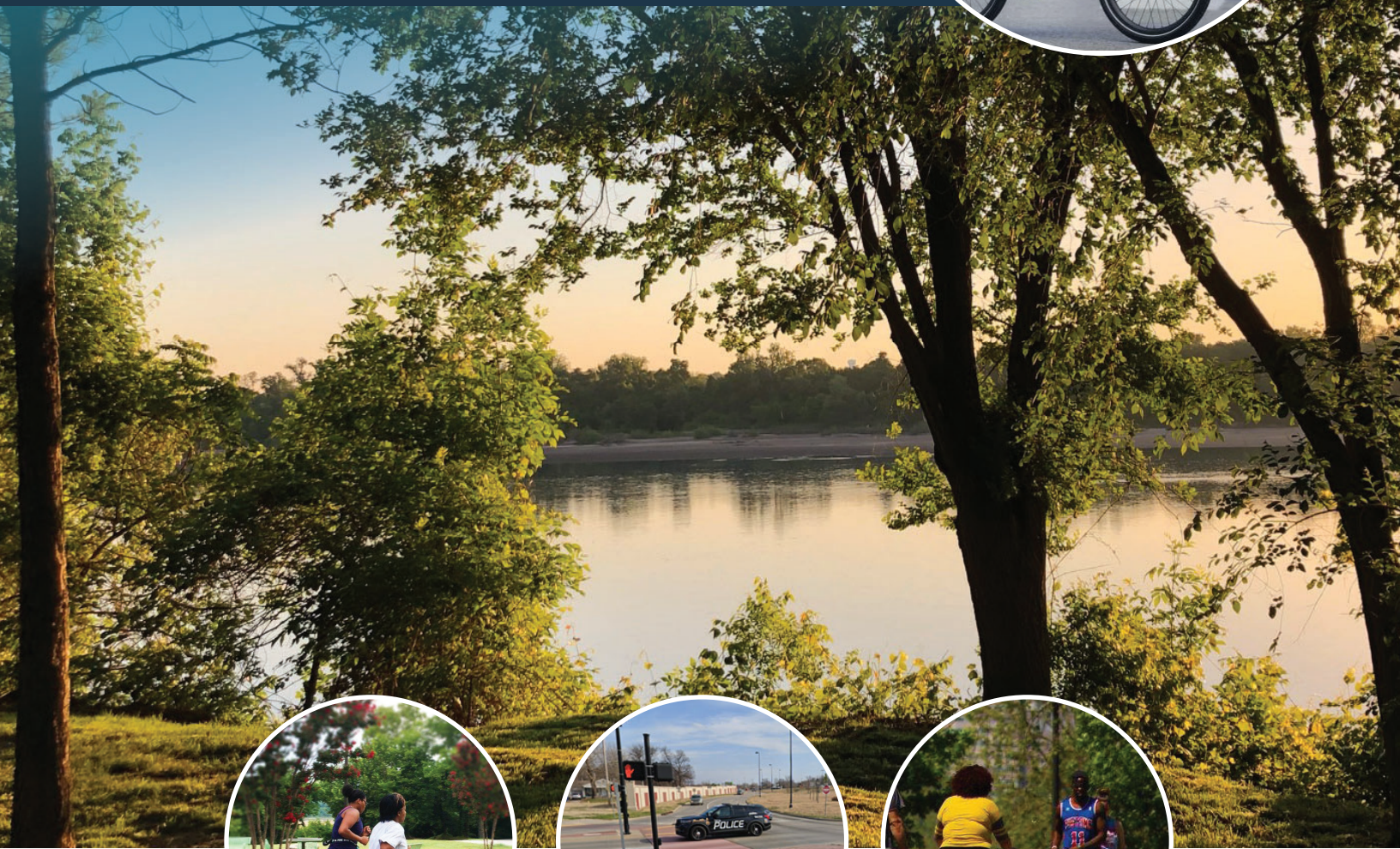


# Tulsa-Jenks Multi-Modal Safety Project

Connecting Communities for Equity and Safety

2022 RAISE APPLICATION  
April 2022



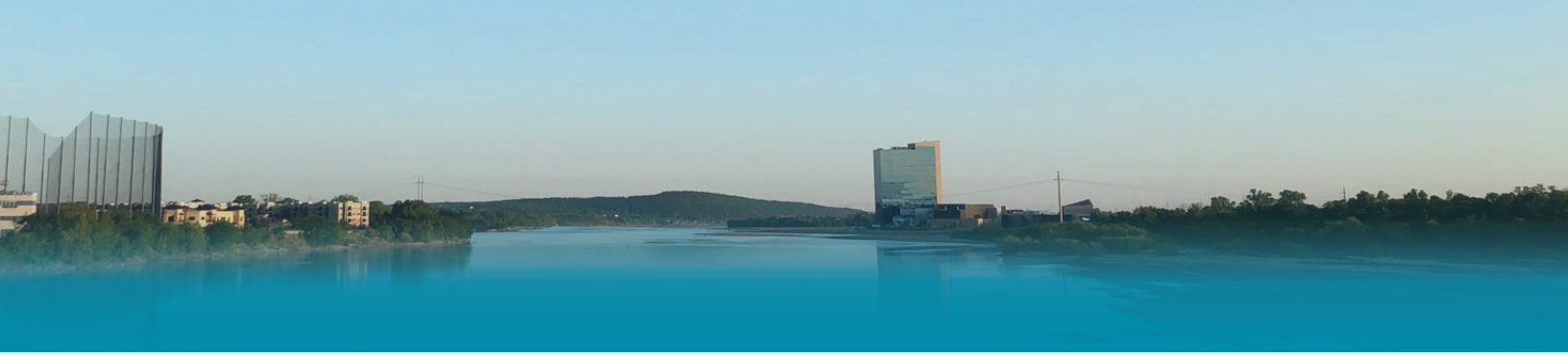
Submitted by The Indian Nations Council of Governments  
and the Muscogee Nation

PROJECT NAME	TULSA-JENKS MULTI-MODAL SAFETY PROJECT: COMMUNITIES FOR EQUITY AND SAFETY
<b>Applicants</b>	Indian Nations Council of Government (INCOG) and Muscogee Nation
<b>Project Partners</b>	City of Tulsa, Oklahoma; City of Jenks, Oklahoma; River Parks Authority
<b>Contact Information</b>	<b>Viplav Putta</b> , Transportation Planning and Programs Director Indian Nations Council of Governments (INCOG) 2 West Second Street, Suite 800, Tulsa, OK 74103 <b>p:</b> 918-579-9421 <b>e:</b> vputta@incog.org
<b>Project Location</b>	City of Tulsa, Tulsa County City of Jenks, Tulsa County Oklahoma Congressional District 1
<b>Project Type</b>	Bike Pedestrian – Trail
<b>Project Description</b>	<p>INCOG, the Muscogee Nation, the City of Tulsa, and the City of Jenks are partnering to provide an enhanced multi-modal trail system and intersection improvements to connect the east and west banks of the Arkansas River to connect communities and improve safety. The RAISE project consists of three components: (1) East Bank Connecting Trail that will make significant repairs, additions and upgrades to the trails along the east bank of the river. (2) The West Bank Connection will focus on connecting the City of Jenks with other trails on the west side of the river and to Tulsa and the popular Turkey Mountain Urban Wilderness. (3) The construction of intersection modifications to create pedestrian refuges, marked crosswalks for active transportation users at eight intersections, pedestrian signal heads, ADA ramps, and buildout the sidewalk gaps to safely connect neighborhoods to the river trail system.</p> <p>The project will separate bicycles and pedestrians from motorized vehicular traffic on both sides of the river to provide safe travel conditions. The project will connect south Tulsa and Jenks with a reliable, safe, and resilient active transportation network.</p>
<b>Project Cost</b>	\$20.25 million
<b>RAISE Funds Requested</b>	\$16.20 million (80%)
<b>Local Match Source(s) and Amounts</b>	\$3.00 million – City of Tulsa (Local Match) \$1.05 million – City of Jenks (Local Match)
<b>Project Schedule / Status</b>	Survey, Design, Engineering & NEPA: January 2024 – December 2025 Construction: March 2025 – June 2027 Project Complete: June 2027
<b>Project Benefits</b>	<p><b>This regionally significant project will:</b></p> <ul style="list-style-type: none"> <li>• Improve pedestrian and bicycle safety for all residents and visitors</li> <li>• Improve intersection safety, create complete street along the Riverside Parkway</li> <li>• Improve air quality &amp; health of residents in the Tulsa metropolitan area</li> <li>• Create additional economic development and tourism opportunities utilizing the natural asset, the Arkansas River Corridor</li> <li>• Improve quality of life for Tulsa metropolitan area residents</li> </ul>
<b>Benefit-Cost Ratio</b>	2.57
<b>Project Website</b>	<a href="http://www.incog.org/Transportation/RAISEFY22_MultiModalSafety.html">http://www.incog.org/Transportation/RAISEFY22_MultiModalSafety.html</a>



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April 12, 2022

Secretary Pete Buttigieg  
U.S. Department of Transportation  
Office of the Secretary of Transportation  
1200 New Jersey Avenue, SE  
Washington, D.C. 20590

To the Honorable Secretary Buttigieg:

The Indian Nations Council of Governments (INCOG) and the Muscogee Nation are pleased to submit this application for the Tulsa-Jenks Multi-Modal Safety Project as part of the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program.

INCOG and the Muscogee Nation are working closely with the City of Tulsa, the City of Jenks, and Tulsa County to construct an enhanced multimodal trail system and associated access improvements along the east and west banks of the Arkansas River to improve safety, meet state of good repair standards, and increase access to this critical active transportation system for residents in Areas of Persistent Poverty and Historically Disadvantaged Communities within the project area. The project will extend and upgrade the existing river trail system and significantly improve roadway design and traffic control infrastructure at arterial roadway crossings to make safe access to the trail system a possibility. The project will connect specifically to the Turkey Mountain Urban Wilderness Area, a major recreational destination, as well as a locally funded pedestrian bridge and low-water dam. The project will provide for a fully separated trail surface for bicycles and pedestrians from vehicular traffic to provide safe travel conditions creating a Complete Street corridor along the high volume- high speed Riverside Parkway corridor.

The project is an investment that will be locally maintained, improving access to jobs in the two communities in Oklahoma, providing an opportunity for alternative transportation modes for no-car households, increasing the number of electric vehicle charging stations and bikeshare stations in the area. This project is a high priority for INCOG, and the Muscogee Nation and the project is ready for implementation based on wide ranging and long-standing planning and design studies. Federal support for this multi-jurisdictional, environmentally sustainable project that will advance equity is necessary to realize the community vision and benefits to be achieved by this project. The project is derived from the Connected 2045: Regional Transportation Plan, the Regional Bicycle/Pedestrian Plan, and the Arkansas River Corridor Master Plans. INCOG is committed to include the project within the Transportation Improvement Program when RAISE funding is secured.

We appreciate your consideration of INCOG and the Muscogee Nation's Tulsa-Jenks Multi-Modal Safety Project RAISE grant proposal. Should you have any questions regarding this project, please don't hesitate to contact us.

Sincerely,  
Rich Brierre

A handwritten signature in black ink, appearing to read "Rich Brierre", written in a cursive style.

Executive Director  
Indian Nations Council of Governments (INCOG)



## 1.0 Project Description

The Indian Nations Council of Governments (INCOG) and the Muscogee Nation (Project Sponsors) are requesting \$16.20 million in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) funding to complete the **Tulsa-Jenks Multi-Modal Safety Project** (the project). This regionally significant project will connect communities in the City of Tulsa and City of Jenks via multi-use trails to a voter approved, locally funded pedestrian bridge and low water dam which will be constructed across the Arkansas River (Figure 1 and Figure 2), fully completing a loop of multi-use trails throughout the project area. The project will provide associated roadway intersection safety and signal infrastructure (Figure 3) improvements to improve connectivity for all transportation system users in the project area, making it easier to access the riverfront for safer travel, recreation, and economic development opportunities.

