

TULSA COMMUNITY RIVER CORRIDOR CONNECTIONS PROJECT



THE CITY OF
JENKS
OKLAHOMA



U.S. Congressional District OK-01

2020 BUILD Grant Application

U.S. Department of Transportation,
FY2020 Better Utilizing Investments to
Leverage Development (BUILD) Application

BUILD Funds Request: \$19.67 million

Project Name	Tulsa Community River Corridor Connections Project
Applicant	Indian Nations Council of Government (INCOG)
Project Partner	City of Tulsa, Oklahoma City of Jenks, Oklahoma
Contact Information	Viplava Putta, Transportation Planning and Programs Director Indian Nations Council of Government (INCOG) 2 West Second Street, Suite 800, Tulsa, OK 74103 918-579-9421 vputta@incog.org
Project Location	City of Tulsa, Tulsa County City of Jenks, Tulsa County Oklahoma Congressional District 1
Project Type	Urban, Road - Trail
Project Description	INCOG, the City of Tulsa, and the City of Jenks are partnering to provide an enhanced multi-modal trail system to connect the east and west banks of the Arkansas River to improve safety and connections throughout the Tulsa community. The project will make significant repairs, additions and upgrades to the trails centered around the future south Tulsa/Jenks pedestrian bridge and low water dam. 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.
Project Cost	\$27,663,274
BUILD Funds Requested	\$19,747,456 (71%)
Local Match/ Source(s) and Amounts	\$1,000,000 - INCOG Transportation Alternatives Program (TAP) Funds (4%) \$4,085,773 - City of Tulsa (Local Match) \$2,830,045 - City of Jenks (Local Match) \$6,915,818 - Total Local Funds (25%)
Project Schedule / Status	Survey, Design, Engineering & NEPA: Oct. 2020 – Sept. 2021 Construction: Oct. 2021 – Sept. 2024 Project Complete: Sept. 2024
Project Benefits	This regionally significant project will: <ul style="list-style-type: none"> – Improve pedestrian and bicycle safety for all residents and visitors – Improve access to jobs and economic opportunity by linking disparate urban areas – Improve air quality & health of residents in the Tulsa metropolitan area – Create additional economic development and tourism opportunities utilizing the natural asset, the Arkansas River – Improve quality of life for Tulsa metropolitan area residents
Benefit-Cost Analysis Results	Benefit-cost ratio: 3.79 (7% discount rate)
Project Website	http://www.incog.org/Transportation/BUILDIFY20_RiverConnection.html



Regional Partners — Regional Solutions

2 West Second Street Suite 800 | Tulsa, OK 74103 | 918.584.7526 | www.INCOG.org

The Honorable Elaine L. Chao
Office of the Secretary
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

RE: Tulsa Community River Corridor Connections Project BUILD Grant Application

Dear Secretary Chao:

The Indian Nations Council of Governments (INCOG, the Metropolitan Planning Organization (MPO) for the Tulsa area, is pleased to submit this application for the Tulsa Community River Corridor Connections Project (the project) as part of the Better Utilizing Investments to Leverage Development (BUILD) program.

INCOG, the City of Tulsa, the City of Jenks, and Tulsa County are partnering to provide an enhanced multi-modal trail system along the east and west banks of the Arkansas River to improve safety and provide connections throughout the Tulsa community, benefiting both urban and rural residents. The project will make significant repairs and upgrades to the trails along the existing and future planned regional destinations on both east and west banks along the Arkansas River. The project connects specifically the Turkey Mountain Urban Wilderness Area with a locally funded south Tulsa/Jenks pedestrian bridge and low water dam. The project will separate bicycles and pedestrians from vehicular traffic to provide safe travel conditions.

The project is an investment that is locally sustained, improving access to jobs in two of the preeminent communities in Oklahoma, providing an opportunity for all residents to thrive in a difficult economic climate. It is a high priority for INCOG, and the project is ready for implementation based on wide ranging and long-standing planning and design studies. The federal support for this multi-jurisdictional project of local and regional significance will affirm shared commitment to building communities through partnership. We believe the project application makes a strong case for improving safety, access to jobs, a state of good repair, sustainability and adds to the quality of life in an exemplary manner. 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 FFY 2020-23 Transportation Improvement Program (TIP) when BUILD funding is secured.

We appreciate your consideration of INCOG's Tulsa Community River Corridor Connections project BUILD grant proposal. Should you have any question regarding this project, please don't hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Rich Brierre".

Rich Brierre

INCOG Executive Director

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1.0 PROJECT DESCRIPTION

The Indian Nations Council of Governments (INCOG), the Metropolitan Planning Organization (MPO) for the Tulsa Metropolitan Area is requesting \$19.75 million in Better Utilizing Infrastructure to Leverage Development (BUILD) funding to complete the Tulsa Community River Corridor Connections Project (the project). The project will connect communities, including the City of Tulsa and the City of Jenks to locally funded, future, south Tulsa/Jenks pedestrian bridge and low water dam as described in the Arkansas River Corridor Master Plan. The BUILD project will connect regional destinations and economic hubs to the new dam and pedestrian bridge 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 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 in Oklahoma (Image 1). The project will improve safety and provide connections throughout the Tulsa region.

This project will extend the existing River Park trails, the backbone of the Tulsa regional trail system, with over 26 miles of trails along the banks of the Arkansas River in Tulsa. The river trail design standard is a dual trail defined as a 10-foot wide side for bicycles and other active mobility options such as e-scooters, pedal assist bicycles and an 8-foot pedestrian side, separated by a variable median where possible or a marked center line with directional striping. In areas with geographic design constraints the standard is a 10-foot wide trail with center line striping, with concrete edging (Figure 1 - 3).

