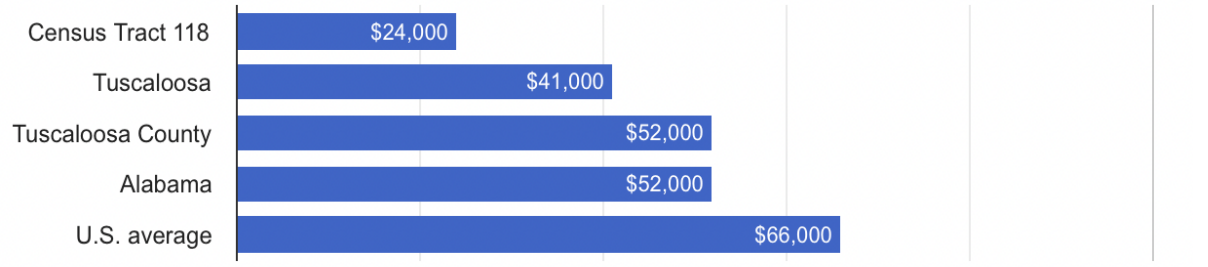
[1] https://datahub.transportation.gov/stories/s/tsyd-k6ij
[2] https://opportunitydb.com/zones/01125011600/

33% of homes within this opportunity zone are below the poverty line which is 18% higher than the state of Alabama at 15%.



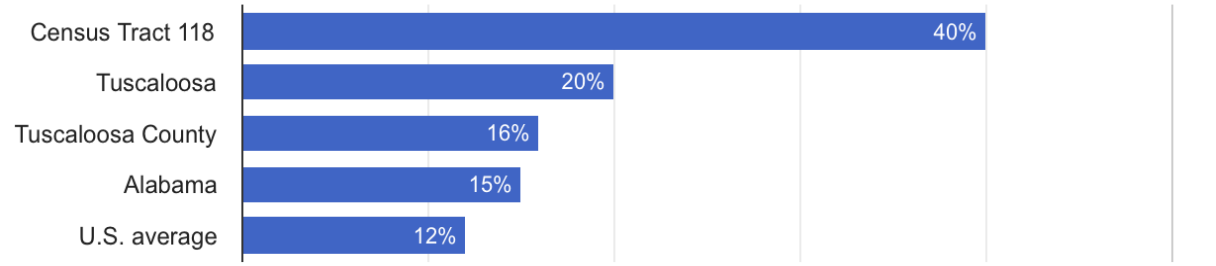
[3]

Opportunity Zone 01125011800 has a median household income of $24,000. This is 54% lower than the median income for the state of Alabama, which is at $52,000.



[4]

40% of homes within this opportunity zone are below the poverty line which is 25% higher than the state of Alabama at 15%.

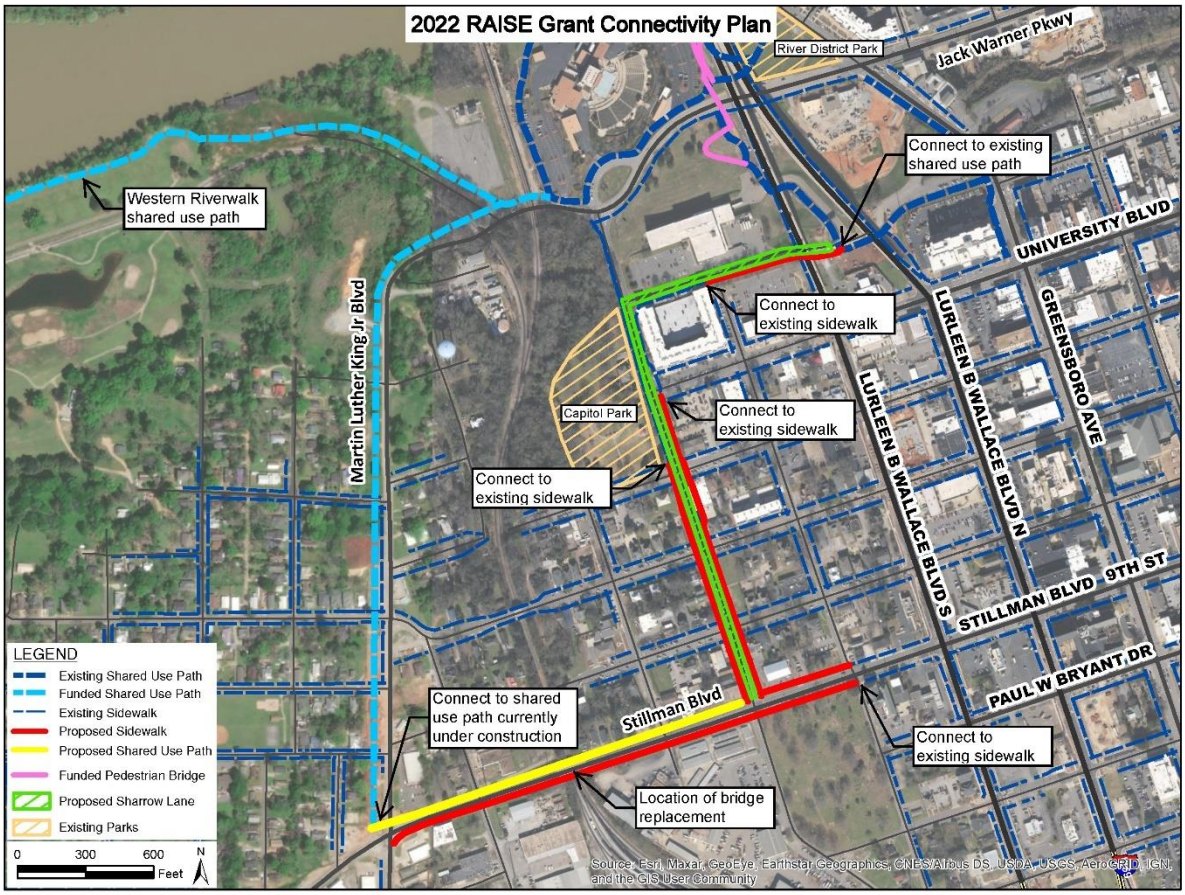


[5]

Project Components

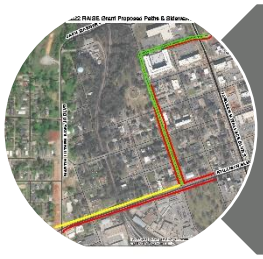
This project component is a continuation of the 2020 BUILD grant that created a pedestrian bridge over Jack Warner Pkwy as well as the 2021 RAISE which made improvements to University Boulevard for the purpose of converting to underground utilities. The construction of a new sidewalk and shared-use path as well as repairing sidewalks along the same trail will create direct connectivity to the Lurleen Wallace corridor and to downtown Tuscaloosa. In addition to being an aesthetic improvement, it will improve mobility in the area.