RAISE funding is needed to fully fund the **Tulsa-Jenks Multi-modal Safety Project**, a component of the larger trail system outlined in the [Arkansas River Corridor Master Plan](#), the rest of which including a pedestrian bridge across the River, is funded through voter-approved funding and partnerships. The RAISE project will connect regional destinations and economic hubs to the overall Arkansas River Trail System with 7.75 miles of new multi-use trails on both sides of the river, which corresponds to a **30% increase in trail infrastructure along the river and 6% increase in miles of multi-use trails** in the Tulsa metropolitan region.

[INCOG](#), the [Muscogee Nation](#), the [City of Tulsa](#), and the [City of Jenks](#) are partnering to construct the multi-modal trail system to enhance safety and accommodate all users, including micro-mobility options, along the east and west banks of the Arkansas River (Image 1). The project will **improve safety and provide necessary community connections throughout the Tulsa region, improving quality of life and economic opportunity for historically disadvantaged communities and areas of persistent poverty** within the project area.

This project will extend the existing River Park trails, the backbone of the Tulsa regional trail system, by 7.75 miles, adding to the 26 miles of trails along the banks of the Arkansas River. The trail portion of the **Tulsa-Jenks Multi-Modal Safety Project** will be a dual trail with a 10-foot wide side for bicycles and other active mobility options such as e-scooters, and an 8-foot pedestrian side, separated by a variable median in some locations or a marked center line with directional striping, or a 10-foot trail. This RAISE project would include necessary safety improvements to the Riverside Parkway, running adjacent to the trail system in order to mitigate crashes related to increased pedestrian and cyclist trips as people access the trail system.

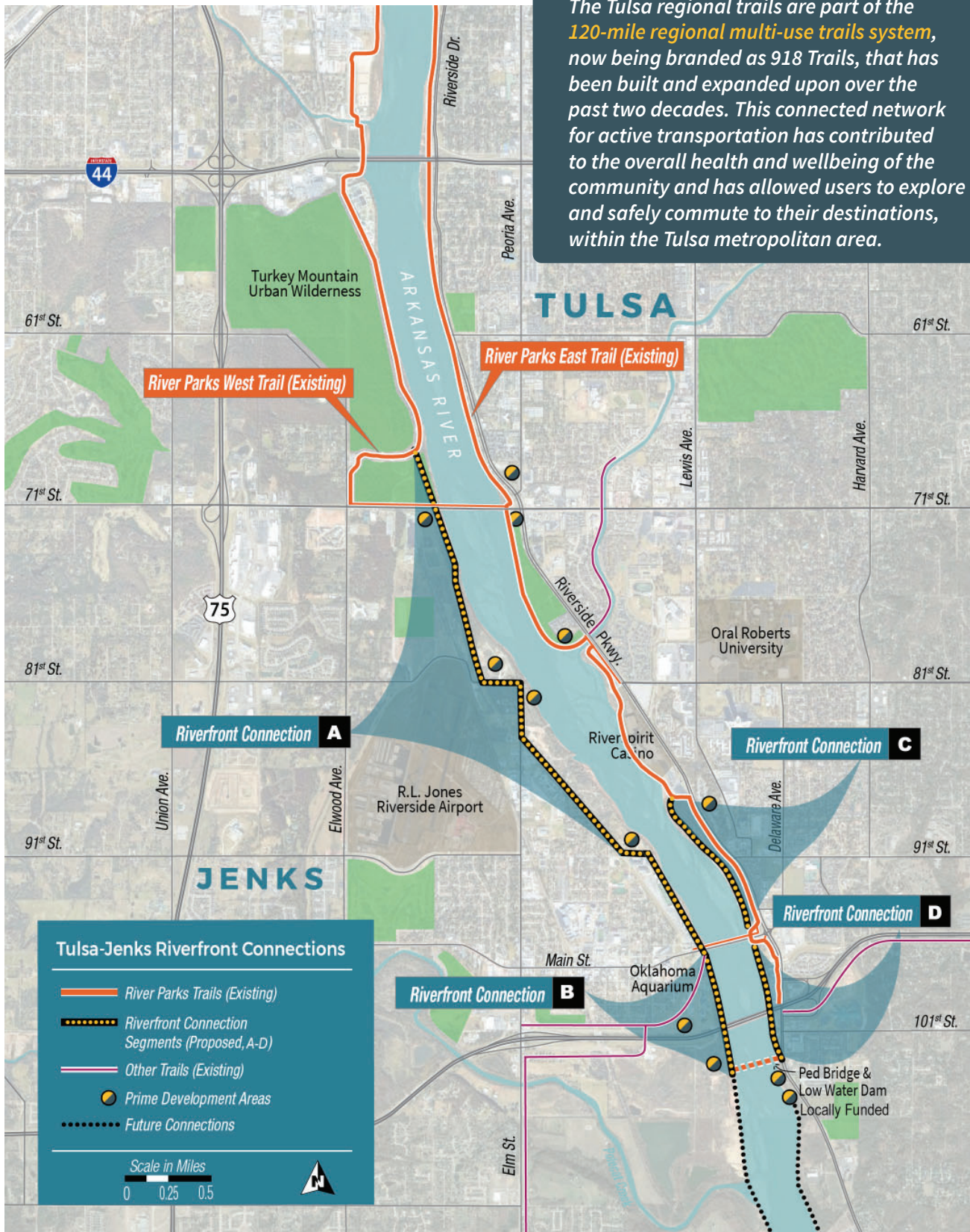
*“INCOG’s corridor project will construct safe connections from neighborhoods to businesses as well as major destinations in the south Tulsa/Jenks area that are along the river including the Oklahoma Aquarium in Jenks and the Turkey Mountain Urban Wilderness in Tulsa. The river corridor is a potential economic driver that has yet to see its full potential, and this project will accelerate this economic growth.”*

**- Senator James Inhofe**

**The following improvements are included in the Tulsa-Jenks Riverfront Connections Project:**

- Construct 7.75 miles of multi-use trail along both banks of the Arkansas River
- Install four bike share stations with 10 geofenced bikes, including e-bikes, at key trailhead locations
- Install Electric Vehicle (EV) charging stations at trail heads on both sides of the Arkansas River
- Install improved trail signage in the project area and throughout the regional trail system
- Upgrade crosswalks at various arterial street intersections along Riverside Parkway, making Americans with Disabilities Act (ADA) improvements

Figure 1: Project Map



The Tulsa regional trails are part of the 120-mile regional multi-use trails system, now being branded as 918 Trails, that has been built and expanded upon over the past two decades. This connected network for active transportation has contributed to the overall health and wellbeing of the community and has allowed users to explore and safely commute to their destinations, within the Tulsa metropolitan area.

## 1.1 EXISTING TRANSPORTATION CHALLENGES

Major gaps exist in the project area that restrict the capacity of the existing multiuse trail system to accommodate current user demand. Future demand will be generated from new riverfront development.

It is also expected that the number of trail users will continue to increase due to lifestyle changes from the COVID-19 pandemic. Lastly, the region's aging residents, who no longer wish to drive or those unable to afford a car, are seeking access to trails for active transportation, economic, and recreational activities.

Compounding the challenge of unsafe connections is the inadequate capacity, unsafe location and deterioration of existing section (Segment C) of trail to be rebuilt as a state of good repair. These sections of trail were not built to the current standards and do not have adequate base, trail width, signage or drainage to be adequately maintained in a state of good repair. Poor drainage contributes to water ponding on the trail from storm water runoff after heavy rainfall, often restricting users from utilizing sections of trail. The trail system deficiencies, if left untreated, will continue to be unsafe for all types of trail users.



## 1.2 ADDRESSING TRANSPORTATION CHALLENGES

The **Tulsa-Jenks Multi-Modal Safety Project's** 7.75 mile trail extension will connect to a locally funded pedestrian bridge across the Arkansas River approximately 1-mile south of the existing 96th St Bridge, providing another vital connection as there are only six existing pedestrian bridges over 25 miles of the river in the urbanized area of Tulsa. The new multiuse dual trails, combined with the already funded south Tulsa/Jenks pedestrian bridge and low water dam, will generate numerous benefits along the corridor, including, and most importantly, enhanced safety and more direct connections for pedestrians and bicyclists accessing destinations on both sides of the river including regional entertainment districts and economic hubs.

### The project will address the following challenges:

- Unsafe travel conditions for pedestrians, bicyclists, and vehicles due to lack of existing trail access, unsafe trail conditions, nonexistent or discontinuous multiuse trails, and an adjacent high-speed roadway with free-flow traffic and speed limits of 45-50 mph with limited safe crossings
- Limited multimodal connections between Jenks and Tulsa for persons without personal vehicles which inhibits regional, inter-city travel
- Few reliable connections to important landmarks and destinations like the Turkey Mountain Urban Wilderness, downtown Jenks, the Oklahoma Aquarium, and planned Tulsa Outlet Mall in Jenks
- Inefficient and unsafe access from Riverside Parkway to the trail system. Intersections with no clearly marked median openings for safe crossings and signalization that is antiquated.

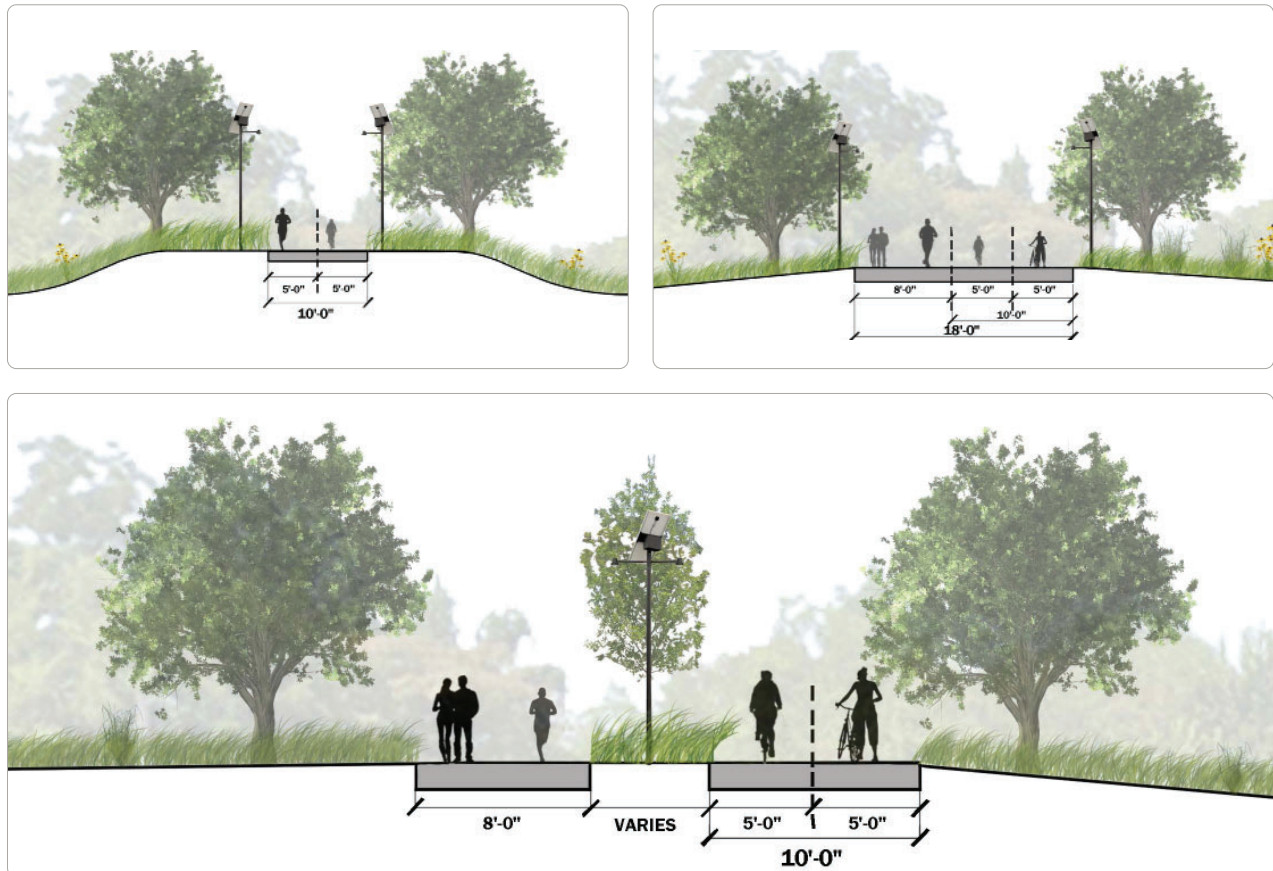
The project will serve as an important quality of life asset and economic connection between the communities of Tulsa and Jenks. As a part of the larger Arkansas River Corridor Vision Plan, the project will connect high-profile developments, properties and locations on each side of the river.