Image 1. Aerial View of Tulsa, Oklahoma



Figure 1. Locally adopted dual trail standard with median

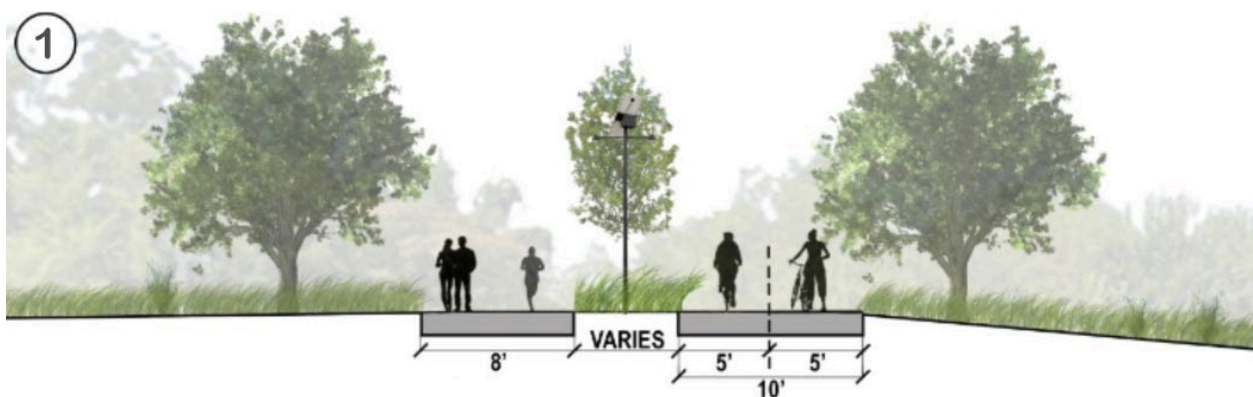


Figure 2. Locally adopted dual trail standard without median

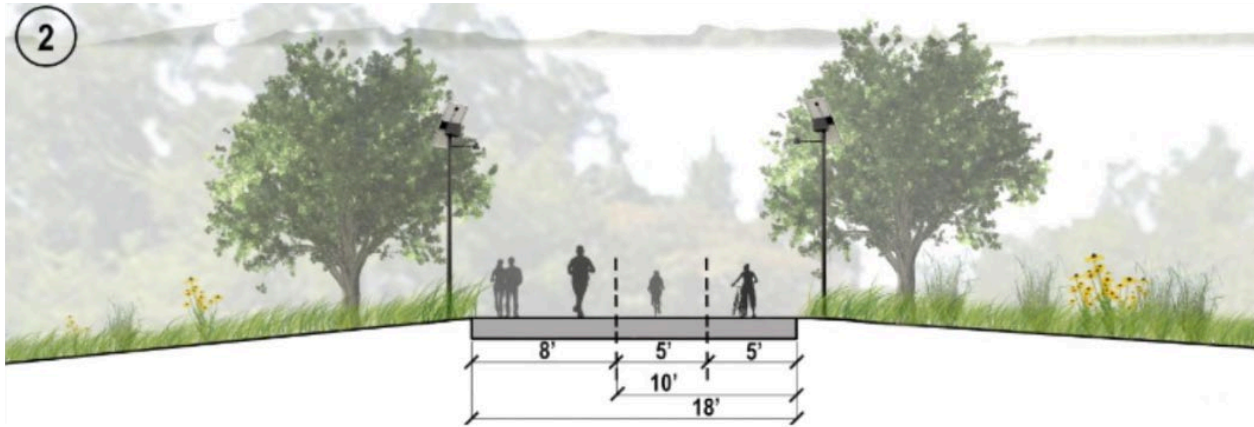
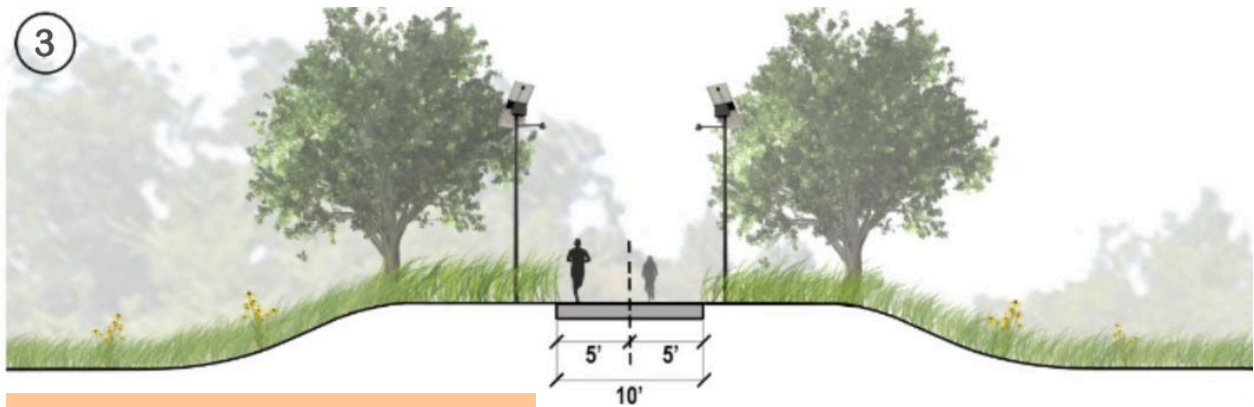


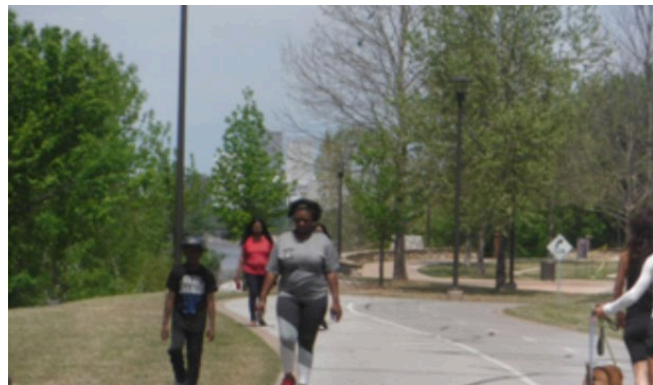
Figure 3. Locally adopted single trail standard



“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 transportation choices and river development.”

- Mayor of Tulsa, G.T. Bynum

Image 2. Example of existing multi-use dual trail



The Tulsa regional trails are part of the 120-mile regional trails system, now being branded as **918 Trails**, that has been built and expanded upon over the previous two decades. This connected network for active transportation has contributed to the overall health and well-being of the community and has allowed users to explore and safely commute to their destinations, whether it is to work, home or other destinations, within the Tulsa metropolitan area (**Image 2**).

The project addresses present day deficiencies in the areas of safety, state of good repair and major gaps in the project area that restricts the capacity of the existing trail system to accommodate current user demand, let alone future demand that will be generated from new

riverfront developments. 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. The trail system deficiencies, if left untreated, will continue to be unsafe for all types of trail users from 8 to 80 years old.

Compounding the challenge of unsafe connections is the inadequate capacity, unsafe location and deterioration of two existing sections of trail to be rebuilt as a state of good repair. These sections of trails 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 sheet flooding or creates water ponding on the trail from storm water runoff after heavy rainfall, often restricting users from utilizing this section of trail.

The project will connect to a pedestrian bridge across the Arkansas River approximately 1-mile south of the existing 96th bridge, providing another vital connection as currently there are only six existing pedestrian bridges over 25 miles of the river in the urbanized area of Tulsa. In summary, the 7.75 miles of new multi-use dual trails, combined with the future, 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.

1.1 PROJECT ELEMENTS

The project will fund four critical linkages within two local jurisdictions, the City of Tulsa and the City of Jenks (**Figure 4. Project Map**). The project connects urban and rural areas addressing active transportation needs. Chief among the improvements is improved access for residents to the trail system and addressing storm water mitigation and resiliency aspects to build a robust trail. The project consists of four major trail segments:

#1 West Bank Trail - Turkey Mountain to 91st Street: Construction of new west bank multi-use trail connecting Turkey Mountain Urban Wilderness at 71st Street in Tulsa to 91st Street and River Walk Crossing in Jenks;

#2 West Bank Trail - 96th Street to 104th Street: Construction of west bank multi-use trail from existing trail terminus near 96th Street to the proposed south Tulsa/Jenks pedestrian bridge and low water dam in Jenks;

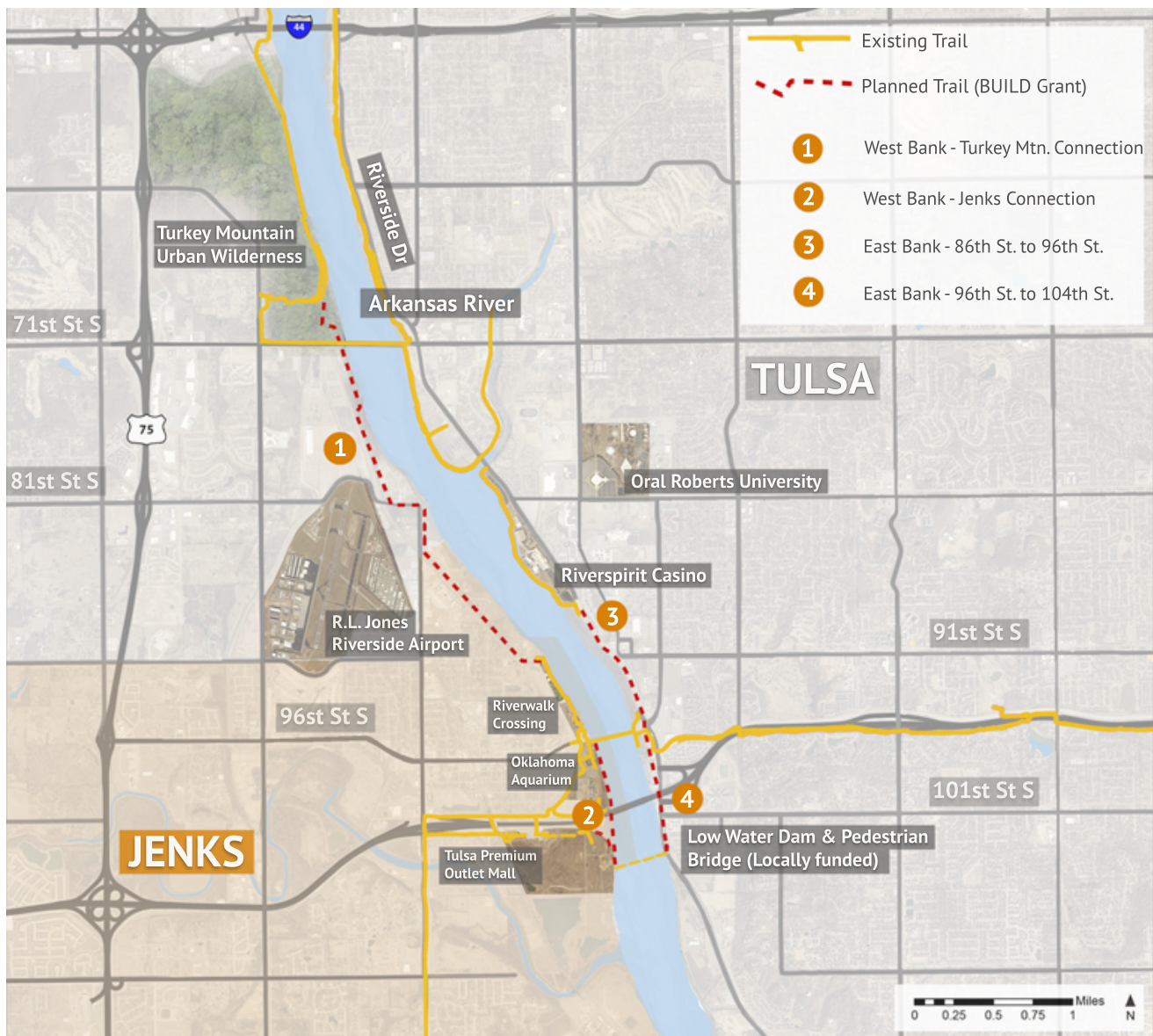
#3 East Bank Trail - 86th Street to 96th Street: Reconstruction of east bank multi-use trail connecting River Trail south of the Casino at 86th Street to 96th Street Bridge in Tulsa

#4 East Bank Trail - 96th Street to 104th Street: Construction of new multi-use trail along a new alignment on the east bank of the Arkansas River from 96th Street to the proposed Tulsa/Jenks Pedestrian Bridge and Low Water Dam.