[3] https://opportunitydb.com/zones/01125011600/
[4] https://opportunitydb.com/zones/01125011800/
[5] https://opportunitydb.com/zones/01125011800/





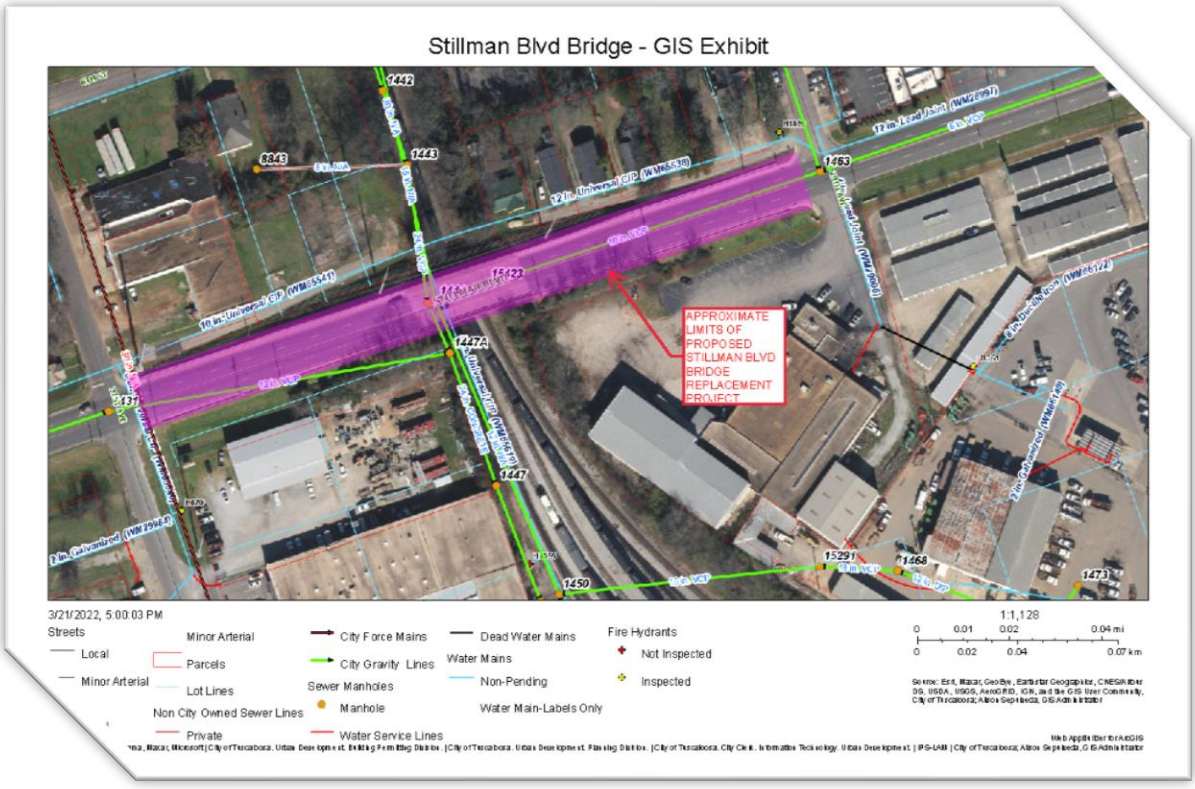
Stillman Boulevard Bridge



Paths and Sidewalks

Stillman Boulevard Bridge

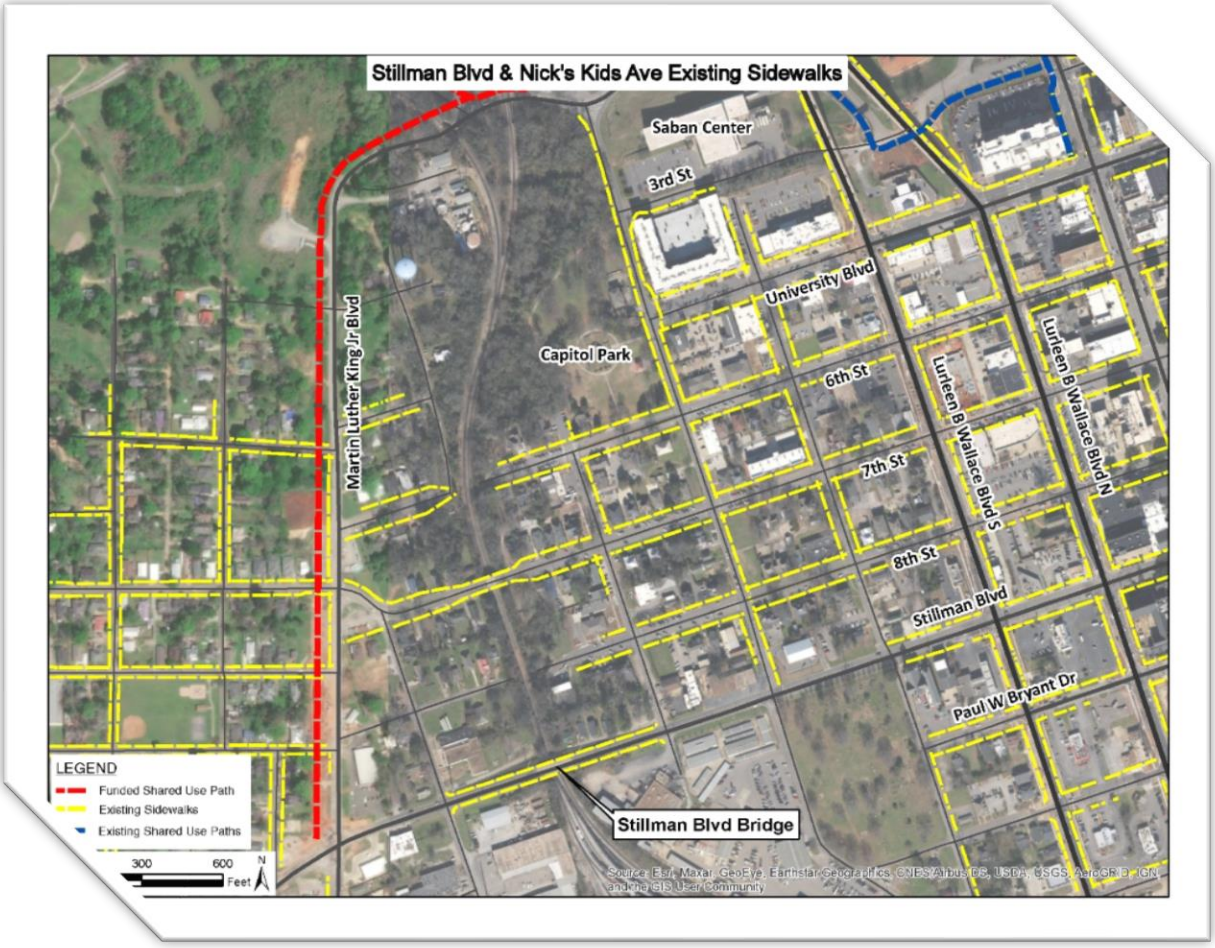
The annual system bridge inspection program performed by a consultant under contract for the City of Tuscaloosa identified that the existing structure needs to be programmed to be replaced in the next 5 years. The replacement bridge will need to be widened to accommodate a 12’ wide asphalt shared use path on the northern side and a 6’ wide shared use path on the southern side. The roadway approach work will also have to accommodate these pedestrian features to provide connectivity from the downtown riverfront to the intersection of Stillman Boulevard and Martin Luther King Jr Boulevard via Nick’s Kids Avenue.