## 1.3 SCOPE OF WORK

The **Tulsa-Jenks Multi-Modal Safety Project** has dual aspects intended to provide safe and impactful outcomes for the surrounding community: Trail Improvements and Enhanced Connectivity & ADA Access Improvements on Riverside Parkway.

**Figure 2 . Example Cross Sections of New Trails**



### 1.3.1 Trail Improvements

The project will fund four critical linkages between and within local jurisdictions, the City of Tulsa and the City of Jenks (Figure 1). Chief among the improvements is improved access for residents to the trail system, as well as addressing storm water mitigation and resiliency aspects to complete the robust trail system.

**The project consists of three major components:**

**1. West Bank Trail - Segment A** - Construction of west bank multi-use trail connecting Turkey Mountain Urban Wilderness at 71st Street in Tulsa to River Walk Crossing (approximately 96th Street) in Jenks;

**Segment B** - Construction of west bank multi-use trail from existing trail terminus near 96th Street to the planned locally-funded south Tulsa/Jenks pedestrian bridge and low water dam in Jenks;

**2. East Bank Connection Trail – Segment C** - Reconstruction of east bank multi-use trail connecting River Trail south of the RiverSpirit Casino at 86th Street to 96th Street Bridge in Tulsa; **Segment D** - Construction of new multi-use trail along a new alignment on the east bank of the Arkansas River from 96th Street to 104th Street in Tulsa.

**3. Intersection Safety Improvements** – Eight arterial intersections are identified that are hazardous for pedestrians to cross because of lack of median refuges, identifiable intersection crossings, and require signal upgrades for pedestrians to cross Riverside Parkway more safely.

**The trail improvements portion of the project will include the following design elements and features:**

- Construction of new multiuse trails to adopted trail design standards
- Designed to meet ADA access standards
- Trail heads with sufficient parking for users including Electric Vehicle (EV) charging stations
- Designated micro-mobility parking and storage at major trail heads
- Low Impact Development (LID) design standards including landscaping features
- Improved LED lighting along the trails and trailheads and
- Concrete edges with asphalt trail tread to avoid edge failure and to withstand flooding

**1. West Bank Trail - Segment A – 71st Street in Tulsa to 96th Street in Jenks**

The proposed trail will extend the existing west bank River Parks trail from Turkey Mountain Urban Wilderness area at 71st Street to Riverwalk Crossing at 96th Street in City of Jenks. The Turkey Mountain Master Plan, developed with public input, envisions a major expansion of the park and mountain bike trails, adjacent to this West Bank Trail Segment (or Segment A).

The new multi-use trail will be located on public property primarily on top of or adjacent to a Tulsa County Levee and provide an integral community connection to this recreational area.

**The Tulsa District US Army Corps of Engineers (USACE) have been consulted in the conceptual plan development of this trail segment and have expressed support to build a 10-foot-wide trail on top of the existing levee. The construction of this project element will connect the users of the Turkey Mountain Urban Wilderness and destinations in the City of Jenks including the Oklahoma Aquarium and Jenks River Walk Crossing. Conceptual planning has been completed for this project.**

**2. West Bank Trail - Segment B – 96th Street to 104th Street in Jenks**

To connect the City of Jenks, Riverwalk Crossing, and the Oklahoma Aquarium with the locally funded Tulsa/Jenks pedestrian bridge and low water dam, a resilient 18-foot (8' for pedestrians and 10' for bicycles) multiuse trail will be constructed. Segment B of the trail will have designated bicycle and pedestrian pathways to minimize conflicts and allow for safe travel, per River Parks standards. The new dual-use trail will be located along the west bank of the river and will connect the 96th street bridge, River Walk Crossing, the Oklahoma Aquarium and the locally funded low water dam and pedestrian bridge.

**3. East Bank Trail - Segment C - 86th Street to 96th Street**

Segment C of the trails project will reconstruct the existing trail from the 96th Street pedestrian bridge to the River Trail south of the River Spirit Casino at 86th Street, on the east side of the river. This project element will include constructing an 8-foot wide pedestrian pathway and 10-foot bicycle pathway, separated by a grassy strip to minimize conflicts and allow for safe travel (Figure 2). The new multi-use trail will be located within the existing City of Tulsa road right of way, City owned property or trail easement area. This Segment will enable a larger regional tourism/entertainment district strategy that will connect commuters to jobs on either side of the river. Design, construction documents, clearing and site preparation are moving forward and funded at this time.



#### 4. East Bank Trail in Tulsa - Segment D – 96th Street to 104th Street

The future south Tulsa/Jenks pedestrian bridge and low water dam (locally funded, not part of RAISE request) will provide a vital community connection between the City of Jenks (west) and the City of Tulsa (east). To connect to this future element, the RAISE project will construct a new trail away from congested intersections near the Creek Turnpike and Riverside Parkway on the east bank of the river. The new multi-use trail will be rerouted along the Arkansas River under the elevated bridge structures of the Creek Turnpike. The existing trail crosses numerous commercial driveways of busy shopping centers where cars and trucks constantly conflict with pedestrians and bicyclists. The new trail design will have designated bicycle and pedestrian pathways to minimize conflicts and allow for safe travel. Elements will include constructing an 18-foot wide dual multi-use trail from 96th street to 104th street, constructed on public lands, rights of way or trail easements (Figure 3). The future private development mentioned previously will create many recreational destinations for residents and may include a rock-climbing wall, playground, an amphitheater, picnic areas, a boat ramp and parking.

Figure 3. East Bank / South Tulsa Trail (Segment D) Tulsa



*“The project combines two elements that are high priorities for the City of Tulsa - infrastructure investments to encourage and support active transportation to promote healthy lifestyles and provide safe transportation choices.”*

**- Mayor of Tulsa, G.T. Bynum**

### 1.3.2 Enhanced Connectivity & ADA Access Improvements

In order to enable a safe and integrated active transportation system connecting to the trail system, the project will include signal and other roadway upgrades. The following upgrades to Riverside Parkway will increase access to the trail system, reflecting the safety and connectivity priorities of the overall project.

– **Missing Sidewalk Gaps** – From 101st street near the southern end of the project location, to 96th street a half-mile north, there is a sidewalk gap, leaving a non-continuous sidewalk. This project will connect the two ends, creating continuous sidewalk access on the east side of Riverside Parkway, increasing access to adjacent residential and commercial sites throughout the corridor and connecting to the trail system.

Figure 4. Sidewalk Gap from 101st to 96st



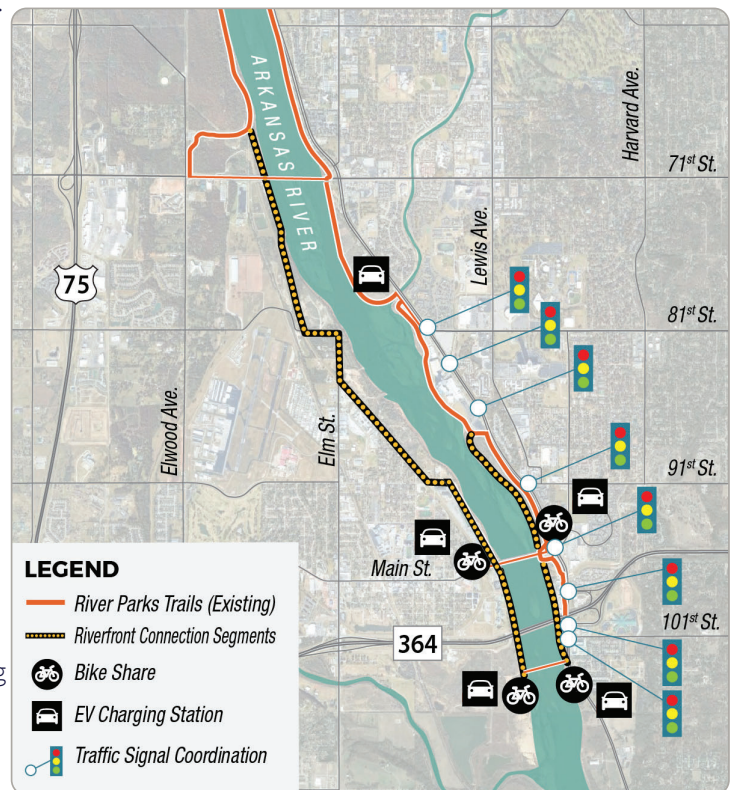
– **Signal Upgrades, Intersection Safety, ADA Improvements** – Improvements at the signalized intersections mentioned above will include continental crosswalks, high-visibility road markings that will bring these pedestrian crossings into compliance with the Americans with Disabilities Act and improving safety and access for disabled residents and visitors of Tulsa and Jenks.

a. **Traffic Signal Coordination (Figure 5)**–

Eight signalized intersections along Riverside Parkway will receive communication improvements that will positively impact the reliability and efficiency of the roadway. This upgrade will utilize innovative Traffic Video Detection Cameras and broadband communications technologies to ensure advanced traffic signal coordination, improving the safety and efficiency of the roadway. Additionally, this upgrade will add power backups to these signals, all of which have no backup, leading to delays along the roadway as signals are interrupted during outages.

b. **Pedestrian Countdown** – currently there are no pedestrian countdown timers at these signalized intersections, where the roadway is much wider, with six lanes of traffic and turning lanes. Pedestrians are forced to cross up to six lanes of traffic at six signalized intersections, with no count-down timers or pedestrian refuges. This upgrade will improve the safety of pedestrians and bicyclists crossing the roadway.

Figure 5. Enhanced Connectivity & ADA Improvements Map



- **Bikeshare stations** – Four additional bikeshare stations will be constructed in the project area, complementing 220 existing bikes geofenced within an 8-mile range all located within the City of Tulsa. Currently, the City of Jenks does not have any bikeshare stations on its portion of the 918 Trails. RAISE funding will allow for residents of Jenks to have greater access along and across the river by providing this micromobility option. See Figure 5 for the bikeshare locations.
- **Electric Vehicle Charging Stations** – Electric Vehicle (EV) charging stations will be constructed at trailheads on each side of the low water bridge and pedestrian dam, making this location not only a crossing of the Arkansas River, but also an efficient destination for EV owners. See Figure 5 for the EV charging stations.



## 1.4 PROJECT HISTORY AND REGIONAL VISION FOR SUSTAINABLE DEVELOPMENT

INCOG and RAISE project partners, citizens, county and local officials, and the USACE produced and adopted the Arkansas River Corridor Master Plan in 2005.

The Arkansas River Vision Plan identified the public's 'vision' for Arkansas River improvements and potential development along the 42 miles of river in Tulsa County. Public input was extensive and identified river development as a main priority, including more consistent water levels in the river which presently fluctuate daily with hydropower releases from upstream, development and recreational areas along the corridor, better connections and access to the river, and conservation and improvement to the native riverine habitat. The Arkansas River Corridor Master Plan further evaluated the Vision Plan concepts and recommendations, prepared conceptual plans for potential development areas, and prioritized locations of new low-water dams along the river corridor.