The project will include following design elements and features:

- Construction of new multiuse trails to adopted (dual trail) design standard;
- New multi-use trails will meet ADA standards;
- Trailheads with sufficient parking for users including Electric Vehicle (EV) charging stations;
- Bike share stations at major trailheads;
- Designated micro-mobility parking and storage at major trailheads;
- 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.

Figure 4. BUILD Project Map

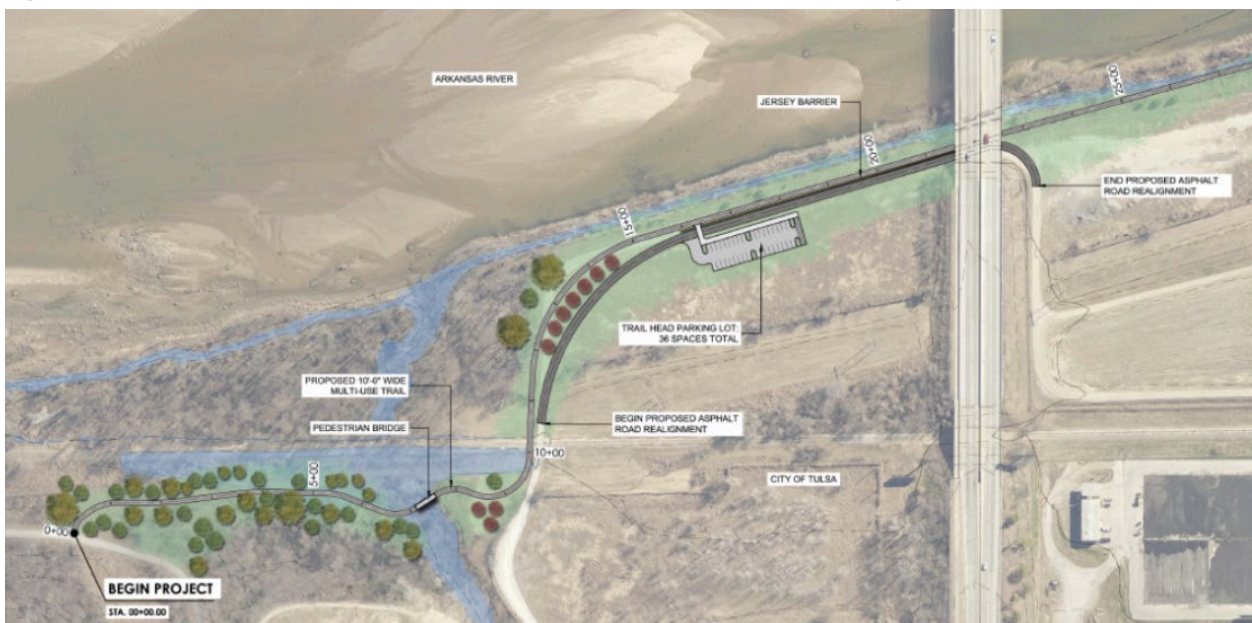


Specific Segments of the BUILD Project are described as below:

1. WEST BANK TRAIL - TURKEY MOUNTAIN TO 91ST STREET IN JENKS

The proposed trail will extend the existing west bank River Parks trail from Turkey Mountain Urban Wilderness recreational area at 71st Street to Riverwalk Crossing at 91st Street in City of Jenks. An elaborate Turkey Mountain Master Plan developed with public input envisions major expansion of the park and mountain bike trails and anticipates this connection. The new multi-use trail will be located on public property, easements, or right of way. 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 for construction of 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 (Figure 5), and destinations in the City of Jenks including the Oklahoma Aquarium and Jenks River Walk Crossing.

Figure 5. West Bank Trail Connection to the Turkey Mountain Urban Wilderness (Segment #1)



2. WEST BANK TRAIL - 96TH STREET TO 104TH STREET IN JENKS

To connect the City of Jenks, Riverwalk Crossing, and the Oklahoma Aquarium with the future south Tulsa/Jenks pedestrian bridge and low water dam, a resilient 18-foot (8' for pedestrians and 10' for bicycles) multi-use trail will be constructed (Figure 6). 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.

“INCOG’s corridor project will improve 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

Figure 6. West Bank Access to Low Water Dam and Pedestrian Bridge (Segment 2), Jenks



3. EAST BANK TRAIL 86TH STREET TO 96TH STREET

The third component of the project is to reconstruct the trail from the 96th Street pedestrian bridge to the River Trail south of the River Spirit Casino & Events Center at 86th Street, on the east side of the river. Although not part of this project, the Muscogee (Creek) Nation is planning for new recreational 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 is part of a larger regional tourism/entertainment district strategy and will connect commuters to jobs on either side of the river. This project element will include constructing an 18-foot wide trail that has designated bicycle and pedestrian pathways to minimize conflicts and allow for safe travel. The new multi-use trail will be located within the existing City of Tulsa road rights of way and trail easements. The enhanced trail will connect River Spirit Casino & Events Center and other users to additional regional destinations.

4. EAST BANK TRAIL - 96TH STREET TO 104TH STREET

The future south Tulsa/Jenks pedestrian bridge and low water dam (**Figure 8**) will provide a vital connection between the City of Jenks and the City of Tulsa. Further, the future development will create many recreational destinations for residents including a rock climbing wall, playground, an amphitheater, picnic areas, a boat ramp and parking. The trail system linking to this future recreational development is essential to connect communities in the Tulsa metropolitan area. The project will construct a new trail away from congested intersections near the Creek Turnpike and Riverside Parkway, a major regional primary arterial. The new multi-use trail will be rerouted along the bank of the Arkansas River under the elevated bridge structures of the Creek Turnpike. The existing trail crosses numerous commercial driveways of busy shopping centers and a convenience store/gas station where cars and trucks constantly conflict with pedestrians and bicycles. The project 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. The trail will have designated bicycle and pedestrian pathways to minimize conflicts and allow for safe travel.

Figure 7. East Bank Access to Low Water Dam and Pedestrian Bridge (Segment 4), Tulsa



Figure 8. Locally funded Low Water Dam and Pedestrian Bridge – Bike/Ped Access on both banks



1.2 ADDRESSING TRANSPORTATION CHALLENGES

The project has been designed to address the following challenges:

- Unsafe travel conditions for pedestrians, people on bikes, and motor vehicles due to lack of existing trail access, unsafe current trail conditions, nonexistent or discontinuous multi-use trails, and high-speed roads with free-flow traffic with posted speed limits of 45-50 mph;
- Limited multimodal connections between Jenks and Tulsa for persons without personal vehicles which inhibits regional, inter-city travel; and
- Few reliable connections to important natural (Turkey Mountain Urban Wilderness) and built environment (Jenks Outdoor Outlet Mall) landmarks and destinations.

The project will serve as an important visual and functional connection between the communities of Tulsa and Jenks. In implementing the Arkansas River Corridor Vision Plan, the project will connect high-profile developments, properties and locations on each side of the river to reinforce the identity of the communities that the trails serve.

1.3 PROJECT BENEFITS

INCOG along with the project partners recognize multiple benefits as summarized below (**Table 1**). These benefits are described in more detail in Section 4.0 Selection Criteria.