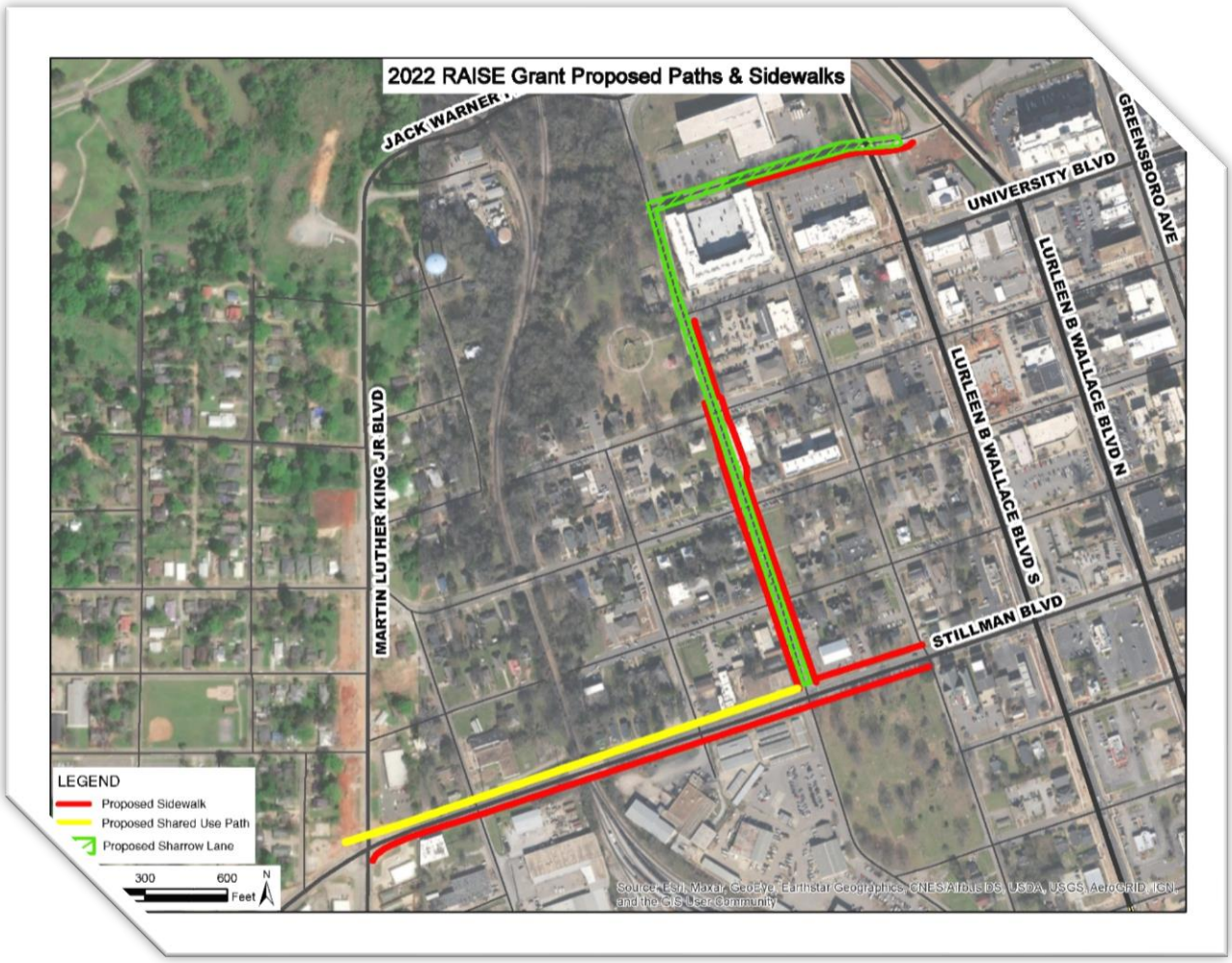


The bridge will be widened from an approximate width of 52’ the conceptually proposed bridge width is 75’. The profile of the Stillman Boulevard. bridge is also assumed to be raised to accommodate increased vertical structure depth and clearance above the existing railroad track. Coordination and approvals will have to be obtained from the Kansas City Southern railroad company in the design phase. The change in vertical profile and horizontal width will result in the need for retaining walls the length of the approach works on each side of the roadway to limit Right of Way (ROW) impacts. It is assumed that ROW acquisition will still be required for 9 tracts to accommodate working space to construct the project. There are also existing overhead utilities to be considered. Alabama Power Company (APCO) transmission, APCO distribution, Comcast, and AT&T utilities are assumed to be converted from overhead to underground in the scope of this work. There is a large diameter sanitary sewer main that will likely need to be relocated in order to accommodate bridge construction. There are also existing 10” and 8” water mains required to be relocated to accommodate the bridge construction.

Paths and Sidewalks Extension

This project includes construction of new 6’ sidewalk along Stillman Boulevard, Nick’s Kids Ave, and 3rd Street construction of 12’ shared use path along Stillman Boulevard between Martin Luther King Jr Boulevard and Nick’s Kids Avenue and installation of shared use lane markings and signage along Nick’s Kids Ave and 3rd Street Many of the existing sidewalks along this route are in need of replacement, and large sections of the route do not have sidewalks at all. Along Stillman Boulevard, sidewalks and shared use paths would create direct connectivity to the Lurleen Wallace corridor and to downtown Tuscaloosa. The sidewalks and shared use lane along Nick’s Kids Ave and 3rd St will create connectivity to existing shared use paths and to the pedestrian bridge over Jack Warner Parkway funded by the 2020 BUILD grant. Aerial utilities along Stillman Boulevard will need to be relocated to accommodate paths.



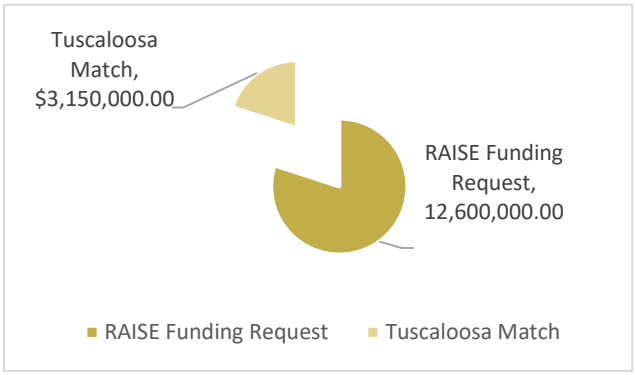


III. Grant Funds, Sources, and Uses of all Project Funding

The City of Tuscaloosa is requesting $12,600,000 in RAISE Grant Funding to match the **$3,150,000** from Elevate Tuscaloosa for the construction of the proposed *Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path Project*. The breakdown of funding offered as a match to RAISE Grant funding has been provided in the "Partnership" section of this grant application. Evidence of funding commitment is provided in the appendices. These matching dollars are non-Federal funds that will be used to design and construct the project, which will be known and delivered in totality as a RAISE project. Currently, there are no other federal funds designated for the bridge replacement and Sidewalk and Shared Use Path. This project represents an excellent example of how a private/public partnership can dovetail to construct a much-needed infrastructure project to enhance the community on multiple levels. This project has community support and financial support from the local government. The Alabama Department of Transportation has also been instrumental in providing funding and technical support to improve infrastructure through other projects along the Stillman Boulevard Bridge.

Project Costs

The following information provides a breakdown of the capital costs associated with the construction of the proposed *Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path Project*. These capital costs were estimated based on quantities developed from the preliminary design of the roadway and applying a bid price to each item based on local historic bid information and Alabama Department of Transportation bid tabs. The project also includes a contingency of 20% to account for unanticipated expense during the design and construction phases.



Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path Project Components	Estimated Cost
Stillman Boulevard Bridge Replacement and Sidewalk and Shared Use Path TOTAL	**$15,750,000**
Demolition, Clearing, Grubbing, and Earthwork	$902,734
Bridge	$2,687,101
Roadway Approach	$2,386,319
Storm Drainage	$63,500
Sanitary Sewer	$212,500
Water Distribution System	$50,000
Misc.	$475,000
Construction Allowance	$743,915
Engineering, Utility Relocation, ROW & Easement	$4,322,080
Contingency	$2,625,598
Shared Use Path, Sidewalks, & Sharrow Lane	$238,000
Irrigation, Landscaping Erosion Control, Traffic Control	$140,000
Lighting and Security Improvements	$824,000

IV. Merit Criteria

Security Enhancements // SAFETY

"ALEA's Highway Patrol Division and its law enforcement partners across the state investigated 769 such crashes in 2021, with 125 pedestrians dying as a result. 2021 was the deadliest year since at least 2016 when there were 122 pedestrian deaths, according to data from The Center for Advanced Public Safety at the University of Alabama."[6]

[6] https://www.wbrc.com/2022/01/19/dramatic-increase-pedestrian-deaths-prompts-new-alea-campaign/

SBBR & SSUP will target the known safety problem of pedestrian safety while connecting to a wider network of trails for intermodal transportation. By providing an overhead safe pedestrian crossing bridge, this will inherently reduce the potential contact with automobiles.

This project component extends connectivity from residential areas and businesses to institutional areas for access to jobs, grocery stores, and retail. Additional bicycle lanes will be added to connect downtown to the University of Alabama, extending the multi-modal pedestrian network. On-street parallel parking will be removed, and one-way side streets will improve traffic circulation, improving traffic flow for emergency vehicles and decreasing carbon emissions from reduced traffic.

Additional hardscapes will include curb, gutter, and drainage construction to improve pedestrian safety and roadway safety by reducing standing water and reducing localized flooding in adjacent areas.

Landscape Improvements // ENVIRONMENTAL SUSTAINABILITY

The project includes landscaping improvements which will serve a two-prong purpose. First, it will improve aesthetics. These include items such as median islands and roadside landscaped areas with enhanced landscaping in the public right-of-way. Second, it will help to improve drainage and reduce erosion while preventing the heat island effect. "Heat islands are urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. Urban areas, where these structures are highly concentrated and greenery is limited, become "islands" of higher temperatures relative to outlying areas. Daytime temperatures in urban areas are about 1–7°F higher than temperatures in outlying areas and nighttime temperatures are about 2-5°F higher."[7] Drainage improvements will also support a 25-year storm event.

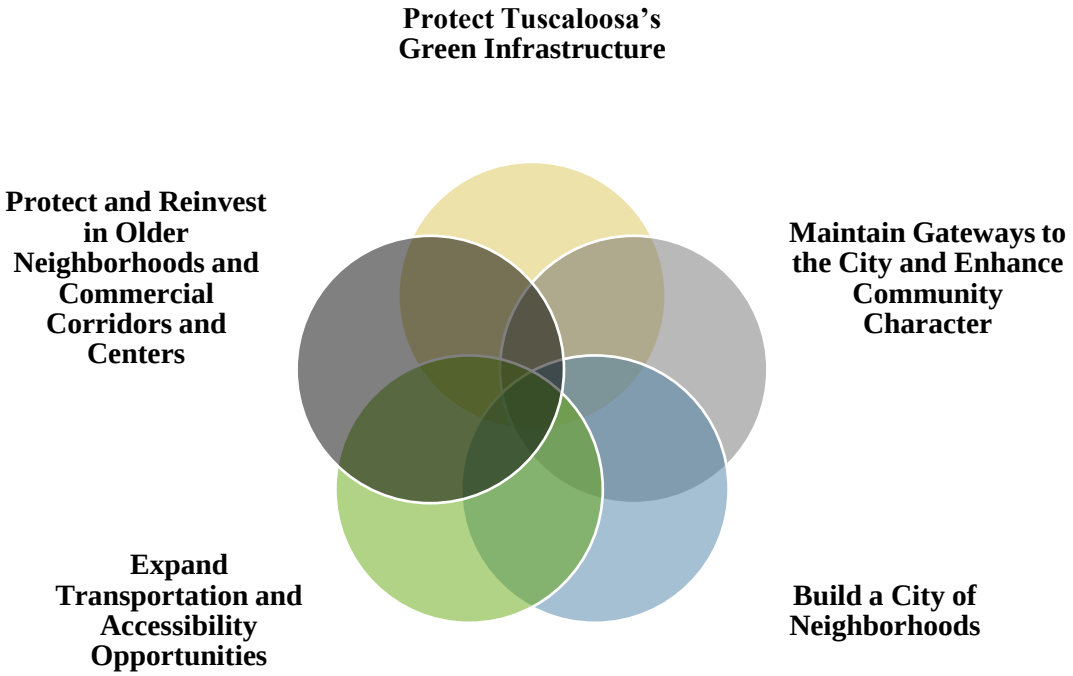
All landscaping will be constructed in designs consistent with the Federal Flood Risk Management Standard and will incorporate lower-carbon pavement and construction materials. All factors will be taken into consideration to reduce negative environmental impacts on both transportation and disadvantaged communities.

The *SBBR & SSUP Project* has numerous natural resources that contribute to the social, economic, environmental, and aesthetic qualities of the area. The City of Tuscaloosa has consulted with its team of in-house environmental experts to further develop a better understanding of the environmental issues related to the construction of this project. The review from both the consultant and our in-house experts provided no significant environmental concerns pertaining to construction of this new roadway. A more comprehensive environmental review of the project is expected as the design of the project advances.

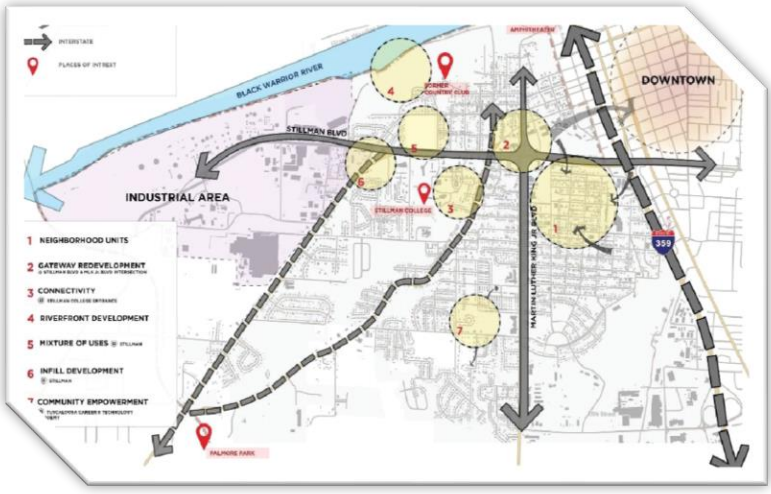
[7] https://www.epa.gov/heatislands

Tuscaloosa intends to protect, preserve, and enhance important and fragile ecosystems within developed portions of the community. It will strive to use its natural and open lands for parks and for passive and active recreation.

The citywide Future Land Use Plan has five major themes:



The City has major points of entries from nearly every direction. These gateways and the corridors they introduce form a major part of the image of the community and should be treated as scarce assets to be protected and preserved.



Community identity is strengthened by high-quality gateways, which help establish strong edges, foster a sense of pride and of place, and create a sense of arrival. By taking appropriate care with development along these corridors and adjacent to its major gateways, the city can help to further the community's marketability by helping to attract businesses, visitors, residents and investors.

The community's major streets are the gateways to its development focus areas and neighborhoods, and consequently they tend to convey a lasting image to residents, business and industry, and passersby. They should be safe, comfortable, shaded, calm, connected and interesting. This is not simply a matter of aesthetics; the community's economy is tightly linked to its physical character, and everyone must continually strive to enhance the City of Tuscaloosa's image for it to remain competitive.