The USACE and Tulsa County continued the evolution of the Master Plan by beginning the collection of seasonal environmental data from the corridor that will be required for the Environmental Permitting process. This third phase of the master planning process was completed in early 2009 with the completion of the Arkansas River Corridor Ecosystem Restoration Plan.

The **Tulsa-Jenks Riverfront Connections Project** is a direct output of this nearly 20-year master planning process for protection and sustainable use and development of the Tulsa region's most definable physical feature and environmental asset, the Arkansas River. The Arkansas River is the nation's 6th longest river stretching from the Rocky Mountains to the Mississippi River.

**Tulsa Region Visioning Statement:** *In the year 2025, the Tulsa Region will be the Nation's best place to live, work and play. The Tulsa Region will be vibrant, prosperous and economically and culturally diverse. In partnership with all communities in the region, we will present multiple economic activity centers anchored by a strong downtown Tulsa.*

**River Vision Statement:** *We recognize the Arkansas River as our greatest natural asset; it is protected and enhanced with compatible development and serves as a major attraction.*

Additional regional and environmental studies are discussed in the Environmental Risk Review section.

## 1.5 PROJECT BENEFITS

Benefits of this project are summarized below and described in more detail in Section 4.0 Selection Criteria.

Figure 6. Project Benefits





## 2.0 Project Location

### Project Coordinates:

**Latitude: 36.013222, Longitude: 95.948048**

The project is located within Oklahoma’s First Congressional District in the cities of Tulsa and Jenks, in Tulsa County. INCOG, the Muscogee Nation, and project partners are dedicated to creating a safer, longer-lasting multi-modal travel experience for motorists, pedestrians, and cyclists along a growing recreational and commercial corridor.

**Figure 7. Regional Project Map**

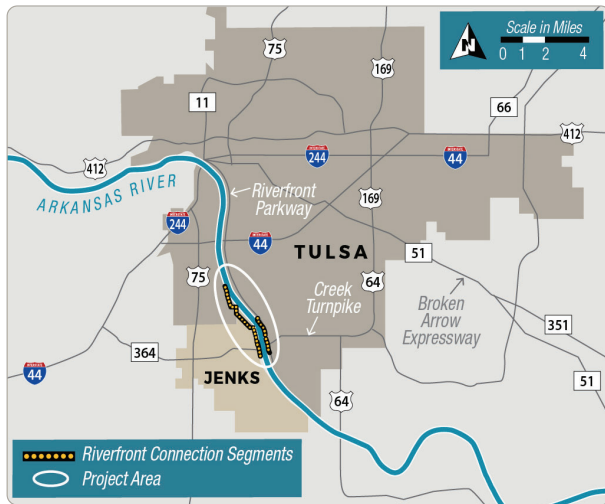


Figure 9 illustrates the proposed RAISE project area with reference to the City of Tulsa and City of Jenks along with major highways.

The **Tulsa-Jenks Multi-Modal Safety Project** runs parallel to Riverside Parkway and to several, nearby major arterials. The trail construction, reconstruction and enhancements of the project will have numerous pedestrian and bicycle access points along the east and west banks of the Arkansas River to major roads.

The project is centrally located within a major recreational, commercial, and residential corridor and will complement the existing transportation infrastructure by providing increasingly diverse multimodal options.

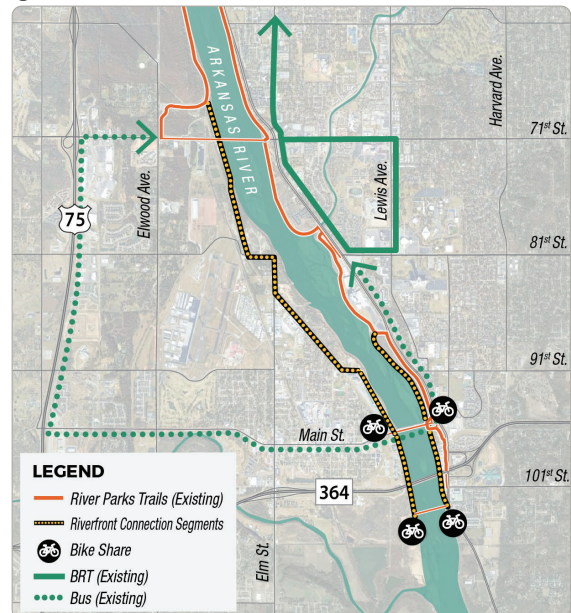
## 2.1 CONNECTIONS TO EXISTING TRANSPORTATION INFRASTRUCTURE

Riverside Parkway is a scenic drive classified as a Principal Arterial that connects residents living in the City of Tulsa with downtown Tulsa, while serving the community of Jenks as well as other suburban commuters on a daily basis. The roadway carries in excess of 35,000 vehicles per day and the posted speed is 45 or 50 miles-per-hour in the vicinity of the project area. It is a four-lane divided parkway with six traffic signals between 91st and 101st Streets where roadway crossings are hazardous for pedestrians. This project will not only improve and extend the river trail safely separated from the high-volume high-speed roadway, it will improve roadway signal and pedestrian infrastructure to directly benefit the trail system connection.

### 2.1.1 Transit and Bike Connections

Bus service is available in the corridor through the Metropolitan Tulsa Transit Authority (Tulsa Transit). Service is provided by route 500 serving Tulsa and Jenks and the AERO Bus Rapid Transit in Tulsa. The RAISE project will serve as an essential last mile connection to public transit service in the corridor.

**Figure 8. Transit and Future Bikeshare Connections Map**



All Tulsa Transit buses have bike racks, a popular feature that has been widely used by commuters needing last and first mile connections. The existing 96th street bridge serves the purpose of automobile connectivity in the project area, while the project itself would expand the bicycle and pedestrian catchment area for increased usage of the new trails.

The City of Tulsa was the first city in North America to install a bike share system in 2007 sponsored by a local hospital. At present, [This Machine](#), the branded public-private partnership operated by the Tulsa Bike Share Inc., expanded coverage in the region and planned for additional linkages to the RAISE project. Pedal-assist bikes will transform the use of trails, making them accessible to more people than they already are. The project will create new connections and enhance existing trails to one of the United States’ most avid cycling communities, and further integrate Tulsa Bike Share, Inc. as a critical component of Tulsa-Jenks’ transportation network.

There are currently no bike share stations on the west side of the river in Jenks. This significantly reduces the incentive for bikeshare users to access the trail system for economic and recreational opportunities on the other side of the Arkansas River in Tulsa. The **Tulsa-Jenks Riverfront Multi-Modal Safety Project** will address this deficiency by providing the opportunity for several bikeshare stations on the west side of the Arkansas River in Jenks, further improving the community and transportation connections for residents and visitors alike.

**Table 1. Demographics Within .5 Mile of the Project**

ITEM	#
Population	14,760
Total Employed	7,480
Median Household Income	\$45,943
Per Capita Income	\$35,945
% of Population in Poverty	22%
% of Zero Vehicle Households	7%
% of One Vehicle Households	49%

*Source: Demographics Now - Easy Analytic Software, Inc.*

## 2.2 KEY PROJECT AREA DEMOGRAPHICS

INCOG and the Muscogee Nation are dedicated to enhancing the corridor in order to create a safer pedestrian and bicycle traveling experience in order to link residents and visitors to the surrounding areas in an efficient manner.

The project fulfills a critical need in both Tulsa and Jenks. Beyond serving the existing pedestrian and cycling community, the project will also support and uplift groups of people from low or no-car households, low income households, and blue-collar workers looking for a more affordable means of transportation.

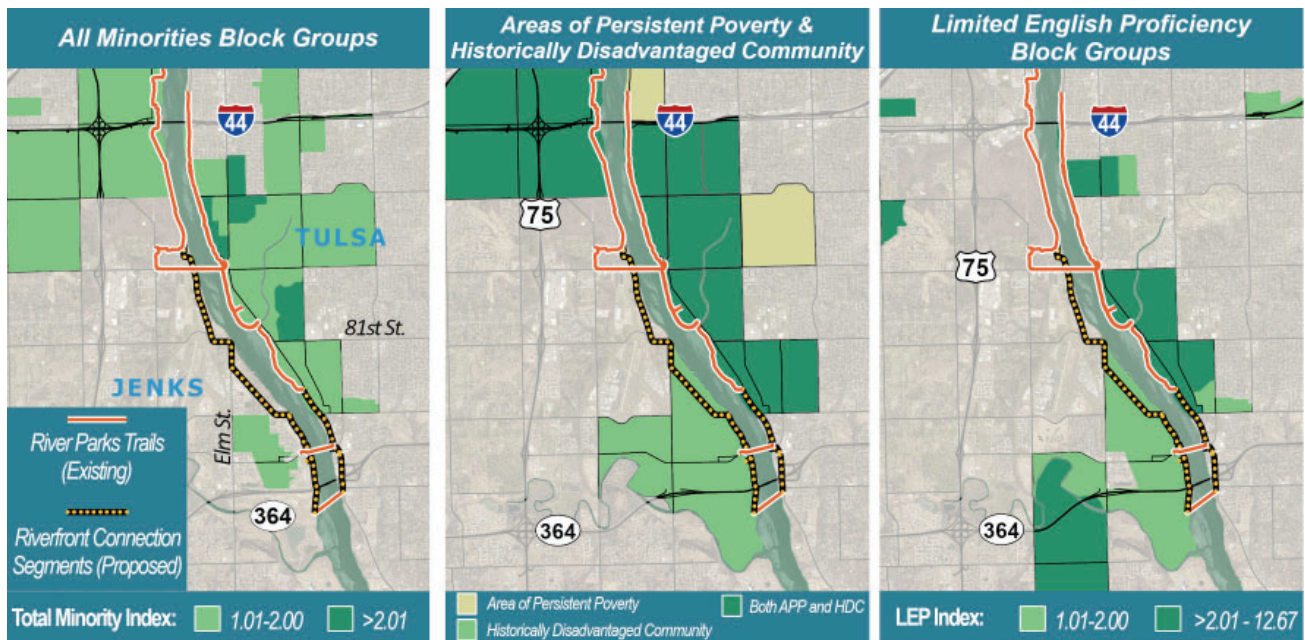
**Equity Considerations in Tulsa:** In January 2021, the President of the United States released an Executive Order On Advancing Racial Equity and Support for Underserved Communities. The Tulsa-Jenks Riverfront Connections Project aligns with the federal government’s priorities outlined in this Executive Order by advancing equity and reducing barriers to opportunity for historically underserved, marginalized, and populations adversely affected by persistent poverty and inequality. The effects of historical marginalization, inequity, and violence towards people of color in the Tulsa region is still seen today in the Area of Persistent Poverty, Historically Disadvantaged Communities and low-income neighborhoods in and around the project area.

This RAISE project has the potential to address these historical barriers to opportunity and inequity by providing a healthy and safe way for residents to access opportunities on both sides of the Arkansas River.





Figure 9. Areas of Persistent Poverty, Historically Disadvantaged Community, Minority, and Limited English Proficiency Communities



Numerous Census Tracts in the project area meet USDOT’s definition of [Area of Persistent Poverty](#) or [Historically Disadvantaged Community](#), including Census Tracts 67.03 (HDC), Tract 76.25 (APP and HDC), Tract 76.41 (APP and HDC), and Tract 76.42 (APP and HDC) Figure 9 displays the Areas of Persistent Poverty, Historically Disadvantaged Community, minority, and limited English proficiency populations directly adjacent to the project area. As can be seen, this project will improve walking and biking connections for these historically disadvantaged populations, many of which come from low or no-car households.

The project itself is embedded within the heart of the south Tulsa/Jenks region and it provides broader alternative transportation, economic development, and recreational benefits to the region at large in light of visitor rates to the Turkey Mountain Urban Wilderness and projected visits to commercial areas along the Arkansas River like the planned Simon Outlet Mall in adjacent to the project area in Jenks.