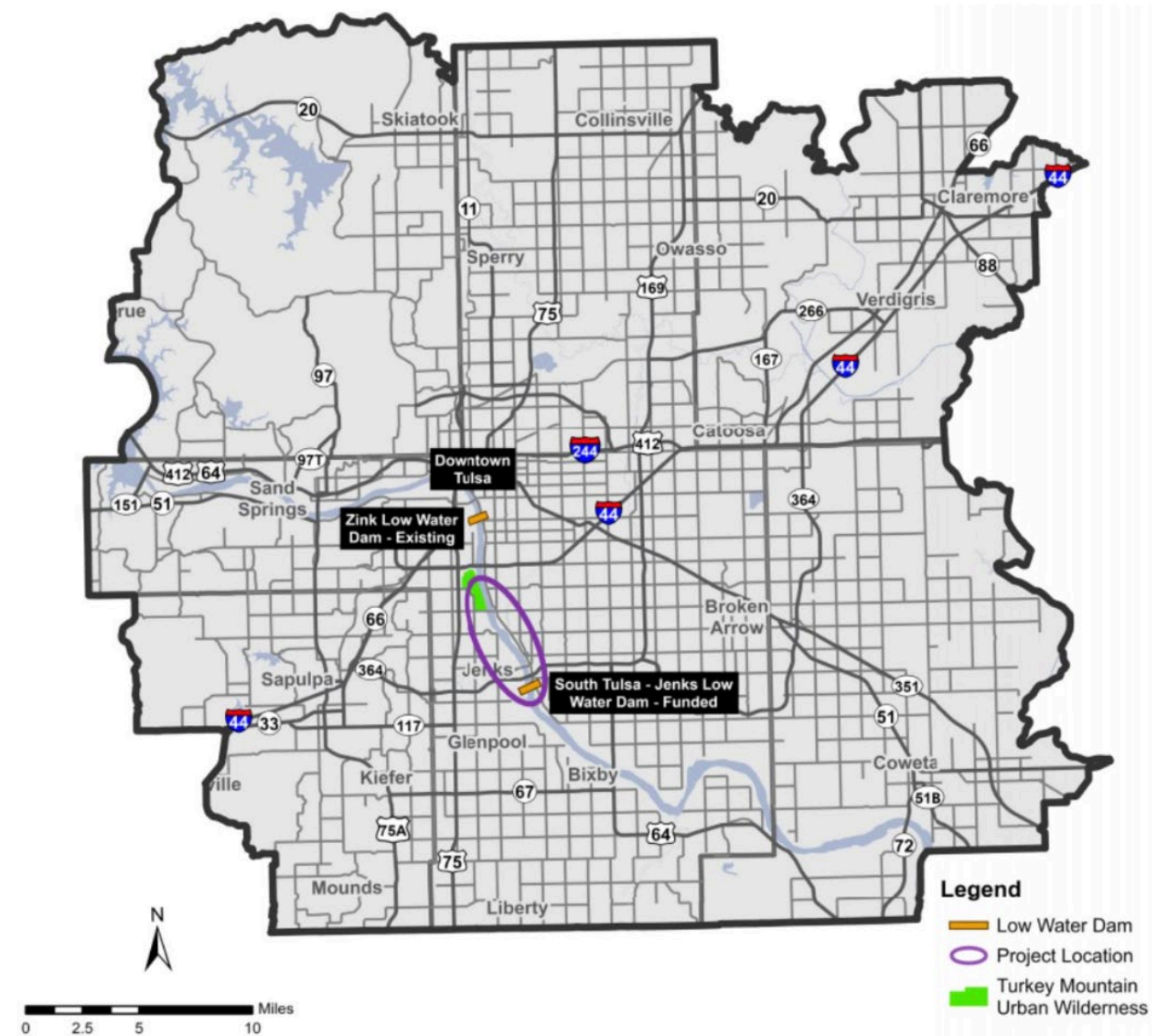
Table 1. *The Proposed BUILD Project Benefits*

Merit Criteria	Project Benefits
<p>Safety</p>	<p>The project will improve safety for motorized vehicular travelers, pedestrians and people on bikes. Currently, there is no direct connection between Turkey Mountain Urban Wilderness and Jenks, which forces non-motorized travelers to travel for several miles along two-lane roads with automobiles traveling on a 40-45 mile-per-hour (posted speed limit) roads. Similar conditions exist on both sides of the river along the proposed project area. The separated, multi-use trail for people on bikes and pedestrians will further limit pedestrian and cyclist crashes with motor vehicles. The project’s design will ensure that the new trails are in safe conditions for motorists, cyclists, and pedestrians, eliminating the need to use existing flood prone roadways.</p>
<p>State of Good Repair</p>	<p>The project will construct a new multi-use trail replacing the trail segments that are poorly designed and built 30 years ago and are not in a state of god repair and do not meet the standard. The improvements of the project will reduce long-term system preservation costs. The projects’ storm and flood mitigation components will improve the corridor’s ability to withstand repair costs in the future.</p>
<p>Economic Competitiveness</p>	<p>The project will support easy access to commercial properties and ensure the interconnectivity of residential areas to employment centers.</p>
<p>Environmental Sustainability</p>	<p>The project will include environmental sustainability efforts by implementing low impact development (LID) standards. LED lighting, prevention of erosion and improved design enhancements will improve the longevity of the trail. Newly planted trees and shrubs will enhance the natural environment in the project area. Higher rates of biking and walking will lower emissions of NOx and CO.</p>
<p>Quality of Life</p>	<p>The project will directly support active lifestyles and a variety of recreational activities that have positive impacts on personal health. The trails on either side of the river will directly connect to regional recreational and commercial activities for all residents in both communities of Tulsa and Jenks.</p>

2.0 PROJECT LOCATION

Project Coordinates: Latitude: 36.013222, Longitude: 95.948048

Figure 9. Tulsa Transportation Management Area - Project Location



The project is located within Oklahoma’s First Congressional District in the cities of Tulsa and Jenks, in Tulsa County. INCOG is dedicated to creating a safer, more longer-lasting multi-modal travel experience for motorists, pedestrians, and cyclists along a growing recreational and commercial corridor. **Figure 9** depicts Tulsa’s Transportation Management Area (TMA) and the project area location.

2.1 CONNECTIONS TO EXISTING TRANSPORTATION INFRASTRUCTURE

Riverside Parkway is a scenic drive, functionally classified as a Principal Arterial that connects residents living in the City of Tulsa with downtown while serving the community of Jenks as well

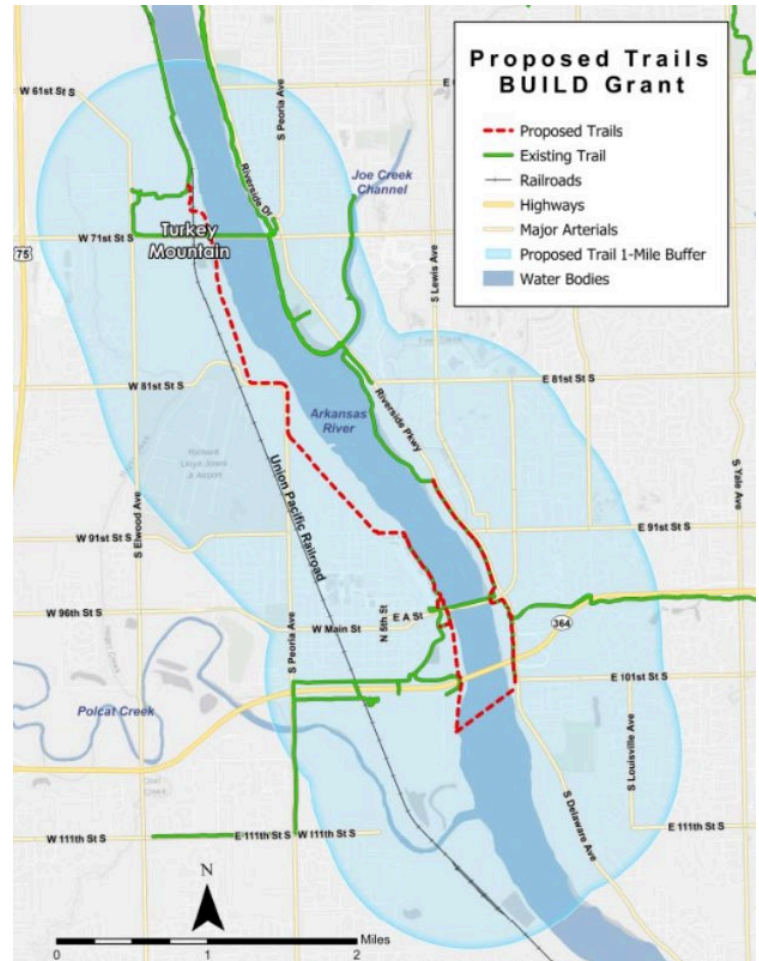
as other suburban commuters on a daily basis. The roadway carries in excess of 35,000 vehicles per day. The posted speed is 50 miles-per-hour in the vicinity of the project area. It is a four-lane divided parkway with few traffic signals along the eight mile corridor, from 21st street, six miles north of the project area, to 101st street. This project improves and extends the river trail, safely separated from high volume high speed Riverside Parkway. **Figure 10** illustrates the proposed BUILD trail, the existing trail system, and highways and major arterials within the project area, including Riverside Parkway.

Bus service is also available in the corridor through the Metropolitan Tulsa Transit Authority (Tulsa Transit) which runs the Jenks Circulator, between the cities of Tulsa and Jenks. The BUILD project will serve as a last mile connection to existing public transit service in the corridor. All transit buses have bike racks which has been a popular feature and are widely used by commuters that are in need of last and first mile connections. The existing 96th street bridge serves the purpose of automobile connectivity. The project 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. Saint Francis Health System, located in Tulsa, recognized the health benefits of riding a bike, and funded a bike-share system along the River Parks trail systems. At present, ***This Machine*** the branded public-private partnership, operated by the Tulsa Bike Share Inc., will expand coverage and linkages to the BUILD project. Enhanced pedal-assist bikes, rolling out in June, for Tulsa users 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. The project will further integrate Tulsa Bike Share, Inc. as a critical component of Tulsa-Jenks' transportation network.