Quality of Life

Through increasing equity and accessibility for intermodal travelers, this project improves the quality of life of area residents and employees by supporting five of the six "Livability Principles" developed by USDOT, along with the Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) as part of the Partnership for Sustainable communities.

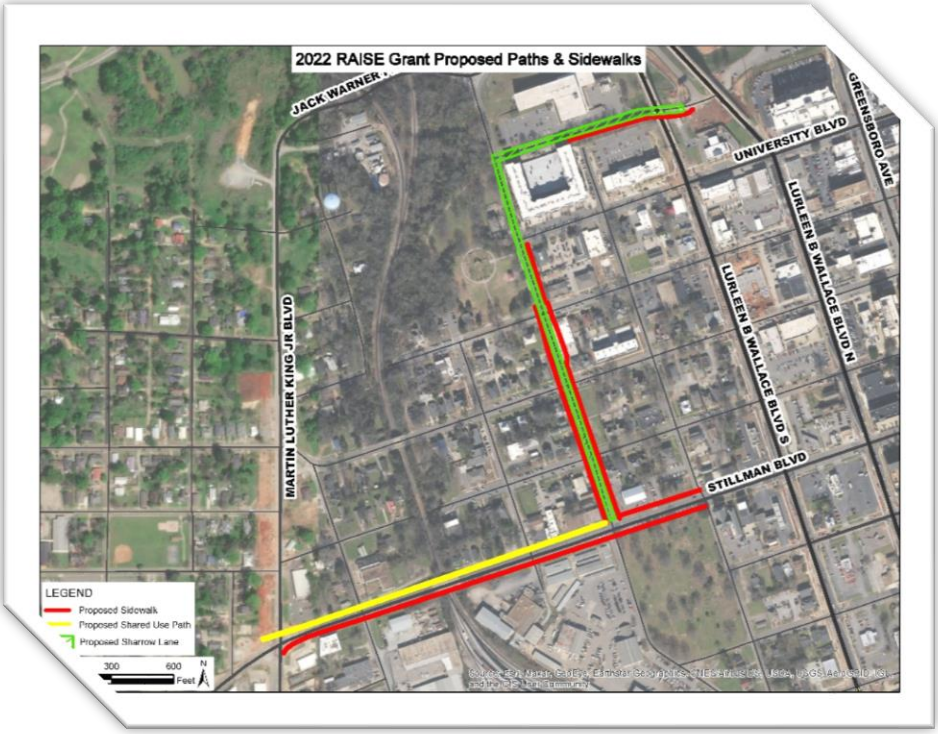
Development's impact on the quality of life for a community should be a primary cornerstone of the why, how, and what of a project. Quality of life impact is often intangible, but ultimately it is reflected in the faces of the citizens and the statistics that are too often used to define a community. To better understand the impact of the built environment the Community Guide has extensively researched this relationship and demonstrated the clear benefit between design elements, connected services, and the quality of life in a community, and then documented project characteristics that enhance them through the principles of evidence-based design.

This recipe of what creates great communities and places may appear formulaic, but it works. We know it intuitively when we think of places we want to visit and live – it is the tree-lined hometown street with people on the sidewalk, a great Riverwalk, or the "go-to" park in a community. It is a place that is comfortable, safe, beautiful, convenient, and connected. It is a place that encourages, supports, and provides access to the functions necessary for a quality human experience – a place well lived-in.

The proposed *SBBR & SSUP Project* is special in its ability to achieve this. Located in the heart of Tuscaloosa, and supported by both public and private entities, this project will serve in an area that is an epicenter for jobs, healthcare and wellness services, as well as recreation and sports, commerce, and education. It is the key connective corridor for access to these services.

The *SBBR & SSUP Project* will incorporate already proven elements to provide a more cohesive experience throughout the Tuscaloosa Community. Tuscaloosa is poised to be a major player in the "Experience-Driven" economy. With a diverse population of students from across the geographic and demographic spectrum, a high percentage of minorities, and great historic neighborhoods, Tuscaloosa is beginning to see a level of connection and positive interaction between communities that has not been seen before. This is enhancing social interaction while reinforcing the social fabric of the community. This project will strengthen and connect communities throughout the area, unifying outlying communities within the city through accessible intermodal pathways.

This project component extends intermodal connectivity from low-income residential areas to institutions (UA, DCH, ADMH), jobs, grocery stores, and schools, extending the pedestrian network and enhancing pedestrian safety in primarily low-income areas, and making aesthetic improvements along this pedestrian corridor from landscaping and underground utilities.



Improves Mobility and Community Connectivity

By connecting already existing sidewalks, trails, and bike paths the SBBR & SSUP will increase mobility for people traveling in Tuscaloosa, providing more opportunities of ways to commute. The proposed plan will add an additional 6' sidewalk along Stillman Boulevard, Nick's Kids Ave, and 3rd Street; essentially adding 10 blocks of additional pedestrian paths.

This project component will also add a 12' shared use path along Stillman Boulevard from MLK Boulevard and Nick's Kids Ave with clear signage. Through this project, it will create direct connectivity to the Lurleen Wallace corridor as well as to downtown Tuscaloosa, a hub of business, restaurants, and education facilities. Sidewalks and multi-use paths will be available for all non-motorized travelers such as walkers, cyclers, or rollers.

Comprehensive Plan Informs Project Components

Tuscaloosa's Comprehensive Plan defines the street design in Tuscaloosa by layering the roadway functional classification with land use context. This helps to create a multimodal transportation system that is consistent and supportive of land-use decisions.

Tuscaloosa's code currently employs the following functional classification system:

- Interstate
- Principal Arterial
- Minor Arterial
- Major/Minor Collector

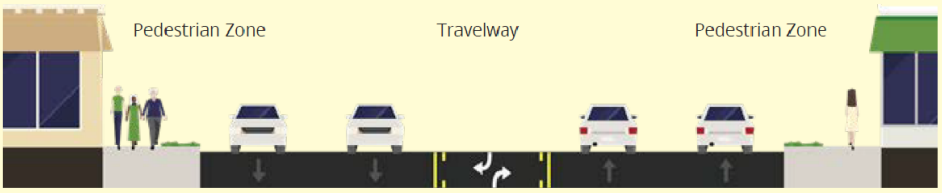
- Local

These street functional classifications, coupled with the city's future land use character areas, lead to a street design matrix that provides the framework for decision making and guidance on how to balance competition among travel modes, design, and prioritize the available right-of-way.

The Future Land Use and Character Map express the city's direct intent for how Tuscaloosa should use its land resources in the future. For the entire city and the planning jurisdiction, this map identifies future character types. These places share attributes of urban form and function, including characteristics of transportation design and mobility. The Functional Class and Land Use Map on the following page references five Character Type groups. These groups are mostly the same as shown on the Future Land Use Map, with one exception. The university categories and institutional categories have been reassigned to more closely align with the likely mixed-use context. It should be noted that the street design associated with an institutional use is more likely to align with the context (e.g. urban, suburban, ex-urban) in which that use is located.

The Street Design Priority Matrix establishes the priorities for trade-offs we often debate when dealing with limited right-of-way. The matrix reveals ideal design elements and key priorities (high, medium, and low) for a variety of characteristics based on the functional classification of the roadway and the land use context in which it is located. The matrix organizes these characteristics by street realm (Travelway, Pedestrian Zone, and Other).

The purpose of these charts is to guide the planning and design of new roadways, and improvement of existing roadways. Items of high importance should be prioritized in the design process based upon the context in which the road is built.