*“I live in Jenks and commute by bike to downtown for work. Round trip, it’s about 24 miles. I do have a car, but I choose to commute because it allows me to fit in exercise and sort out my day amid my busy schedule. I find I’m more productive at work and constructive at home. Currently, part of my commute is on Elwood and the increase in traffic has led to numerous close calls with distracted drivers. Extending the River Parks trail on the west side from Jenks to Turkey mountain would make it safer for me and other cyclists to commute and find safe passage to South Tulsa. I also foresee that a safe thoroughfare would promote more people to commute via bike from South Tulsa, especially with the popularity of electric pedal assist bikes.”*

**-Chad Cagle  
Jenks, OK resident**



## 3.0 Grant Funds, Sources and Uses of Project Funds

INCOG and Muscogee Nation are requesting \$16.20 million in FY22 RAISE grant funding to augment \$4.05 million in local funding sources from the City of Tulsa, the City of Jenks, the Tulsa River Parks Authority and INCOG. The project's funding plan is presented below. The project will be fully funded with the \$16.20 million award, which makes up 80% of future eligible costs.

Notably, the total project cost of \$20.25 million does not include the locally funded south Tulsa/Jenks pedestrian bridge and low water dam as it is already an identified project with voter approved funding from both partner cities.

### 3.1 CAPITAL SOURCES OF FUNDS

The total RAISE project cost is \$20.25 million in Year Of Expenditure (YOE) dollars. The following section summarizes the project funding source descriptions. All matching funds shown for the RAISE project are fully committed to the project.

#### Description of Local Funds:

- The City of Tulsa has committed funding (\$3.0 million) for its portion of the project within its city limits through the voter approved Tulsa Vision Capital Improvement Program.
- The City of Jenks has committed funding (\$1.05 million) for its portion of the project within its city limits through the voter approved Jenks Vision Capital Improvement Program.
- INCOG, as the Metropolitan Planning Organization, approves regional Transportation Alternative Program (TAP) funds for pedestrian and bicycle projects. INCOG has previously committed \$1.0 million in federal funds to initiate design plans for trail segments within the project area.
- RiverParks Authority: The independent public trust authority has committed \$250,000 toward amenities along the multi-use trail system in the project area

**Table 2. Project Capital Budget by Source (\$million)**

	FUNDING SOURCE	FUNDING TOTAL	% OF TOTAL
Federal Funds	RAISE Grant Funds	\$16.2	80%
	City of Tulsa - Local Match	\$3.00	20%
	City of Jenks - Local Match	\$1.05	
Total Funding		\$20.25	100%

The project sources and uses table is shown in Table 3. The construction cost of \$20.25 million includes industry standard 15% in contingency funding and construction management funding.

### 3.2 CAPITAL USES OF FUNDS

Table 3 summarizes the project's annual costs by major project segment. As described above, the Federal, and Non-Federal funds will cover the total project cost.

**Table 3. Project Capital Budget Summary by Year of Expenditure (\$YOE)**

PROJECT ELEMENT	FY 2024	FY 2025	FY 2026	FY 2027	TOTAL
<b>Pre-Construction Costs</b>					
Survey, Design, Engineering	\$1.29	-	-	-	\$1.29
<b>Construction Costs</b>					
Four Trail Segments		\$3.35	\$6.52	\$5.23	\$15.10
Riverside Parkway Traffic Safety Improvements	-	\$1.29	\$1.29	\$1.29	\$3.87
<b>Total Project Funding</b>	<b>\$1.29</b>	<b>\$4.64</b>	<b>\$7.81</b>	<b>\$6.52</b>	<b>\$20.25</b>



*"I am both a cyclist and an Officer for Tulsa Police Department. I firmly support any project that will increase the safety of those who choose to walk and ride a bike to their destinations. The toughest calls are those crashes involving pedestrians and bike riders as I know the outcome is tragic."*

**- Officer Phil Forbrich, Tulsa Police Department**



## 4.0 Merit Criteria

### 4.1 SAFETY

The **Tulsa-Jenks Multi-Modal Safety Project** area presents numerous safety concerns and transportation challenges for pedestrians, bicyclists, and the motoring public as people access the trail system. Tulsa regional trails, comprising a more than 120-mile off-street system, forms a trunk network for both commuters and recreational users. The network of arteries of trails is overlaid with another 100 miles on-street system that form a complete alternative system of transportation for all active commuters. The challenge is to make it safer for everyone to access this existing system as Tulsa is set out to add another 100 miles of trails and on-system facilities over the next decade. Safety is the central theme, and the goal is to achieve zero fatalities for those utilizing the vast local network so that it would continue to attract new users.

The primary safety concerns that will be addressed by the **Tulsa-Jenks Multi-Modal Safety Project** are:

- Unsafe speeds and roadway conditions for mixing non-motorized traffic with vehicular traffic;
- Unsafe intersections where numerous vehicle collisions occur that pose even more danger to get across at eight arterial crossings in the project corridor.
- Lack of accessible infrastructure in compliance with ADA on both the trail and Riverside Parkway, due to gaps in the trail system and sidewalks that significantly limit mobility options;
- Lack of connectivity due to limited access points to cross the Arkansas River, thereby diminishing intercity travel for workers and recreation which disproportionately impacts communities of color identified previously;
- Unnecessary conflict points between trails and commercial driveways;
- Deteriorating trail conditions, particularly for the heavily used Segment C, that create unsafe conflict situations between cyclists and pedestrians; and

- Limited lighting creating unsafe environments for trail users, including 2nd and 3rd shift workers who may not have access to a vehicle.

*“As a firefighter and first responder, an emergency call to a bike vs motor vehicle or pedestrian vs motor vehicle crash always makes me sick and my stomach tighten. I have seen fatalities that one wishes to never have to experience. INCOG’s Multi-Modal Safety Project will create safer routes for cyclists and pedestrians because it will separate these vulnerable road users from high speeding traffic.”*

- Dave Weaver, 2019 Firefighter of the Year, City of Tulsa

Figure 10. Lack of Trail along Riverside Parkway



#### 4.1.1 Bike and Pedestrian Crashes

From 2016-2020, there were a total of 1,711 reported bike/pedestrian crashes within one mile of the project area (Table 4). Crash analysis conducted by INCOG determined that the contributing causes of these collisions were a lack of safe infrastructure to enable safe access for pedestrian and people on bikes based on existing roadway designs and travel speeds and unsafe conflict points between trail users and commercial driveways.

Figure 11, on the following page, depicts the crashes that have occurred within one-mile of the project area. In the past five years, lack of separation of people on bikes and pedestrians within the project

area have contributed to 6 pedestrian and 6 cyclist injuries.

To counteract this unsafe design practice prevalent in the area, the project will reduce conflict points and separate modes through trail design. As depicted in Figure 12, the proposed design completely separates non-motorized and motorized traffic through landscape and hardscape buffers and maintains ample spacing for all modes in narrow rights of way.

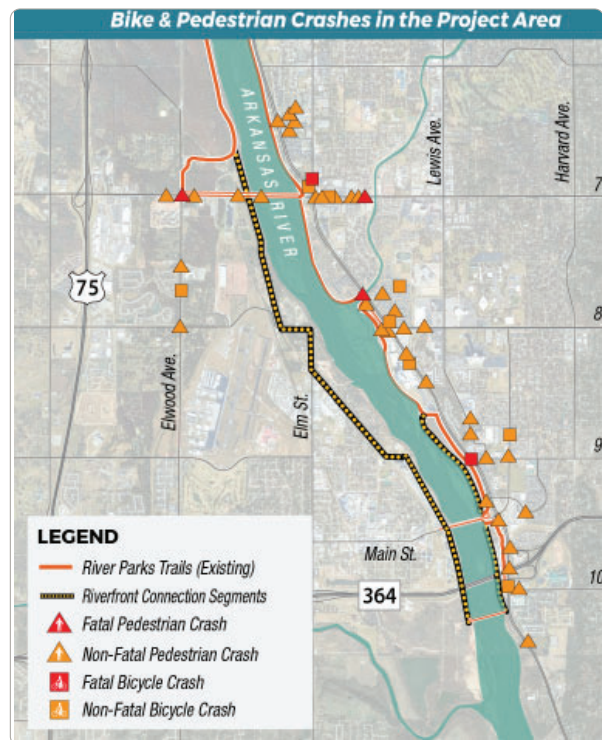
A recent example of these efforts yielding positive results has been the realignment of the east bank trail, away from Riverside Parkway to land along the Arkansas River behind the River Spirit Casino and Resort. Prior to the improvement there was an average of **4.33 bicycle and pedestrian crashes involving motor vehicles per year. In the three years since this trail opened, this rate was reduced to 1.33 bicycle and pedestrian crashes per year, a 69 percent reduction.** Additionally, on the Jenks side of the river, the trail system will be constructed on an existing levee, ensuring a full grade separation between the multi-use trail and the adjacent roadway. Clearly, the construction of the **Tulsa-Jenks Multi-Modal Safety Project** will result in positive safety outcomes for communities in the project area.

**Table 5. Bike and Pedestrian Collision Counts (2016-2020)**

COLLISION COUNTS	WITHIN 1 MILE OF PROJECT	WITHIN THE PROJECT AREA
All Collisions	1,711	326
Total Injury Crashes	341	162
Total Pedestrian Crashes	107	6
Total Bicycle Crashes	23	6
Pedestrian Fatalities	6	0
Bicycle Fatalities	2	0

The project area injury crashes are nearly 50% of the total crashes, whereas injury crashes within a mile of the project are under 25%, indicating a higher rate of injuries within the project vicinity.

**Figure 11. Bike & Pedestrian Crashes in the Project Area**



#### 4.1.2 Quantified Safety Benefits

Based on local data and results, this project will reduce bicycle and pedestrian collisions by 60 percent. Much of the benefits come from the reduction in conflict points between the trail alignment and commercial driveways (a total of 12), and an increase in miles of separated trails. The result is a reduction of miles in which bike riders and pedestrians are forced to ride or walk in the street. Safety benefits of this project are expected as a result of separating cyclists and pedestrians from automotive travel.

Removing both current and future pedestrian and cyclist trips from the existing roadway will produce significant safety benefits for the cities of Tulsa and Jenks within the project corridor. The project anticipates \$13.12 million (2020 dollars, discounted at seven percent) in safety benefits due to accident reductions, which amounts to approximately 7 fewer accidents per year, including 5 fewer incapacitating injuries.

Figure 12. Before and After Images of Multiuse Trail by Commercial Area along Riverside Parkway



Table 5. Safety Incident Reduction, Build vs. No-Build Scenario, 2025-2044

SCENARIO	FATAL & INJURY (ANNUAL RATE)
No Build	25
Build	18

### 4.1.3 Safety Focus: Enhanced Connectivity and ADA Access Improvements

Riverside Parkway is an essential connection to the 918 Trails in Tulsa as it runs directly adjacent to the trail system. Motorists accessing the trails on the east side of the river use Riverside Parkway, and pedestrians or bicyclists traveling from the east must cross the high-volume, high-speed roadway in order to access the trail system. Several deficiencies currently exist on the roadway that have led to increased congestion and unsafe conditions for motorists and non-motorists alike. Close intersection spacing, school traffic, conflicting movements, sidewalk gaps, unreliable wireless communication and power, and road closures were all identified as contributing factors in a Congestion Memo prepared

recently (Appendix F). INCOG and the City of Tulsa plan to improve certain aspects of the roadway as part of the **Tulsa-Jenks Multi-Modal Safety Project** in order to better facilitate safe movement between Riverside Parkway and the trail system along the riverbank.