Finally, the project runs parallel to several major arterial networks. The trail construction, reconstruction, and enhancements of the project will have several pedestrian and bicycle access points along both the east and west banks of the Arkansas River to major roads such as Riverside Parkway and 101st Street in Tulsa; 71st Street, 81st Street, and 91st Street in both Tulsa and Jenks; and Main Street/96th Street in Jenks and Tulsa respectively. The project is

Figure 10. Project Area with 1-mile buffer of the BUILD Project



3.0 GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

INCOG is requesting \$19,747,456 dollars in BUILD grant funding to augment local and other funding sources from the City of Tulsa, the City of Jenks and INCOG. The project’s funding plan is presented below.

3.1 CAPITAL SOURCES OF FUNDS

The total project cost is \$27,663,274. The following section summarizes the project funding source descriptions. All funds are committed to the project.

Description of Local and Other Funds:

- **City of Tulsa** - the City of Tulsa has committed funding for its portion of the BUILD project within its city limits through the voter approved *Tulsa Vision Capital Improvement Program*.
- **City of Jenks** - the City of Jenks has committed funding for its portion of the BUILD project within its city limits through the voter approved *Jenks Vision Capital Improvement Program*.
- **INCOG** - INCOG, as the Metropolitan Planning Organization, approves regional Transportation Alternative Program (TAP) funds for pedestrian and bicycle projects. INCOG has committed \$1 Million in TAP funds for the BUILD project.

The project capital budget summary by source is shown in **Table 3**.

Table 3. Project Capital Budget Summary by Source

	Funding Source	Total Funding Amount	Percent of Total
BUILD Funds	BUILD Grant Funds	\$19,747,456	71.4%
Other Federal Funds	INCOG TAP Funds	\$1,000,000	3.6%
Non-Federal Funds	City of Tulsa (Local Match)	\$4,085,773	25.0%
	City of Jenks (Local Match)	\$2,830,045	
Total Project Funding		\$27,663,274	

The project’s lifecycle schedule and funding source allocation are listed in **Table 4** below.

Table 4. Project Capital Budget Summary by Annual Source in Millions in Federal Fiscal Years (FFY)

Project Funding(YOE\$)	FFY 2021	FFY 2022	FFY 2023	FFY 2024	Total
BUILD Funds					
BUILD Grant Funds	-	\$6.68	\$5.86	\$7.21	\$19.75
Other Federal Funds					
INCOG TAP Funds	-	-	\$0.50	\$0.50	\$1.00
Non-Federal Funds					
City of Tulsa (Local Match)	\$1.50	\$1.66	\$0.89	\$0.03	\$4.09
City of Jenks (Local Match)	\$1.11	-	\$1.10	\$0.61	\$2.83
Total Project Cost	\$2.61	\$8.34	\$8.35	\$8.35	\$27.67

3.2 CAPITAL USES OF FUNDS

The total cost of the project is \$27,663,274. **Table 5** summarizes the project’s annual costs by major project segment. As described above, the BUILD, other Federal, and non-Federal funds will cover the total project cost.

Table 5. Project Capital Budget Summary by Year of Expenditure (\$YOE)

Project Element	FFY 2021	FFY 2022	FFY 2023	FFY 2024	Total
Pre-Construction Costs					
Survey, Design & Engineering	\$2,613,853	-	-	-	\$2,613,853
Construction Costs					
#3 East Bank Trail 86th Street to 96th Street	-	\$1,696,000	-	-	\$1,696,000
#2 West Bank to 96th Street to 104th Street	-	\$2,592,613	\$2,592,613	\$2,592,613	\$7,777,839
#4 East Bank Trail - 96th to 104th Street	-	\$2,967,067	\$2,967,067	\$2,967,067	\$8,901,201
#1 West Bank Trail - Turkey Mountain to 91st Street	-	-	\$1,703,533	\$1,703,533	\$3,407,066
Construction Contingency	-	\$1,088,352	\$1,089,482	\$1,089,482	\$3,267,316
Total Project Cost	\$2,613,853	\$7,255,680	\$7,263,213	\$7,263,213	\$27,663,274

3.3 SUMMARY OF OPERATING SOURCES AND USES

The Tulsa Community River Corridor Connections 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 \$20,000 per mile annually. With a total of 7.75 miles of enhanced trail system, the total O&M cost is \$155,000 annually. The O&M costs include the costs for the City of Tulsa and the City of Jenks to maintain the trail, trailheads, signage and repairs. Tulsa County is 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 its annual maintenance budgets. The BCA analysis and corresponding narrative reflects the ongoing O&M costs.

4.0 SELECTION CRITERIA

In accordance with the United States Department of Transportation's (USDOT) BUILD Notice of Funding Opportunity (NOFO), a description of the Project's quantitative and qualitative benefits are described below.

4.1 PRIMARY SELECTION CRITERIA

The project addresses the BUILD program's primary selection criteria as described below.

4.1.1 SAFETY

The Project area currently exhibits numerous safety concerns and transportation challenges for pedestrians, people on bikes and the general population accessing the trail system. This BUILD project will foster a safer transportation system through the expansion of a multi-modal network of trails. This improves safety and the movement of people not only for all users of the trail system, but also for motorists and those seeking safe access to nearby destinations and the river for water recreation. By building upon local successes with federal and state partnerships, this project utilizes industry-standard practices to provide safe facilities, increase access and reduce transportation barriers for residents and visitors of the City of Tulsa and the City of Jenks.

The primary safety concerns within the project area addressed by this project are:

- Unsafe speeds and roadway conditions for mixing non-motorized traffic with vehicular traffic;
- Lack of accessible, ADA infrastructure resulting from gaps in the trail system, significantly limiting mobility options;
- Lack of connectivity due to limited access points to cross the Arkansas River, thereby diminishing intercity travel for workers and recreation;
- Unnecessary conflict points between trails and commercial driveways;
- Deteriorating trail conditions, particularly for the heavily used segment #3 of the build project; and
- Limited lighting creating unsafe environments for trail users, including 2nd and 3rd shift workers who may not access to a vehicles

Image 3. Cyclist forced to ride 45-mph roadway due to lack of trails/side path along Riverside Drive

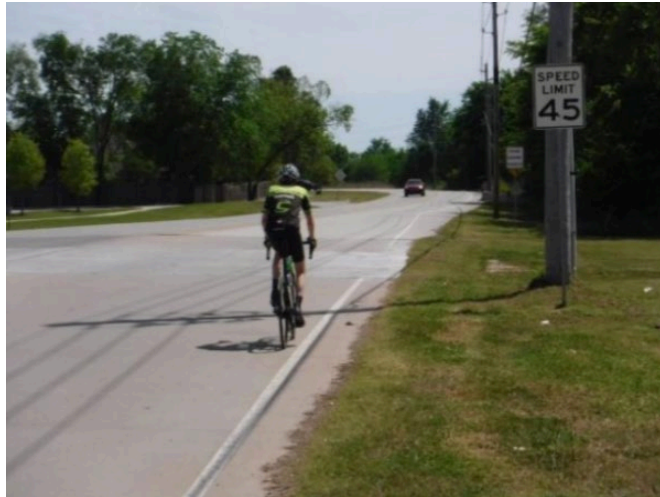


Table 6. Crashes within the BUILD Project Corridor

Collision Counts	Amount
All Collisions	1,711
Total Pedestrian Collisions	107
Total Bicycle Collisions	23
Pedestrian Fatality Collisions	6
Bicycle Fatality Collisions	2
Pedestrian Injury Collisions*	15
Bicycle Injury Collisions*	6

*Excludes Tulsa Fire Dept. /OHSO

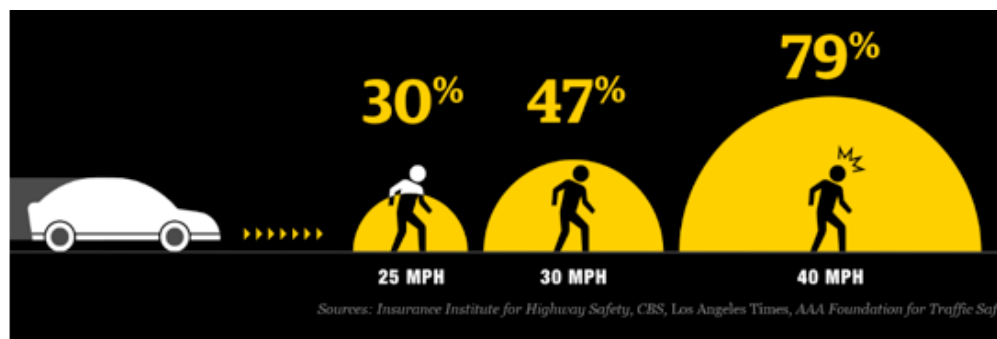
Source: Oklahoma Highway Safety Office & ODOT& TFD

Bike-Pedestrian Crashes

From 2014-2018, there have been a total of 1,711 reported traffic collisions within the project area (**Table 6**). Crash analysis conducted by INCOG determined that the contributing causes leading to many of these collisions were issues that this project seeks to address: a lack of safe infrastructure for pedestrian and people on bikes based on existing roadway designs and travel speeds, unsafe conflict points between trail users and commercial driveways, improved access for trail users and improved quality of trail facilities based on capacity and design.