Travelway *(Curb to Curb)*

The travelway includes the portion of the street that accommodates vehicular activities. These include driving and parking, as well as "green infrastructure."

Typical travelway might include a parking area, a primary automobile travelway and a median, encompassing everything from one curb to the other.

Pedestrian Zone *(Curb to Building)*

The pedestrian zone involves the portion of the street that accommodates non-vehicular activities. These include walking as well as business and social gathering. Pedestrian zones encompass everything from the face of the building to the curb and typically include a frontage area, a primary pedestrian walkway, and a roadway buffer (area between the curb and primary pedestrian walkway).

For clarity, the street design matrix has been divided into four different tables based on the four main land use contexts (Mixed-Use & University Centers, Commercial Centers, Neighborhoods and Residential Areas, and Industrial Centers). Then it is further broken down into three street realm groupings (Travel Way, Pedestrian Zone, and Other). Colored boxes are placed in the table to indicate a high priority, medium priority, or low priority. The street design matrix is intended

to be a general reference that helps set basic guidelines as a starting point for associated policies, such as the City of Tuscaloosa Transportation Standards.

Mixed-Use & University Centers

TRAVEL WAY	Principal Arterial	Minor Arterial	Major/Minor Collector	Local
Number of Through Lanes	2 - 4 (6)	2 - 4	2 - 4	2
Width of Travel Lanes (ft)	11′ - 12′	10′ - 12′	10′ - 12′	9′ - 11′
Target Speed (mph)	35 - 45	25 - 35	25 - 35	25
Design for Larger Vehicles	MEDIUM	MEDIUM	LOW	LOW
Multimodal Intersection Design	HIGH	HIGH	HIGH	LOW
Vehicle Throughput at Intersections	HIGH	MEDIUM	MEDIUM	LOW
On-Street Parking	LOW	MEDIUM	HIGH	HIGH

PEDESTRIAN ZONE	Principal Arterial	Minor Arterial	Major/Minor Collector	Local
Landscaping/Street Trees	HIGH	HIGH	MEDIUM	MEDIUM
Buffer Zone	HIGH	HIGH	MEDIUM	LOW
Street Furniture	LOW	HIGH	HIGH	MEDIUM
Standard Sidewalks	MEDIUM	MEDIUM	MEDIUM	HIGH
Wide Sidewalks	HIGH	HIGH	HIGH	LOW
Public Art	MEDIUM	MEDIUM	HIGH	LOW

OTHER	Principal Arterial	Minor Arterial	Major/Minor Collector	Local
Access Management	HIGH	MEDIUM	LOW	LOW
Medians	HIGH	MEDIUM	LOW	LOW
Bicycle Accommodation	MEDIUM	HIGH	HIGH	LOW
Transit Accommodation	HIGH	MEDIUM	LOW	LOW

MULTIMODAL STREET DESIGN TABLE	Functional Class	Number of Lanes	Target Speed	Preferred Bike Facility	Preferred Pedestrian Facility
Mixed Use & University Centers	Principal Arterial	2-4	35-45	Multiuse Path	Multiuse Path
	Minor Arterial	2-4	35	Protected Bike Lane	Wide Sidewalks
	Major/Minor Collector	2-4	35		
	Local Streets	2	25	Bike Lane	Standard Sidewalks

Economic Competitiveness & Opportunity

The City of Tuscaloosa and the greater West Alabama region are poised for rapid economic growth, provided the area can keep up with infrastructural demands. Business sources including *Forbes* and *Kiplinger's Personal Finance* magazines rank the Tuscaloosa/Birmingham region as among the best locations in the nation to start and grow a business. The region has a myriad of colleges, universities, and trade schools for undergraduate and graduate study while also providing training and education for skilled professionals in a vast array of industries. Healthcare and medicine play significant roles in employment, economic growth, and innovation with four major hospitals in the region. Tuscaloosa has a large workforce of 95k. Of those, approximately 30% are non-agricultural, employed in government, healthcare, and education. 16% are employed in manufacturing. Automotive, electronics, plastic injection molding, steel, wood products, food products and chemicals are just some of the many industries that make up West Alabama's manufacturing core. Quality of life and livability are essential to attracting new businesses, and growing lucrative industries, in addition to attracting both bright students and skilled workers. Dependable infrastructure helps to ensure a strong supply chain and distribution system security. These couple together to attract, retain, and grow industries.

As Tuscaloosa continues to grow, it is expected to grow faster than most places in Alabama. The city has increased its population by 24% since 2000. This is faster than the five largest cities in Alabama. This substantial past growth has been attributed to an increase in University of Alabama enrollment, which is projected to stabilize in the coming years. While the city is forecast to grow, that growth will likely be slower than that which occurred over the past 20 years. Forecasts suggest that the Tuscaloosa Metropolitan Statistical Area (Tuscaloosa, Hale, and Pickens Counties) will grow by 21.4% between 2010 and 2040, the second-largest growth rate in Alabama after Huntsville (39%).

The city's demographics are shifting as they are heavily influenced by the student population, which can mask needs among the permanent resident population. For instance, nearly 19% of the non-student population (and 28% of the city's under-18 population) struggles with poverty. Other demographic challenges include projections that there will be a growing proportion of seniors and slower growth in family households. The slowest growth has been forecasted for the 25–34-year-old population. This slow growth is concerning for the long-term population, as this age group typically includes families with young children and first-time homebuyers.

Most of the recent residential growth has been concentrated in two areas. Since 2012, the vast majority of residential new construction has been either in the area between downtown and the University of Alabama (along University Boulevard Corridor), or north of the Black Warrior River around Lake Tuscaloosa. As mentioned in the 5-year Affordable Housing Study, recent residential growth has focused on students and the high-end of the market.

Redevelopment in other areas has been slow. Since the devastating tornados in 2011, there is a large amount of vacant land within the impacted areas including Alberta and Forest Lake. Redevelopment in these areas has been much slower than anticipated. Additionally, there are redevelopment opportunities in some older neighborhoods such as West Tuscaloosa and older commercial centers and corridors such as Skyland Boulevard.

SBBR & SSUP will create quality good-paying jobs for local laborers, providing opportunities for all workers, especially those that are underrepresented in the construction field.

By developing and connecting more intermodal transportation opportunities, Tuscaloosa is increasing affordable transportation options and connecting more systems within the area. As part of an "Experience-Driven" economy, tourists coming to Tuscaloosa will be able to move about town through a variety of means besides an automobile.

State of Good Repair

The City of Tuscaloosa is committed to maintaining the *SBBR & SSUP Project* as it will become a critical and unifying part of the community infrastructure. The investment made to improve the city's mobility components will only increase the opportunities for continued economic development, which will, in turn, continue to provide additional tax revenue for the City of Tuscaloosa. The increased revenue will provide additional opportunities to raise the budget for future maintenance needs.

One of the principal challenges faced by the City of Tuscaloosa, and common to many local governments around the country, is maintaining existing infrastructure with current resources. The Elevate Tuscaloosa plan creates a tax that provides for the maintenance of all Elevate Tuscaloosa-funded projects.

Elevate Tuscaloosa is a community-driven process for strategically and effectively investing in education, cultural arts, tourism, parks, recreation, and connectivity. Once the project is complete, it will be continually maintained through Elevate Tuscaloosa funds assuring a continued state of good repair.