**These improvements include:**

- Completing Missing Sidewalk Gap – From 101st street near the southern end of the project location, to 96th street half a mile north, there is a sidewalk gap, leaving a non-continuous sidewalk.
- Making ADA Improvements at Signalized Intersections – Improvements at the signalized intersections will include continental crosswalks and high-visibility road markings that will bring these pedestrian crossings into compliance with the Americans with Disabilities Act. Not only will this improve access for disabled residents and visitors of Tulsa, it will ensure safety and protection for those users where there was none before.

The safety improvements made on Riverside Parkway are essential elements of the project as they provide a holistic connection for pedestrians and bicyclists traveling to utilize the Arkansas river trail system.

#### 4.1.4 Regional Planning for Safety

While the project is intended to provide safety benefits in the near-term, the need for these safety improvements was identified as a priority in the region's long-range plans. [Connected 2045](#), the long-range regional transportation plan, prioritizes the project as a key future investment to enhancing the overall safety of Tulsa's bicycle network. One of the plan's primary goals is to, "improve safety and security for all users of the transportation system by applying strategies that reduce fatal and injury crashes in the Tulsa metropolitan area." INCOG partners with local non-profit groups and the Oklahoma Highway Safety Office aim to bring awareness and fund projects that enhance bike and pedestrian safety, through the Travel With Care initiative, an annual [INCOG-OHSO program](#). This project is not only in complete alignment with current regional safety objectives, it is also the keystone project in the [Arkansas River Corridor Master Plan](#) (2005), a document that has guided planning and implementation of improvements in the corridor for over fifteen years.

The focus of planning activity was to enhance the Arkansas River by improving safety, access, and mobility to, through, and around this local and regional natural resource.

## 4.2 ENVIRONMENTAL SUSTAINABILITY

The **Tulsa-Jenks Multi-Modal Safety Project** will mitigate adverse environmental impacts to air quality in the region by reducing idling, thus reducing greenhouse gas emissions. Tulsa Metropolitan Statistical Area (MSA) has been on the cusp of marginal non-attainment for decades and INCOG and the EPA recognized [regional Ozone Alert!](#) program annually promotes alternative modes of travel on declared Ozone Alert! days that advocate walking and biking. These trail improvements would enhance the availability and access to both these modes so that the Tulsa region would continue to be in attainment for Ozone.

Further, the project will help improve water quality with natural stormwater mitigation practices. The project sponsors have designed the project to enhance the riparian buffer along the river, reducing

overall erosion and improving habitats for local species. An added benefit of this improvement is the stormwater mitigation benefits, as riparian zones have been shown to [significantly reduce stormwater runoff](#) by increasing groundwater filtration in a natural manner. Additionally, several low-impact development (LID) techniques will be utilized and are described further below.

The project will continue to follow environmental sustainability practices that have and are being implemented in numerous ways by the cities of Tulsa and Jenks, Tulsa County, and the Oklahoma Turnpike Authority for other developments along the river corridor, including Turkey Mountain Urban Wilderness and along the River Parks trail system.

**Not only will the new design improvements along the trail system increase the overall resiliency of this infrastructure asset, the following improvements will contribute to the overall environmental sustainability of the project.**

- **Practicing Low Impact Development (LID) or Green Infrastructure (GI)** - this design approach helps protect water resources by using techniques that absorb and filter storm water. Several LID techniques will be utilized on this project to contribute to lower stormwater flows and a healthier watershed. This includes [curb cuts](#), [permeable pavement](#) and [bioswales](#) that will redirect stormwater and put it to beneficial use for plant material while filtering the suspended solids.
- **Riparian Barrier Implementation and Improvement** - Planting hundreds of trees along the trail and trailheads, including numerous cottonwoods and American sycamores, will provide a riparian buffer that will not only extend habitat for local species but also reduce erosion in the project area. The [US EPA](#) has noted that riparian buffers are an effective, sustainable means of buffering aquatic systems (like the Arkansas River) against nutrient stressors such as nitrogen while also reducing erosion. Foliage planting will complement and comply with local standards to positively impact the environment to reduce erosion and improve habitats for local species.
- **Light Emitting Diode (LED) Lighting Implementation** - by replacing Cobra High Pressure Sodium (HPS) lighting to updated LED lighting on the project section will bring lighting

on existing sections of the trail into a state of good repair. The addition of new LED lighting on the sections of the trail will make a positive environmental impact. [A Department of Energy Study](#) found that LEDs have less negative environmental impacts over their entire lifecycle than incandescent bulbs like the ones currently being utilized in the project area.

- **Electric Vehicle (EV) Charging Stations** – EV charging stations will be installed at four project area locations, specifically at both ends of the the 96th Street bridge and the locally funded low-water dam and pedestrian bridge. By installing EV charging stations in the project area, INCOG and the Muscogee Nation hope to encourage more electric vehicle use as a way to access the trail system. Currently, there is very limited access for electric vehicle owners and users to charge their vehicles in the project area, which may lead some to choose a less sustainable method of travel to access the trail system.

All of the techniques listed above will directly contribute to the environmental sustainability of the project, but it is important to remember that inherently, this trail project will positively impact the environment by its very nature. Expanding access to active transportation modes will reduce greenhouse gas emissions throughout the project area as cars are taken off the road and people are encouraged to use these alternative modes of travel.

#### 4.2.1 Environmental Justice Screening

To screen the project area for EJ populations, eight EPA EJSCREEN demographic indicators and 12 environmental indicators were used (see Appendix G). Within .5-mile of the project area, several important demographic trends were noted. Over half (51 percent) of the population within a half mile of the project area are people of color. Ten percent of the households are linguistically isolated in this area, 48 percent of the population are low income, and 18 percent have less than a high school education.

Table 6 shows the EJ Environmental Indexes for the .5-mile buffer around the project area. Residents of the project area do not have favorable environmental outcomes for Particulate Matter, Ozone, Diesel PM, and Air Toxins compared to the state of Oklahoma, EPA Region ([EPA Region 6](#)), and

the nation. These impacts disproportionately fall on communities of color and other disadvantaged communities in the project area.

INCOG and the Muscogee Nation are dedicated to positive environmental outcomes for all residents of Tulsa and Jenks and will continue to use environmental justice tools and processes to guarantee those outcomes. Part of this commitment is the construction of the **Tulsa-Jenks Multi-Modal Safety Project**, which will increase active transportation choices and reduce idling, thereby reducing greenhouse gas emissions in the project area and other pollutants common to heavy roadway use.

**Table 6. EJSCREEN Results, .5-Mile Project Buffer**

EJ INDEX	STATE %	EPA REGION %	USA %
PM 2.5	86	64	77
Ozone	84	62	75
NATA Diesel PMM	88	69	75
NATA Air Toxics Cancer Risk	83	59	72
NATA Respiratory Hazard Index	87	67	77
Traffic Proximity & Volume	75	51	64
Lead Paint Indicator	70	62	68
Superfund Proximity	84	60	69
RMP Proximity	74	53	66

#### 4.3 QUALITY OF LIFE

The **Tulsa-Jenks Riverfront Connections Project** improves quality of life for all residents and visitors to the project area and in the region. With this transportation investment, the project partners are seeking to increase active transportation, facilitate upward economic mobility for lower income residents, improve health and wellness for all, and create new recreational and tourism destinations while protecting the region's most valuable natural resource, the Arkansas River.

##### These aspects are best summarized as:

- The project will improve mobility and affordable transportation choices for individuals, providing freedom to choose transportation mode, offering independence for aging and younger residents.



- By creating a safe off-street trail system that connects a wide range of destinations, regional and local, this project makes owning a bicycle or walking viable transportation alternatives. Additionally, ADA improvements in the project area will improve access for disabled residents, allowing for a safe, outdoor recreation space.

*“My neighborhood is near the trail system in Jenks and about two miles from the planned outlet malls in Jenks. I love the idea of being able to ride a bike with my girls to the mall instead of packing everyone into the car and driving around looking for a parking spot. I am excited for INCOG’s project and will definitely be using the new trails.”*  
**- Natalie Cagle, Jenks Resident**

- Lower income households will be able to use trails for walking and biking thereby saving on costlier transportation alternatives. Currently, communities within the Area of Persistent Poverty mentioned earlier and other disadvantaged communities in the project lack efficient access to the river. This inequitable situation will be resolved through construction of this project, mostly benefiting these disadvantaged communities that don’t currently have safe access to the river trails.
- Current estimates for this corridor show 7% of households do not own a single vehicle and 49% of households only own 1-vehicle. Average costs of vehicle ownership in Tulsa (over \$13,209 – 26% of income) are some of the highest costs in the country. Giving households the ability to supplement their transportation costs with more cost-effective, short-distance modes can be a significant economic boost to the household and creates opportunities for upward economic mobility for lower and middle-income residents.
- Oklahoma currently has one of the [nation’s highest obesity rates](#). Active transportation improvements have [been shown](#) to create opportunities for people to exercise and build physical activity into their daily routines. By reducing the distance to key destinations along the river and improving the bicycle and pedestrian facilities that connect those destinations, the project will contribute to the overall health and wellness of the Tulsa and Jenks population.

As a result of this project, the expansion of access to jobs on both banks of the river will be made possible without having to depend on an automobile or a license to drive. Table 7 lists many of these destinations which will have improved access to the expanded trail network.

**Table 7. Quality of Life and Livelihood Destinations**

<b>JOB CENTERS</b>	The Muscogee Nation owned and operated River Spirit Casino and Resort, Richard L. Jones, Jr. Airport, Tulsa Hills Shopping Center, Jenks River Walk Crossing, Citiplex Medical and Office Center, Jenks Downtown, Jenks Public Schools and the future Tulsa Outlet Mall in Jenks
<b>HEALTH CARE / MEDICAL</b>	Access Medical (Urgent Care), Utica Park Clinic, DLO Jenks Patient Center, OSU Medicine-Jenks/Riverside, Carter Health Care, Travis Chiropractic
<b>ESSENTIAL SERVICES &amp; DESTINATIONS</b>	Jenks High School, Jenks Freshmen Academy, Jenks Middle School, Tulsa Technology School, Walmart Super Center, Walmart Neighborhood Market, Reasors, Oral Roberts University
<b>REGIONAL DESTINATIONS</b>	Oklahoma Aquarium, Turkey Mountain Urban Wilderness

**4.3.1 Recreation Access Benefits**

The Turkey Mountain Urban Wilderness is an extremely popular recreational destination for multiple user groups throughout the region and the state. Turkey Mountain Urban Wilderness trails, and the multi-use trail system connecting to it, offers hikers, cyclists, trail runners, and horseback riders a shared space for healthy, recreational activity. In April 2020, Tulsa River Parks Authority revealed the Turkey Mountain Master Plan.

The new plan will expand the urban wilderness to more than 600 acres and add several new features such as new bike and pedestrian connections, a zipline facility, extreme bike courses and a velodrome. Along the Arkansas River to the north, the recently completed construction of The Gathering Place, offers the largest privately funded public park in the Nation for residents and visitors.

The **Tulsa-Jenks Multi-Modal Safety Project** will connect the regional trail system along the river to the Turkey Mountain Urban Wilderness, providing residents and visitors alike with an active transportation mode to access the Wilderness while connecting the Wilderness to commercial sites on the other side of the river.

**The RAISE project's resiliency improvements to the multi-use trails and shared paths along the river that connect to Turkey Mountain will support Turkey Mountain's diverse array of recreational options decades into the future.**

The project's multiuse trails are anticipated to decrease the vehicle miles of travel, by removing trips currently made via automotive vehicle and adding cycling and walking trips. Cycling and walking have positive health benefits for the population of the Tulsa region as well as mobility and sustainability benefits to the surrounding environment. The health benefits and benefits due to positive sustainable practices such as added cyclist and pedestrian travel are not counted in the benefit cost analysis.

#### **4.3.2 Riverside Parkway Enhanced Connectivity and ADA Access Improvements**

The Enhanced Connectivity and ADA Access Improvements proposed along Riverside Parkway will also significantly improve the quality of life for residents adjacent to the project area.