Figure 13 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 more than 21 pedestrian/cyclist injuries and 8 pedestrian/cyclist fatalities.

Figure 12. Risk of serious injury or death when person hit at various speeds

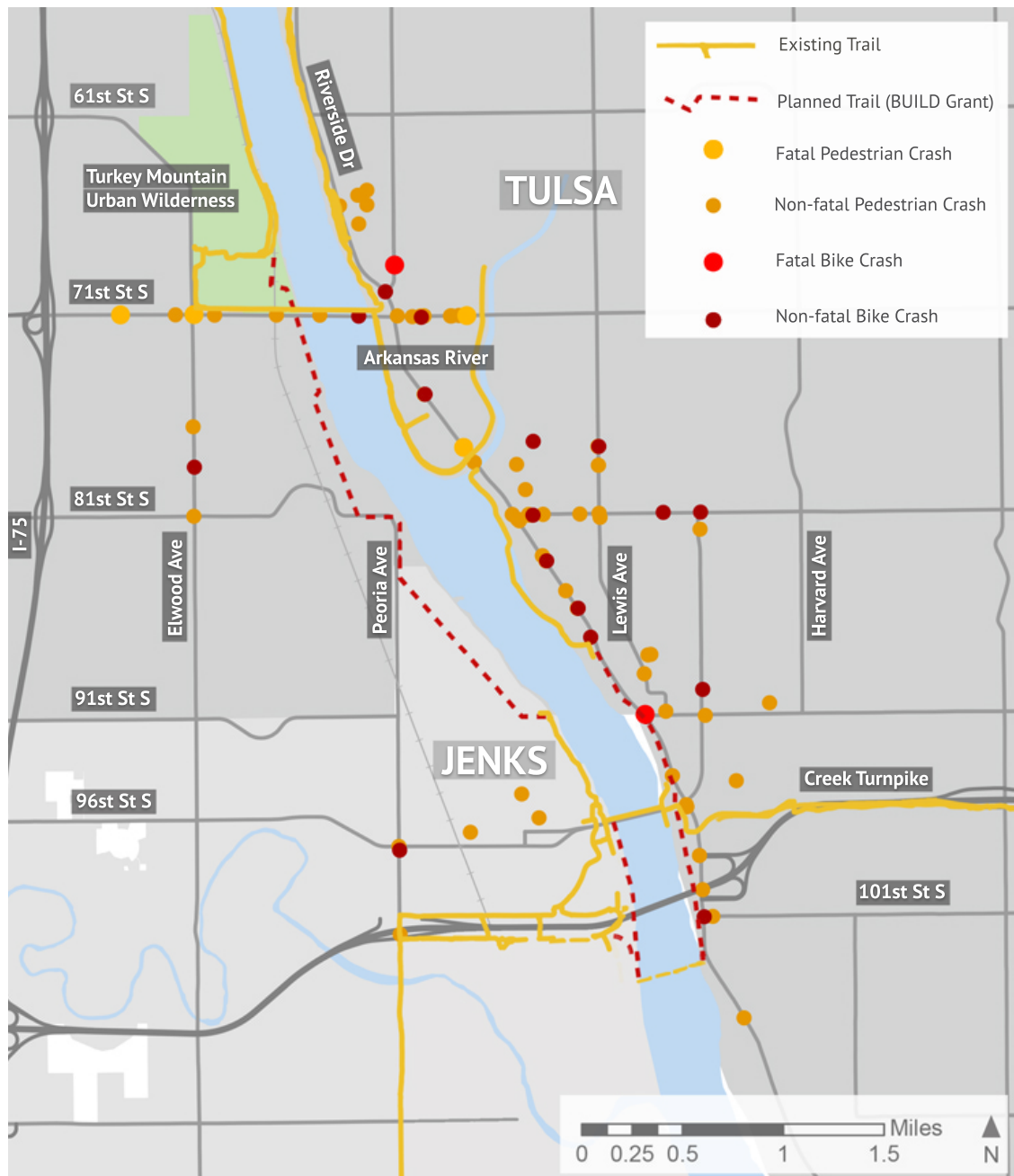


“As a firefighter and first responder, an emergency call to a bike v motor vehicle or pedestrian v motor vehicle crash always makes me sick and my stomach tighten. I have seen fatalities that one wishes to never have to experience. INCOG’s Connections Project will create safer routes for cyclists and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

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

To counteract this trend, the project partners have made and seeks to continue to make significant improvements to safety through trail design by reducing conflict points and separating the different modes. As depicted in **Figure 14**, the proposed design completely separates non-motorized and motorized traffic through landscape and hardscape buffers and maintains ample spacing to 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 roadway and behind the River Spirit Casino and Events Center. Prior to the improvement there was an average of 4.33 reported bicycle and pedestrian crashes per year. In the three years since this project opened this rate was reduced to 1.33 reported bicycle and pedestrian crashes per year. This was a reduction in reported crashes of 69.3% (**Table 7**).

Figure 13. Bicycle and pedestrian crashes in the BUILD project corridor



4. Selection Criteria

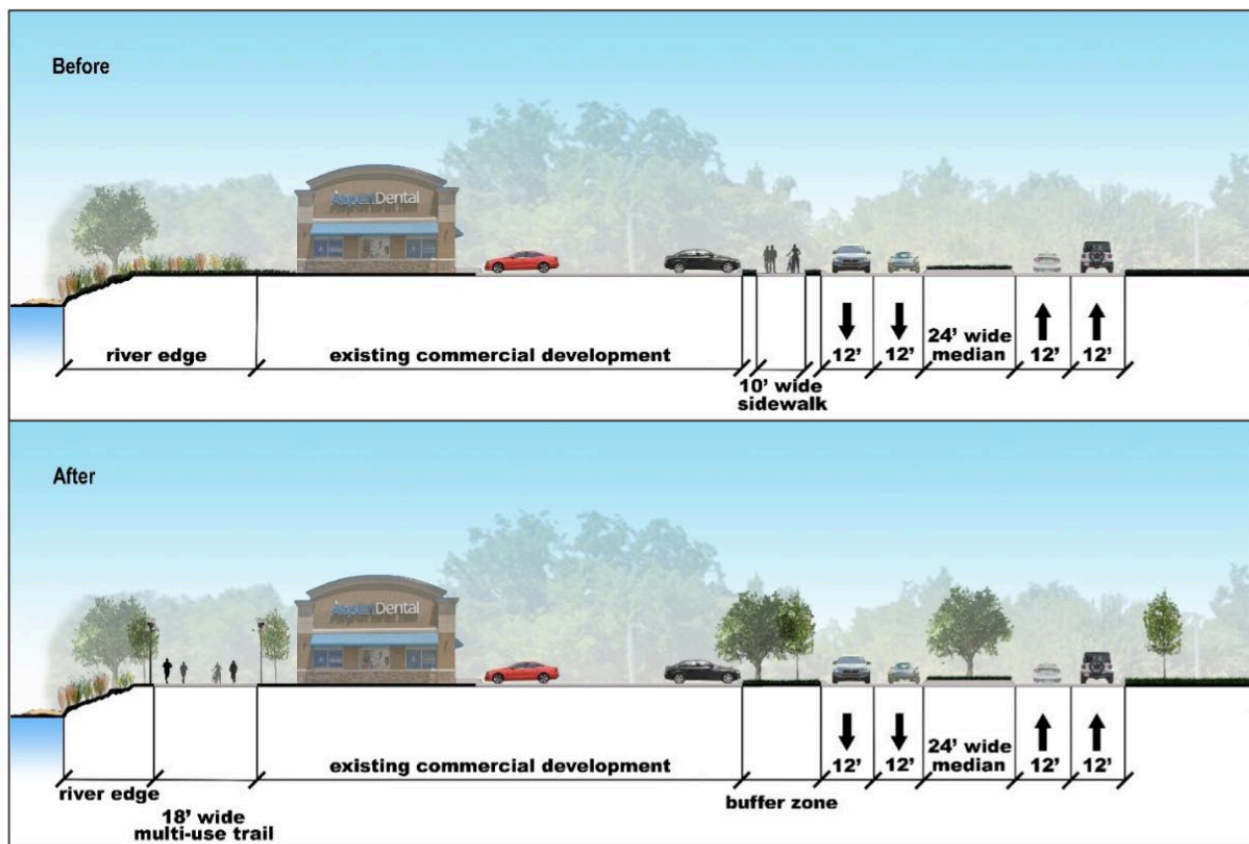
Table 7. Safety Improvements from Trail Realignment

Trail Realignment behind the River Spirit Casino and Events center	Total	Annual Average
Before Realignment, 2014-2016 Bicycle and Pedestrian Collisions	13	4.33
After Realignment, 2017-2019 Bicycle and Pedestrian Collisions	4	1.33
% Reduction		69.3%

“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

Figure 14. Before and After images of Multi-use Trail by commercial area



These results were also compared to a nationally recognized Crash Modification Factor (CMF) of 0.75 (25% reduction) for the “installation of a shared path”. Based on national and local results, this project will reduce bicycle and pedestrian collisions by 60 to 80 percent. Much of the benefits come from the reduction of twelve conflict points between the trail alignment and commercial driveways, 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/walk in the street rather than on a protected trail.