Partnership

The development of the *SBBR & SSUP Project* is an excellent example of how private and public partnerships can succeed. Financial support has been provided by Elevate Tuscaloosa dollars with a commitment to providing up to $3 million for the construction of this project. In addition to the financial support provided for the project, it has also received an overwhelming amount of community support. The City of Tuscaloosa has letters of support including letters from United State Representatives and Senators, State and City Legislators, and various stakeholders. These are provided as an appendix to the RAISE Grant Application.

In addition, the public has also been engaged with several public committees and council meetings related to the overall Elevate program for infrastructure funding. The City plans to have a Public Involvement Meeting in order to provide detailed information about the project while receiving questions and comments.

Tuscaloosa is also working with current Disadvantaged Business Enterprises (DBEs) and has partnered with the following:

- The University of Alabama

- Tuscaloosa City Schools
- Tuscaloosa County Parks and Recreation
- Tuscaloosa County Schools
- Tuscaloosa Housing Authority
- Tuscaloosa County Commission

These entities provide support and continued outreach for DBEs to help garner greater success. By incorporating SBBR & SSUP into Tuscaloosa, it will create increased business through additional patronage.

Innovation

As a forward-thinking community, Tuscaloosa is using unique and innovative strategies to bring the SBBR & SSUP project to fruition. The RAISE Grant initiative will incorporate several innovative intelligent transportation system components, including advanced traffic signals, dedicated short-range communications, dynamic message signs, and deep-learning algorithms for cameras. These technologies will be integrated into the Tuscaloosa Department of Transportation (TDOT), ALDOT's central systems, and common application platforms that are usable by travelers and transportation system operators. The *SBBR & SSUP Project* aligns with the US Green Building Council's commitment to a sustainable, prosperous future through LEED, the leading program for green buildings and communities.

Over the past two years, much of the traffic signal infrastructure has been updated in the project area. This includes technology upgrades at intersections to help traffic move more efficiently through the area. Tuscaloosa has utilized adaptive signal control to enhance the performance of the system of traffic signals. This helps handle special event traffic, such as college sporting events drawing in hundreds of thousands of patrons.

The City of Tuscaloosa operates both a transit system and a demand-responsive transit (DRT) service that serves more than 350,000 people. DRT also provides valuable transit coverage to a large rural area to provide transportation so that people can get to jobs, have access to education, and receive necessary healthcare to over 400,000 riders annually. UA has an additional transit system with more than 2.6 million riders per year. Also, both the city and university transit systems play key roles during special events such as football games when the city's population doubles.

The *SBBR & SSUP Project* will implement the following state-of-the-art technologies throughout each project component:

Innovative Technologies:

Intellistreets: An LED street lighting system wherein each pole has its own microprocessor. This system leverages the existing power supply and can be integrated into current lighting poles. Microprocessors communicate with each other through a wireless mesh system. The connected system optimizes traffic flow, increases safety, helps guide first responders, and keeps crowds safe in disaster areas. Intellistreets use 25% less energy, produce 25% less heat, and do not require underground construction costs.

With patented wireless technology to communicate to individual luminaires, these streetlights are able to save up to 70% in energy consumption and have a life of beyond 10 years. The system provides unique flexibility in dimming and on-demand adjustability. With a centralized interface and wireless transceivers on each pole, Intellistreets allow bidirectional communication between streetlights and other integral sensors. The mesh topology also provides self-healing for the network should one or more light poles become disabled. 180-degree image sensors are concealed and offer a unique method for gauging pedestrian traffic, providing accurate data by the minute, hour or day.

Innovative Project Delivery

The elements of work for these are similar and can be narrowly specified in contractor specifications to include specific locations, dimensions, and performance requirements. The projects can be procured in a single package that will provide an expedited schedule and the most cost-effective means to develop this infrastructure.

Innovative Financing

$3,150,000 million in Elevate Tuscaloosa Funds will be used as matching funds for RAISE Grant projects. Elevate Tuscaloosa funds are generated by a 1% sales tax increase. The special tax increase went into effect on October 1, 2019, and is dedicated to strategic investment in connectivity, parks, recreation, cultural arts, education, and tourism in the Tuscaloosa community. In addition to initial funding, an annual percentage of Elevate Tuscaloosa funds are used for the maintenance and upkeep of projects funded by Elevate, including RAISE projects, thus eliminating the additional funding from the grant that will be needed to maintain the SBBR & SSUP project. While this is currently a flat dollar amount, beginning in the 2022 fiscal year of the tax initiative, 10% of the revenues generated are projected to be set aside for this purpose. Doing so provides an innovative vehicle to leverage Elevate funding that will optimize the impact and long-term effectiveness of RAISE projects.

V. Project Readiness

Project readiness will be assessed on a technical assessment, financial completeness assessment is based on information provided throughout the application, the Environmental Risk Assessment can be found on page 24.

Area of Persistent Poverty

Persistent Poverty Census Tracts				
State	**County**	**Census Tract Name**	**County Meets Definition?**	**Census Tract Meets Definition?**
Alabama	**Tuscaloosa County**	**Census Tract 114.02**	**No**	**Yes**

Alabama	**Tuscaloosa County**	**Census Tract 116**	**No**	**Yes**



V. Environmental Risk Review

Tuscaloosa is prepared to provide all requested information on the following components: project schedule, approvals, and permits. This includes NEPA class of action and status, the continued public involvement and engagement with the community at large, acquisition plans, and risk aversion strategies.

City of Tuscaloosa
2022 RAISE Grant

Estimated Schedule
4/7/2022

City of TUSCALOOSA
INFRASTRUCTURE & PUBLIC SERVICES

Milestone	Begin	End	Duration (Months)
Grant Administration/Consultant Procurement	9/1/2022	3/1/2023	6
Environmental Reviews & Design	3/1/2023	6/1/2024	15
ROW/Easement Acquisition & Permitting	9/1/2023	9/1/2024	12
Advertise, Bid, & Award	9/1/2024	1/1/2025	4
Construction & Utility Relocations	1/1/2025	4/1/2026	15
Total Duration			52

VI. Project Schedule

The project schedule provides enough time to ensure that unexpected delays will not put RAISE grant funds at risk of expiring before they are obligated. The *SBBR & SSUP Project* can begin construction quickly upon receipt of the RAISE grant. The grant funds will be spent steadily, and expeditiously once construction starts.

Required Approvals

Preparations have been made by ALDOT and the City of Tuscaloosa to prepare stakeholders for the studies to be undertaken as part of the *SBBR & SSUP Project*. No formal approvals are

required to execute the planning project. ALDOT and Tuscaloosa will seek the following approvals to advance capital projects identified as long-term solutions through further studies that will follow the *SBBR & SSUP Project*:

There has been a broad effort to gather input from federal, state, and local agencies as well as data and input from private entities. This wide engagement has been useful in evaluating project element alternatives while determining preferred infrastructure locations. There have been several baseline studies along the project area to date that have included area river mussel surveys, initial stream and wetland field investigations, traffic studies, etc. Based on the final plan that has been developed and is a part of this application, an Environmental Assessment (EA) can be conducted.

As noted in the project schedule provided and available at www.Tuscaloosa.com/RAISE2022, final detailed studies can begin for documentation.

Upon completion of a public involvement process, a draft of an environmental assessment will be developed for further public comment and a public hearing. Upon addressing any final issues raised during this phase, a final document will be developed and submitted for approval of a Finding of No Significant Impact (FONSI). It is possible that upon consultation with federal representatives that the document could ultimately be developed as a Categorical Exclusion due to the limited potential impacts anticipated with the project. The project schedule and tasks included assumes some limited non-significant impacts requiring an EA/FONSI to allow for adequate time for project development and completion.