**Motorists will benefit from more efficient signaling, reducing travel and idle times and allowing for more efficient travel overall. As traffic movements are improved lanes and flashing yellow arrow implementation, drivers in the project area can expect to spend less time in traffic during peak hours.**

Additionally, ADA improvements on Riverside Parkway are essential in order to provide disabled residents with a safe and easy way to access the trail system, significantly improving quality of life for those residents as they will now be able to access employment, recreational, and commercial opportunities that were previously inaccessible.

## **4.4 MOBILITY AND COMMUNITY CONNECTIVITY**

Primary purpose of the Tulsa-Jenks Multi-modal Safety Project is to safely connect communities that are separated by the river, neighborhoods separated from the Roadway to the Trail, intersections that are disconnected from intermittent sidewalks in the project area.

These access and mobility challenges will be addressed with proposed local and federal investment. The RAISE project will provide safe crossings at the intersections with colored concrete crosswalks, pedestrian signals, center refuges, ADA ramps, upgraded video detection and linking signals for smooth flow of traffic. Project elements that are related to specific eight intersections as identified by the City of Tulsa of Traffic Engineer, will reduce delay and improve safety for vulnerable users. The project will provide safe crossings, build new sidewalks to fill the gaps, build a new trail for people to use for both commuting and recreational purposes. The RAISE project will also build adequate ADA ramps and signal timing plans to suit the needs of seniors and people with disabilities, there by improving access to mobility impaired population.

The core connectivity part of the RAISE project will build connections within Tulsa and Jenks to access existing facilities and connect with other facilities such as the planned pedestrian bridge across the River at 104th Street and Riverside Drive, scheduled to be built with locally approved funds.

In addition, the RAISE project will connect Turkey Mountain Urban Wilderness area with the community of Jenks utilizing the existing levee to make the connection as shown in designs. The outcome of the project is to ensure that modal equity and community connectivity is accomplished with the investment as proposed.

## **4.5 ECONOMIC COMPETITIVENESS**

A primary objective of the **Tulsa-Jenks Multi-Modal Safety Project** is to increase access between communities and jobs at regional employment centers. This project decreases transportation costs and improves reliability through the creation of a viable, affordable, active transportation alternative. The trail connections constructed by this project

will provide a safe, off-street trail network that is accessible to workers regardless of income level or health status. The proposed trail connections will provide direct access via off-street trails along the river to downtown Tulsa. Improvements to pedestrian facilities along Riverside Parkway will further enable this access. Tulsa's downtown is within ten miles of this project and is the location of over 35,000 jobs. This fully connected trail network will connect residential areas (workers) to numerous other employment centers, business districts, dining and entertainment hubs, and schools/universities through an active transportation alternative option.

The economic presence within the project area is increasing as the largest mall ownership group in the U.S., Simon Premium Outlets, anticipates construction of Tulsa Premium Outlets in Jenks. The 340,000-square-foot center of retail space will provide 800 jobs immediately adjacent to the proposed trail on the west side of the river. These outlets will not only benefit from the increased employment access provided by the project but will also increase foot traffic to businesses throughout as trail users are provided with a more efficient way to access the outlets. The enhanced trail will connect River Spirit Casino & Resort visitors and other users to additional regional destinations. Although not part of this project, the Muscogee Nation is planning for new developments in the project area upon completion of the low water dam, including operating a water taxi/shuttle service from the east to the west banks of the river. This new service, enabled by this RAISE project, is part of a larger regional tourism/entertainment district strategy that will connect commuters to jobs.

Despite these growing economic opportunities, transportation is still a major barrier for workers, with 22% of the population within the project area living in poverty. Only 66% of the eligible workforce, age 16 and above, were employed in 2019. Seven percent of these households do not own a single vehicle and 49% of households only own one vehicle. According to the Housing and Transportation Affordability Index (H+T), the average household in the Tulsa metro spends \$13,209 annually on transportation costs - 26% of their income, with housing also being 26% of their income. In comparison, Denver, Kansas City and St. Louis residents spend 18%, 23% and 19%

respectively on transportation. H+T Metrics also revealed that for neighborhoods within a mile of this project area, having trails reduced average annual transportation costs by \$1,000-3,000. The project will provide a variety of safe transportation options, allowing residents to choose what works best. Eliminating these transportation barriers with a trail network that supports safe and affordable transportation options will improve access and reliability for workers of the nearly 1200 existing small business establishments in the City of Jenks, over 500 employers in the corridor within the City of Tulsa and provide a direct access to the planned Tulsa Premium Outlets in Jenks adjacent to the Trail. The proposed project also provides direct access to the Muscogee Nation's Tulsa River Spirit Casino, enhancing access to over 1,500 jobs.

This project also increases the economic productivity of land adjacent to the Arkansas River, associated capital infrastructure investments, and the labor force living within the project area. It supports local investments in retail and restaurant properties along the riverfront by developing infrastructure that will support the movement of people and goods along the corridor.

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**The trail enhancements improve access to existing and planned commercial properties and ensure that the goods and services produced at these locations are more accessible to a wider variety of people in the Tulsa metropolitan area.**

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#### **4.5.1 Residual Value of the Trails**

As discussed in the Benefit Cost Analysis (BCA) Technical Memorandum, the design life of the trails will be 40 years. Per USDOT instruction, the project analysis period is equal to the construction period (three years) plus the useful life of the roadway (20 years), for a total project analysis period of 23 years (FY 2026 – FY 2046). At the end of the project analysis period, project partners will realize the additional benefit of the residual value of the trails that still exist. It is expected that there will be \$2.5 million (2020 dollars, discounted at seven percent) in residual value benefits through the end of the analysis period.

**Figure 13. Flooding along W. 81st Street Bike Route**

## 4.6 STATE OF GOOD REPAIR

INCOG's GO Plan [Bicycle/Pedestrian Regional Master Plan](#), an integral component of the Long Range Transportation Plan for Tulsa TMA and a part of the Pomprehensive Plan for Tulsa, not only identifies new trails but also seeks to maintain existing trails in state of good repair. Maintenance costs on trails and roadways are part of the plan to restore critical active transportation infrastructure to a state of good repair. The existing one-mile section (Project Segment C of the RAISE Project) of trail that is proposed to be rebuilt is in poor condition. This trail was built over 35 years ago and does not meet adopted local trail design standards, leading to a desperate need for replacement. It is an asphalt trail with an inadequate base which has resulted in tree roots pushing up the pavement, uneven trail surface resulting in water ponding at various locations during rainfall events.

**Figure 14. Existing West Bank Trail ends in a Goat Path**

Much of the west bank trail will be designed to be built on top of a flood control levee, which improves the levee system by creating a hard surface concrete

trail, reducing erosion and enhancing maintenance. This improvement will make future maintenance efforts and impacts due to flooding less costly and devastating. The Tulsa District USACE fully supports this project and the use of the levee as a base for the trail system. Tulsa County engineers and maintenance crew will be able to access the new hard-surface multi-use trail on the levee, allowing for ease of routine maintenance on the levee itself.

**Therefore, this project not only benefits the state of good repair of the trail system but enables more efficient maintenance of the levee system as well.**

### 4.6.1 Summary of Operating Funding

The project's operations and maintenance cost savings align with the national priority of maintaining a state of good repair. Further, maintenance has been considered throughout the design process as a quality assurance measure to ensure that the proposed improvements have a long-lasting benefit to the community and that future safety hazards associated with insufficient maintenance can be avoided. This will minimize lifecycle costs of the assets constructed or rehabilitated as part of this project. All of the proposed elements will be maintained as part of routine maintenance by agreements between and among the cities of Tulsa and Jenks as well as Tulsa County and the River Parks Authority.

The **Tulsa-Jenks Multi-Modal Safety Project** will be maintained throughout its lifecycle in accordance with federal asset management standards and local asset management policies, practices, and planned enhancements. After the project construction is complete, the annual operations and maintenance (O&M) costs of the project are estimated to be \$10,000 per mile annually. With a total of 7.75 miles of enhanced trail system, the total O&M cost is \$75,500 annually. The O&M costs include the costs for the City of Tulsa and the City of Jenks to maintain the trail, trailheads, signage, signals, and crosswalk repairs. Tulsa County contribution will be responsible for maintaining the levee portion of the trail. The City of Tulsa and the City of Jenks will be responsible for absorbing the remaining O&M costs within their respective annual operating budgets.

## 4.7 PARTNERSHIP

INCOG and the Muscogee Nation are committed to working with a broad array of stakeholders to complete the project successfully and seamlessly. These regional and local stakeholders are critical partners in completing the project, as demonstrated in Table 8.

**Table 8. Partnership Description**

PARTNER	RESPONSIBILITY	COMMITMENT
Indian Nations Council of Governments (INCOG)	Applicant, program manager and grant administration of the RAISE grant.	\$1.6 million in TAP funds currently committed
Muscogee Nation	Co-applicant – the project is located in the Muscogee Nation territory	Project Co-Applicant
City of Tulsa	Funding partner, responsible for design and construction of project elements within its corporate limits, and responsible for future maintenance.	\$3 million in capital costs and future maintenance
City of Jenks	Funding partner, responsible for design and construction of project elements within its corporate limits, and responsible for future maintenance.	\$1.05 million in capital costs & future maintenance
Tulsa County	Responsible for maintaining the levee and repairs which enables the trails to go on top of the levee.	Future infrastructure maintenance
Oklahoma Department of Transportation (ODOT)	Responsible for completing the NEPA process for the RAISE project.	NEPA coordination
Oklahoma Turnpike Authority (OTA)	Allowing existing Creek Turnpike Right of Way use under the Arkansas River bridge to accommodate trail and trailhead parking for the RAISE grant project to access new trail.	Right-of-way use
Tulsa District, US Army Corps of Engineers (USACE)	Responsible for permitting (Section 404 & 408 permits).	Permitting

**The project enjoys a broad cross-section of community support and stakeholder involvement.**

Letters of commitment and support from the following entities are attached in Appendix C.

- Indian Nations Council of Governments (Co-applicant)
- Muscogee Nation (Co-applicant)
- City of Tulsa (Sponsor)**
  - Mayor G.T. Bynum
  - City Councilor Phil Lakin
- City of Jenks (Sponsor)**
  - Mayor Cory Box
  - City Manager Chris Shrout
- River Parks Authority (Sponsor)
  - U.S. Senator Jame M Inhofe
  - Congressman Kevin Hern
- Tulsa County Board of County Commissioners
- Transportation Agencies**
  - Oklahoma Department of Transportation, Secretary of Transportation Tim Gatz
  - Oklahoma Turnpike Authority
- Other Community Support**
  - Tulsa Health Department
  - Tulsa Regional Chamber
  - Jenks Chamber of Commerce
- Jenks Public Schools
- Tulsa Community Foundation
- This Machine (Tulsa Bikeshare)
- Bicycle/Pedestrian Advisory Committee (BPAC)
- Humble Sons Bike Company & Bike Club
- Francis Energy
- King Investments

## 4.8 INNOVATION

**Innovative Design and Technology:** The project's design will replicate the innovative installation methods of the recently relocated river trail behind the River Spirit Casino and Event center along the project corridor.

**The project will include several components of innovative design and technology, such as:**

- Following the practice of [Low Impact Development](#) (LID) a design approach that helps protect water resources by using techniques such as bioswales and rain gardens that absorb and filter storm water before release to stormwater systems or waterways to reduce pollutant runoff and improve water quality.
- Concrete edges with asphalt in the middle of the trail to prevent edge failure and withstand stormwater runoff more durably without damaging the trail.
- Building the concrete paved trail on top of the existing levee by hardening the surface will improve maintenance access and minimize degradation of the levee while utilizing existing right-of-way.
- Installing LED lighting along various stretches of the project area for environmental and safety benefits.

- Flashing yellow arrow improvements, as well as improved signal communications that will significantly improve the reliability and efficiency of traffic-control devices on Riverside Parkway.