Connected 2045, the long-range regional transportation plan, prioritizes the project as a key future investment to enhancing 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 to bring awareness and fund projects that enhance bike and pedestrian safety, as a recurring annual program. This project is not only in complete alignment with current regional safety objectives, as well as the *Arkansas River Corridor Master Plan* (2005) 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.

Image 4. Relocated Dual Trail behind River Spirit Casino & Event Center



4.1.2 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 comprehensive 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 (Segment #3 of BUILD project) of trail that is proposed to be rebuilt is in poor condition. This existing trail segment was built over 25 years ago and was poorly designed that does not meet adopted local trail design standards and is in desperate need of repair.

Image 5. Standing Stormwater along W. 81st Street currently used by cyclists, roadway pavement condition index 42



Much of the west bank trail (Segment #1) will be designed to be built on top of the levee, which improves the levee system by creating a hard surface concrete trail, reduces erosion and enhances maintenance. This improvement will make future operations and maintenance efforts and impacts due to flooding less costly. The Tulsa District USACE fully supports constructing this portion of the project on the levee. Tulsa County engineers and maintenance crew will be able to access the new hard-surface levee trail, allowing for ease of routine maintenance.

The project's operations and maintenance cost savings align with BUILD's national priority of maintaining a state of good repair. Further, maintenance will be considered throughout the design process as a quality assurance measure to ensure that 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, Tulsa County and the River Parks Authority.

Image 6. Existing West Bank trail ends in a goat path – Segment #1 starts here



4.1.3 ECONOMIC COMPETITIVENESS

A prime objective of this project is to increase access between the homes of workers and their jobs at regional employment centers. This project decreases transportation costs and improves reliability through the creation of a viable, affordable transportation alternative. The resulting trail connections 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 an off-street trail along the river to downtown Tulsa. Tulsa's downtown is within ten miles of this project and is the location of over 35,000 jobs. This trail network connects residential areas and workers to numerous other employment centers, business districts, dining and entertainment hubs, and schools/universities through a means of active transportation.

The economic presence within the project area is increasing as the largest mall ownership group in the U.S., Simon Premium Outlets, is currently building the Tulsa Premium Outlets (**Figure 15**). The center is scheduled to open spring of 2021 with over 340,000-square-foot of retail space and 800 jobs immediately adjacent to the proposed trail on the west side of the river.

Figure 15. Tulsa Premium Outlets Mall under construction

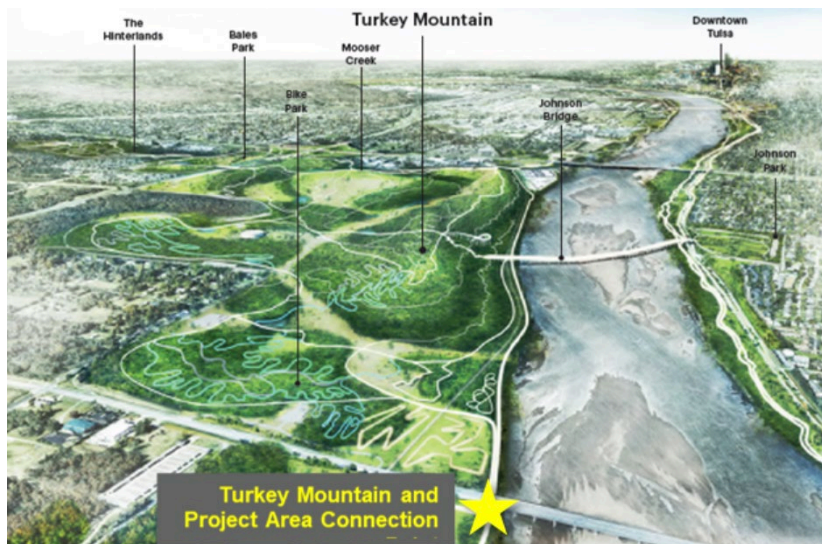


Despite these growing economic opportunities, transportation is still a major barrier for workers. As referenced previously in **Table 2**, 26.4% of the population living within one mile of the project area is living in poverty. Only 66% of the eligible workforce, age 16 and above were employed in 2019. Eight percent of these households do not own a single vehicle and 45% 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 goal for this project is to give residents a variety of safe transportation options, allowing them 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 for 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 new Tulsa Premium Outlets adjacent to the Trail.

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. 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. **Figure 16** illustrates the magnitude of the Turkey Mountain Urban Wilderness area and its proximity to the river trail system and the project area. The proposed project also provides direct access to the Tulsa River Spirit Casino & Events Center enhancing access to over 1,500 jobs.

Figure 16. *Planned Turkey Mountain Expansion and Connectivity*



Cycling, running, triathlons and BMX competitions continue to be a significant employment generator in Tulsa and have played a significant role in diversifying and strengthening the Tulsa regional economy (**Image 7**). This economic presence continues to increase. In terms of “cycling culture” in the State of Oklahoma, Tulsa has long led the state in both planning/implementation of infrastructure as well as the hosting of events attracting visitors, spectators, jobs, and money to the region. These

events and associated businesses are unquestionably unique, economic drivers. This project enhances the infrastructure needed to continue to prioritize these events and pursue the continued development of world-class cycling facilities and events in Tulsa.

4 Selection Criteria

Table 8. Turkey Mountain estimated visitors compared to other regional destinations

Destinations	Visitors
Turkey Mountain (Estimate)	309,400
Tulsa Zoo	640,940
Oklahoma Aquarium	400,000
Philbrook Museum	161,940

Image 7. Decades long Tulsa Tough Competition in Tulsa



Tulsa Tough's 10th year: 2,100 racers

Building on success of Tulsa Tough, city could become 'regional hub' for cycling enthusiasts

Table 9 lists the major Tulsa regional cycling events and their economic impacts:

Table 9. Economic Impacts of Regional Cycling Competitions

Event	Annual Economic Impact	Visitors	Description
IRONMAN	\$10-13M	12,000	"IRONMAN" selected Tulsa for the 2020-22 competitions, solidifying Tulsa as a destination for major events.
Tulsa Tough	\$1.5M+ (2013 estimate)	50-60,000 + 3000 riders	For 15 years Tulsa has been home to a major cycling event, Tulsa Tough. Races and rides span 3 days, attracting spectators from all over the globe.
USA BMX Grand Nationals	\$11M	15,000 spectators & 4,000 riders	USA BMX Grand Nationals has been hosted in Tulsa for the last 22 years and is the biggest BMX race in the world.
2021 Relocation of USA BMX headquarters & Olympic Trails & Training	\$2.8M	20,000 spectators and participants	In 2019, Tulsa was selected to be the new corporate headquarters for USA BMX. Opening in 2021, this enables the city to host the BMX Olympic trials and training.