Public Involvement: The city's Transportation and Mobility Network was assessed early in the process by blending the findings from more than 30 previous plans and studies with the outcomes of a series of stakeholder interviews held as part of the Framework process. The intent of the assessment was to identify transportation issues and needs—with particular focus on roadway conditions, biking and walking, public transportation, and freight movements—to establish a baseline understanding of mobility in Tuscaloosa as a precursor to recommending programs and policies as part of the Framework Comprehensive Plan.

Themes for the Framework Comprehensive Plan

The following challenges and opportunities related to mobility and transportation came from targeted interviews, the Forum on the Future, online input, and the Framework steering committee.

Growth and Changing Needs

- The city continues to face choices as it balances rising travel demand with increased interest in alternative transportation methods, such as walking, bicycling, and transit use.

Barriers and Obstacles

- Numerous physical obstacles divide the city and complicate the delivery of a balanced multimodal transportation system.

Economic Implications

- Tuscaloosa has a stated goal of improving intermodal facilities (waterway, interstate system, railways) that currently maintain but will eventually enhance economic prosperity.

Transit Delivery

- Like many southern cities, operating transit in Tuscaloosa presents challenges, such as a relatively small Downtown, narrow commercial and residential corridors, and gaps in supportive density.

Widespread Needs

- These include items such as parking, public transportation, bicycling and walking, streetscapes, and lighting.

Public Feedback that informed the Framework Comprehensive Plan

The following are major themes related to mobility and transportation. These goals came from targeted interviews, the Forum on the Future, online input, and the Framework steering committee.

Enhance gateways

- Gateways and corridors into and throughout the city are critically important and should be aesthetically pleasing and open to various modes of transportation.

Coordinate among agencies

- Numerous corridors and various pieces of infrastructure are maintained by other agencies, which require coordination for aesthetic improvements and continued maintenance that will avoid potential barriers for improvements.

Improve the multimodal experience

- A framework of creating bicycle and pedestrian plans to include implementable and prioritized recommendations.

Consider development regulations

- The city will continue to explore ways to address street design and multimodal accommodations as part of the development and redevelopment process.

Strengthen the transit system

- While challenges persist, the public at large and stakeholders involved expressed a desire for improved public transportation options, including hours of operation and geographic coverage.

Embrace technology

- Technology for all modes of transportation can be upgraded as part of future projects.

Assessment of Project Risks and Mitigation Strategies

As with most major planning projects, there are inherent risks to meeting the project schedule and budget. Mitigation of these will be accomplished in the following ways:

Schedule Delays – As local and statewide planning entities, ALDOT and the City of Tuscaloosa have gained tremendous experience in the implementation of complex, comprehensive planning projects. Both understand the risks associated with such efforts and consider a wide range of risks in the development of project schedules and budgets, such as those presented in this grant application. The matching funds and contracts will be in place when funds are awarded to ensure timely activation of the resources needed to carry out the scope of work.

Cost Overruns – As with any large planning project, this project runs the risk of experiencing cost overruns. We have used our vast and combined experiences on similar projects to mitigate this risk. The estimated costs included in the application are based on industry and agency standards, as well as similar projects being implemented by ALDOT and Tuscaloosa, with contingencies included. Both agencies' transportation budgets have sufficient capacity in the unlikely event that the project experiences a cost over-run. Monies will be used effectively and efficiently while promoting the competitiveness of the U.S. economy.

Inter-Agency Disputes – Schedule delays and cost overruns may occur due to differing preferences and priorities between ALDOT and the City of Tuscaloosa in carrying out the

planning project. We will mitigate this risk by defining roles, responsibilities, and a dispute resolution process in an inter-agency agreement to be executed prior to the RAISE grant obligation.

VII. Benefit Cost Analysis

This benefit-cost analysis (BCA) was conducted for the City of Tuscaloosa Stillman Boulevard Bridge and Shared Path/ Sidewalks Projects. To the maximum extent possible given available data, the formal BCA prepared in connection with this RAISE grant application reflects quantifiable economic benefits. All analyses contain live formulas, clear documentation of assumptions, and assume 2020 constant dollars. To conduct the analysis, all 2022 cost estimates were assumed to be provided in 2021 Q4 dollar values (2021 Q4 is the latest period with implicit price deflator values available through the Bureau of Economic Analysis National Income and Product Accounts Data that is recommended for use by the USDOT 2022 Benefit-Cost Analysis Guidance for Discretionary Grant Programs as a general method of converting nominal dollars into real dollars). As recommended by the USDOT 2022 BCA Guidance, all current (2021 Q4) values were deflated to 2020-dollar values (annual average deflator values). The results of the BCA presented in this document were inflated to 2021 Q4 dollar values. All the calculations and results are included in the spreadsheets accompanying this document.

Separate BCAs were conducted for the two projects as described in the scope of work: Stillman Boulevard Bridge Project and Shared Path and Sidewalks Project. Table 1 in this Memo presents quantifiable benefits for each for the two segments. Table 2 presents the cumulative BCA results for the entire program, considering the benefits and costs for the two projects in the aggregate.

Benefit Cost Analysis

The benefit-cost ratios for the City of Tuscaloosa Stillman Boulevard Bridge Project and Shared Path and Sidewalks Project were computed using a 7 percent real discount rate recommended by the USDOT 2022 Benefit-Cost Analysis Guidance for Discretionary Grant Programs. The BCA compares the capital construction costs to the quantifiable benefits of the project for an analysis period of 20 years with construction occurring in the first year. The quantifiable economic benefits include safety benefits from a reduced number of crashes as a result of proposed improvements. For all segments of the project, it is assumed that the construction will start in 2024 and the project benefits are expected to begin in 2025.

Discount Rates

Federal guidance recommends that applicants discount future benefits and costs and present discounted rates of both the stream of benefits and the stream of costs. For this analysis, final streams of benefits and costs are presented at a seven percent discounted rate.

Project Description and Cost Estimates

This analysis includes the following segments of the Stillman Boulevard Bridge and Shared Path and Sidewalks Project:

- Stillman Bridge Project: Stillman Boulevard Bridge
- Shared Path and Sidewalks:
    - Stillman Boulevard, from Stillman Bridge to Martin Luther King Jr. Boulevard
    - Stillman Boulevard, from Stillman Bridge to 27th Ave
    - Nick's Kids Ave, from 3rd Street to Stillman Boulevard
    - 3rd Street, from Nick's Kids Ave to the intersection of 3rd Street and 4th Street

For BCA calculations, all 2021 Q4 dollar amounts were deflated to 2020 dollars as recommended by the USDOT 2022 Benefit-Cost Analysis Guidance for Discretionary Grant Programs. In this section of the report are presented the BCA results of the entire program that includes the Stillman Boulevard Bridge and Shared Path and Sidewalks segments of the project, in both 2021 Q4 dollars and 2020 dollars (2020 annual average dollar values). As no pedestrian crash data were recorded for the project segment between 2015-2021, in consultation with a Traffic Operations and Safety Engineer at Alabama Transportation Institute, it was determined that it would be reasonable to use the pedestrian annual crash rate of 0.15 crashes per year. Additionally, for sensitivity analysis purposes, two additional scenarios were developed (high pedestrian annual crash rate scenario, 0.2 crashes per year, and low pedestrian annual crash rate scenario, 0.1 crashes per year). Statewide percentage breakdowns by KABCO severity categories were calculated for years 2014-2021 for bicycle and pedestrian crashes in Alabama and were used for projection of future pedestrian and bicycle crashes on the project segment. All three scenarios are presented in this section using both 2021 Q4 and 2020 annual average dollar amounts.