**Innovative Financing:** The project will take advantage of committed 15-year revenue stream known as [Vision Tulsa](#), made available by a voter approved measures in Tulsa and Jenks that commit bondable funds to this project.

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**This historic program is meant to sponsor economic development projects within Tulsa over 15-years, but as a result of work done by the City, over 80 percent of the 37 projects in Vision Tulsa were funded within the first five-years of the program.**

The Tulsa-Jenks Multi-Modal Safety Project will take advantage of this revenue stream, helping INCOG make accurate but flexible projections for cost management on the project.

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# 5.0 Project Readiness: Environmental Risk

The project is expected to begin construction in a timely manner. INCOG, the Muscogee Nation, and project partners have undertaken significant preparatory planning studies and regional planning efforts that support timely implementation of the **Tulsa-Jenks Multi-Modal Safety Project**.

## 5.1 INCOG’S EXPERIENCE ADMINISTERING FEDERALLY FUNDED PROJECTS

INCOG will be the primary entity implementing the **Tulsa-Jenks Multi-Modal Safety Project**. INCOG selects and coordinates other federally funded projects for both the Surface Transportation Block Grant Program (STBGP) and Transportation Alternatives Program (TAP) along with ODOT.

In addition, INCOG has experience in coordinating large federally funded projects and smaller ADA and trail projects with local jurisdictions, federal agencies and other state agencies. INCOG also administers Federal Transit Administration programs as a Designated Recipient for Section 5310 funds, overseeing multiple sub-recipients. Finally, INCOG successfully helped the City of Tulsa, the recipient of a previous USDOT TIGER Award, in completing the Riverside Parkway Project. In addition, INCOG works with the U.S. Army Corps of Engineers, local communities and the Tulsa Area Emergency Management Agency in working through any local environmental risks and hazards to various planning and permitting processes.

## 5.2 PROJECT SCHEDULE

The project is ready for a timely implementation with conceptual plans completed for nearly all project elements. With award of FY22 RAISE funds, project design and engineering will be complete by the first quarter of Federal Fiscal Year 2025. The project will be built on public lands, rights of way and easements. Construction is scheduled to begin for all project elements in FFY 2025 and be complete by September 2027.

**The project construction will begin in the following phases by each project segment as shown below.**

Figure 15. Project Schedule

PROJECT ELEMENT	DURATION	FFY 2023				FFY 2024				FFY 2025				FFY 2026				FFY 2027					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
<b>Pre-Construction</b>																							
Conceptual Plans	Oct '22 - Mar '23	█																					
RAISE Grant Award (Estimate)	Oct '23					◆																	
NEPA Categorical Exclusion	Apr '24 - Dec '24									█													
Survey, Design & Engineering	Jan '24 - Dec '24									█													
<b>Construction</b>																							
Four (4) Trail Segments	Apr '25 - Mar '27																	█					
ADA Improvements	Jul '25 - Mar'27																	█					
EV Charging Stations & Bike Share	Oct '26 - Jun '27																	█					
<b>Construction Complete</b>	Sep '27																					◆	

### 5.3 REQUIRED APPROVALS

**Environmental Permit and Review:** The National Environmental Policy Act (NEPA) process will consist of a Categorical Exclusion (CE) for this project. Partnering with ODOT, INCOG will obtain the CE for minor impacts throughout the project area. Significant environmental documents and analyses have been completed as a part of the Arkansas River Master Plan, including Water Quality Assessment, Cultural Resources Analysis, Biological and other specialist related studies. Extensive consultation has occurred by project partners with USACE and other State and Federal resource agencies. The NEPA process for the RAISE project is scheduled to be completed by fall of 2024. The NEPA Schedule is attached in Appendix E.

**Planning Consistency and Support:** The RAISE project segments were included and received significant public input and support from numerous planning and funding initiatives.

**The following adopted plans and programs identified and prioritized the project:**

- Tulsa Transportation Management Area Trails Master Plan, 1999
- Arkansas River Corridor Master Plan, Phase I Vision Plan, 2004
- [Arkansas River Corridor Master Plan, Phase II, Pre-Reconnaissance Study, 2005](#)
- Arkansas River Low Water Dams and Public Access/Recreational Improvements, 2015
- Tulsa Regional Bicycle and Pedestrian Master Plan, the GO Plan, 2015
- INCOG's Connected 2045 Regional Transportation Plan, 2017
- Turkey Mountain Master Plan, 2020

**Public Support and Outreach Activities:** Significant outreach has been undertaken for this project for the overall Arkansas River Corridor Master Plan, spanning 20 years of positive support for the project from the public and project partners. In addition, public support has been evidenced through community engagement activities for recent and current updates to the Jenks and Tulsa Comprehensive Plans.

### 5.4 ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

The project schedule allows for completion well before the statutory RAISE program deadlines. Table 9 lists the top three risks associated with the project and the mitigation plan for each.

**Table 9. Risks and Mitigation Strategies**

PROJECT RISK	RISK	MITIGATION PLAN
Cost Overruns	With any project, cost overruns are a potential, especially if the project is delayed	The Budget includes 15% contingency in addition to 3% annual cost escalation. Value Engineering process is envisioned to optimize the project costs. The project is also scalable with regard to amenities provided without reducing the trail connectivity. Should costs increase beyond the contingency budgeted, the cities of Tulsa, Jenks, and RiverParks Authority may use additional available capital funds.
Governance Framework	What makes the project unique are the multiple partners which also adds complexity – the diversity of public entities directly invested and responsible for project delivery	INCOG has a long-standing partnership in local transportation policy and governance with the City of Tulsa, City of Jenks, Tulsa County and ODOT. To ensure seamless project delivery all parties have agreed to the outlining of roles and responsibilities (Table 9).
Schedule	NEPA Process delay	ODOT will perform the environmental clearance and has extensive experience in clearing literally hundreds of federally assisted projects. The consultation with resource agencies and the studies done to date will mitigate any delays with the NEPA process.





## 6.0 Benefit Cost Analysis

A benefit-cost analysis (BCA) was conducted for Tulsa-Jenks Multi-Modal Safety Project for submission to the U.S. Department of Transportation (USDOT) as a requirement of a discretionary grant application for the FY 2022 RAISE Grants program. The analysis was conducted in accordance with the benefit-cost methodology as outlined by USDOT in the Benefit-Cost Analysis Guidance for Discretionary Grant Programs, released in March 2022. The period of analysis corresponds to 23 years and includes 3 years of construction and 20 years of benefits after operations begin in 2026.

The BCA Technical Memorandum can be found in Appendix A.

**Table 10. Project Benefits Summary**

TYPE OF BENEFIT	UNDISCOUNTED	DISCOUNTED (7%)
<b>Costs</b>	<b>\$16.56</b>	<b>\$11.10</b>
<b>Benefits</b>		
Safety	\$39.77	\$13.12
Travel Time Savings	\$44.83	\$14.79
Avoided Agency Costs (O&M and R&R)	\$0.14	\$0.62
<b>Total Benefits</b>	<b>\$123.7</b>	<b>\$47.6</b>
<b>Net Present Value (NPV)</b>	<b>\$68.18</b>	<b>\$17.43</b>
<b>Benefit-Cost Ratio (BCR)</b>	<b>5.12</b>	<b>2.57</b>
<b>Internal Rate of Return (IRR)</b>	<b>22%</b>	<b>22%</b>
<b>Payback Period</b>	<b>-</b>	<b>7 years</b>

### 6.1 COSTS

The capital cost for this Project is expected to be \$20.25 million in undiscounted YOE dollars through 2027, equating to \$16.56 million in undiscounted 2020 dollars. At a 7 percent real discount rate, these costs are \$11.10 million in 2020 dollars. The Operations and Maintenance (O&M) costs associated with this project are estimated to be \$77,500 annually in 2022 dollars, equating to \$71,204 annually in 2020 dollars.

### 6.2 BENEFITS

In 2020 dollars, the Project is expected to generate \$28.53 million in discounted benefits using a 7 percent discount rate. These monetized benefits are derived from safety benefits of avoided collisions, reduction in travel time for motorists at impacted intersections, and reduced agency R&R costs. This leads to an overall project Net Present Value of \$17.43 million in 2020 discounted dollars and a Benefit Cost Ratio (BCR) of 2.57.

#### Safety

Safety benefits are primarily derived from the bicycle and pedestrian crashes that will be avoided from the trail construction efforts that remove cyclists and pedestrians from unsafe roadway travel conditions to a shared path away from oncoming traffic. More specifically, the installation of high-visibility crosswalks at eight intersections as well as the installation of pedestrian refuges at these intersections are expected to provide significant passenger safety benefits. Some auto crashes are expected to be avoided through the traffic-calming improvements on Riverside Drive, such as the installation of left-turn flashing yellow arrows at high-risk intersections.

#### Travel Time Savings

The intersection improvements, including traffic signal coordination, installation of left-turn flashing yellow arrows, as well as improved markings are all expected to yield small travel-time savings to auto users at each of the intersections impacted.

### State of Good Repair and Avoided Agency Costs

In the build scenario, the total mileage of the trail system is expected to increase from 1 mile to approximately 7.5 miles. As such, in addition to the intersection improvements proposed, the trail enhancements under this project are expected to increase operating and maintenance costs to an average annual rate of \$77,500 in 2022 dollars (or \$71,204 in 2020 dollars), scaling relatively evenly with the increased mileage. Per USDOT guidance, O&M costs are included in the numerator along with other project benefits when calculating the benefit-cost ratio (BCR).

### Residual Value of the Trails

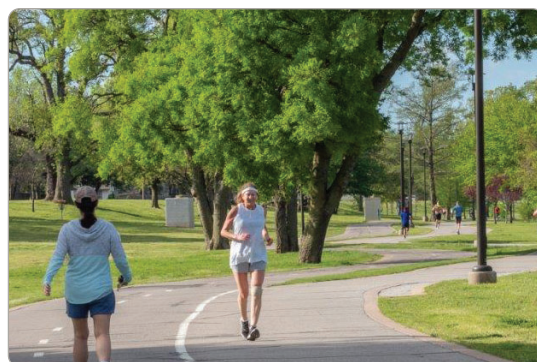
Residual Value benefits are derived from the value remaining on each investment's lifecycle value at the end of the analysis period. The design life of the asphalt trails is expected to be 20 years. As the project operations period is also defined as 20 years as part of this BCA, no residual value is expected to be retained at the end of the analysis period. The roadway intersection improvements are also not expected to retain any significant residual value at the end of the analysis period. Therefore, INCOG will realize no additional benefit of the residual value of project elements that would exist at the end of the analysis period.

### Quality of Life

Health benefits are accrued by cyclists and pedestrians, both commuter and recreational, who are shifting routes to or will be using for the first time the new path. The Project improves users' quality of life further through improving aesthetics and natural environment to interact with, but these benefits have not been quantified.

### Health Benefits

Health benefits apply to cyclists who would otherwise not be able to use a bicycle under existing conditions, and to both pedestrians and cyclists who have access to improved connectivity to the trail system and a larger system by mileage. These pedestrians and cyclists realize benefits by increased daily physical activity, which has been shown to improve health and reduce future medical costs. USDOT BCA guidance from March 2022 identified health benefit monetization values per induced cyclist and pedestrian trip. While there are expected to be new induced trips as a result of project improvements, the project team was unable to quantify the estimated number of induced cyclist and pedestrian trips. Therefore, these benefits were not monetized.



# APPENDICES

All appendices are hosted on the project website:

[www.incog.org/Transportation/RAISEFY22\\_MultiModalSafety.html](http://www.incog.org/Transportation/RAISEFY22_MultiModalSafety.html)

- **Appendix A.** Benefit Cost Analysis Technical Memorandum
- **Appendix B.** BCA Model
- **Appendix C.** Letters of Support
- **Appendix D.** Related Project Documents and Plans
- **Appendix E.** Proposed NEPA Schedule
- **Appendix F.** Riverside Parkway Congestion Update
- **Appendix G.** EJ Screen Analysis