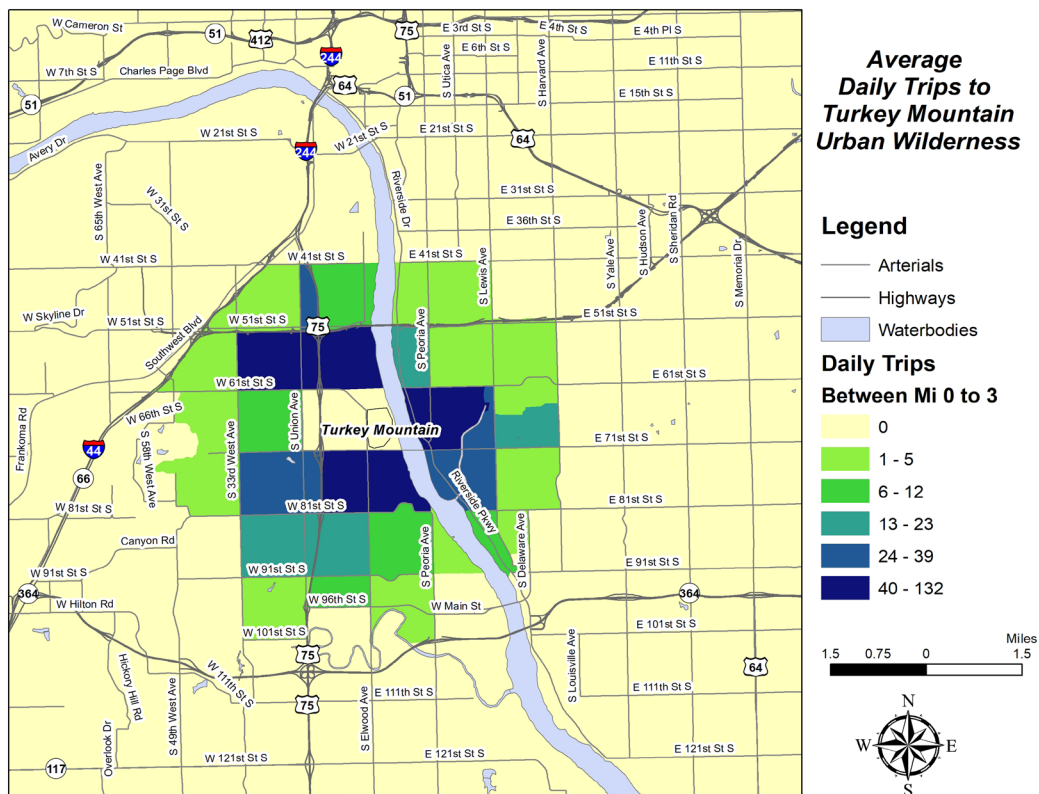
4.1.4 ENVIRONMENTAL SUSTAINABILITY

The Tulsa Community River Corridor Connections Project when built will contribute to mitigating adverse environmental impacts to air quality in the region by reducing the vehicle miles traveled thus reducing NOx and CO emissions which contribute to Ozone formation. Tulsa Metropolitan Statistical Area 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 including walking and biking. The project would enhance the availability and access to both these modes so that the Tulsa TMA would continue to be in attainment for Ozone.

The project will continue to follow environmental sustainability practices that have and are being implemented 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. Examples include:

- Practicing Low Impact Development (LID) or Green Infrastructure (GI), a design approach that helps protect water resources by using techniques that absorb and filter storm water.
- Utilizing several LID techniques to contribute to lower stormwater flows and a healthier watershed. Curb cuts, permeable pavement and bioswales will redirect stormwater and put it to beneficial use for plant material while filtering the suspended solids.
- Planting hundreds of trees and shrubs along the trail and trailheads including numerous cottonwoods, American sycamore for preservation and mitigation. Foliage planting will complement and comply with local standards, to positively impact the environment to reduce erosion and improve habitat.
- Replacing Cobra High Pressure Sodium (HPS) lighting to updated LED lighting on the project section considered state of good repair and the addition of new LED lighting on the new sections of trail will make a positive environmental impact¹.

Figure 17. Potential car trips avoided by the BUILD Project connection to Turkey Mountain



4.1.5 QUALITY OF LIFE

This project improves quality of life for all rural and urban residents and visitors to the project area. With this transportation investment, the project partners are seeking to increase access, facilitate upward economic mobility for lower income residents, improve health and wellness for all, and create new recreational and tourism destinations while protecting our 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 a mode of transportation, offering independence for aging and younger residents of surrounding rural and urban areas.

1 <https://www.energy.gov/eere/articles/study-environmental-benefits-leds-greater-cfls>

- By creating a safe off-street trail system that connects a wide range of destinations, both regional and local, this project makes owning a bicycle or walking, a viable transportation alternative.
- Many families simply do not have the levels of income to provide and service vehicles for every eligible driver in the family. Lower income households will be able to use trails for walking and biking thereby saving on costlier transportation.
- The American Community Survey estimates for this corridor show 8% of households do not own a single vehicle and 45% 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. Given households the ability to supplement their transportation costs with more cost-effective, short-distance modes can be a significant economic boost to the household. This creates opportunities for upward economic mobility for lower and even middle-income residents.

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 10** lists many of these destinations which will have improved access to the expanded trail network through implementation of BUILD grant.

Table 10. Quality of Life and Livelihood Destinations

Job Centers	Tulsa Premium Outlets, River Spirit Casino and Resort (Muscogee Creek Nation), Richard L. Jones, Jr. Airport, Tulsa Hills Shopping Center, Jenks River Walk Crossing
Health Care / Medical	Access Medical (Urgent Care), Utica Park Clinic, DLO Jenks Patient Center, OSU Medicine-Jenks/Riverside, Carter Health Care, Travis Chiropractic
Essential Services & Destinations	Jenks High School, Jenks Freshmen Academy, Jenks Middle School, Tulsa Technology School, Tulsa Community College, Walmart Super Center, Walmart Neighborhood Market, Grace Living Center
Regional Destinations	Oklahoma Aquarium, Turkey Mountain Urban Wilderness, Gathering Place

Turkey Mountain Urban Wilderness is an extremely popular recreational destination for multiple user groups. Turkey Mountain wilderness trails and the multi-use trail system connecting to it offer hikers, cyclists, trail runners, and horseback riders a shared space for healthy, recreational activity (**Figure 19**). 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.

“My neighborhood is near the trail system in Jenks and about two miles from the new 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

Along the Arkansas River to the north, Tulsa recently completed construction of The Gathering Place, the largest privately funded public park in the nation for residents and visitors. The master plan's implementation of resiliency improvements to the mountain bike trails and shared paths will support Turkey Mountain's recreational options for decades into the future. The BUILD project will greatly improve access to this regional destination.

Figure 18. Proposed dual trail Connection behind existing commercial area East Bank

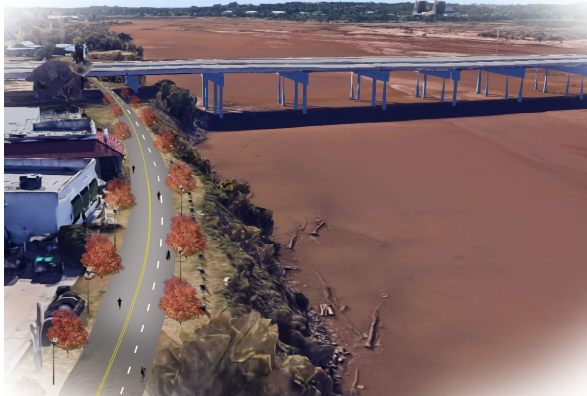
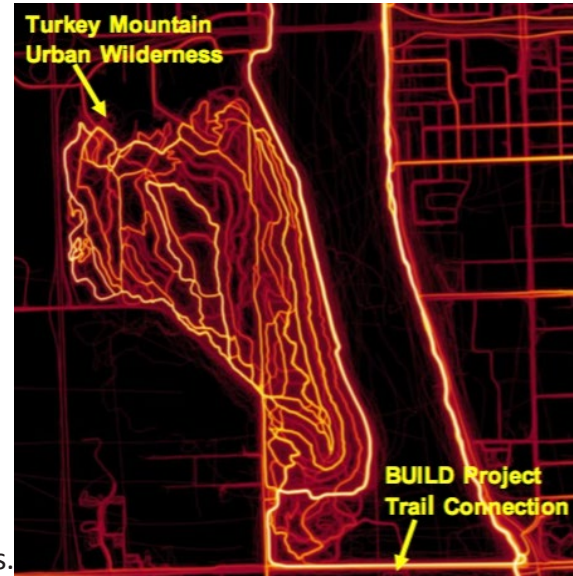


Figure 19. Heat map of Turkey Mountain and River Parks Trail usage



4.2 SECONDARY SELECTION CRITERIA

The project addresses the BUILD program's secondary selection criteria in the following sections.

4.2.1 INNOVATION

INNOVATIVE PARTNERSHIP:

The Tulsa Community River Corridor Connections Project is being delivered through a unique partnership among INCOG, the MPO, two local municipalities (the City of Tulsa and the City of Jenks) and with the support of two State Transportation Agencies (ODOT & OTA). Each partner is contributing monetarily and will see direct benefits from the installation of an improved trails system. The unique partnership is described in greater detail in the Partnership section below.

INNOVATIVE PROJECT DELIVERY:

The project will be delivered with numerous stakeholders involved. INCOG will be responsible for administering project funding, the cities of Tulsa and Jenks will be responsible for designing and constructing the improvements within their respective areas, and the Oklahoma Department of Transportation (ODOT) will serve as the designated clearinghouse for the National Environmental Policy Act (NEPA) process. Combining experience from four different entities will allow for seamless delivery of the project. The responsibility of each partner is described in greater detail in the Partnership section below.

INNOVATIVE DESIGN:

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, 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 storm water sewer systems or waterways to reduce pollutant runoff and improve water quality;

- Concrete edges with asphalt in the middle to prevent edge failure and withstand storm water 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;
- Installing river bank stabilization elements where necessary to minimize future erosion, protect the trail investment, and minimize future maintenance costs;
- Protect and preserve riparian areas along the river for wildlife habitat; and
- Installing LED lighting along various stretches of the project area for environmental and safety benefits.

Figure 20. Concrete Trail on top of Levee on the West Bank



INNOVATIVE FINANCING:

The project will take advantage of committed 15-year revenue streams made available in 2016 by voter approved measures in Tulsa and Jenks, that commits funds to this project. The project’s revenue stream will help INCOG make accurate but flexible projections for cost management on the project. The project’s local revenue stream is bondable and will provide required matching funds as the schedule for letting the project is implemented. Recent issues of Vision Tulsa bonds carried a rating of Aa1 by Moody’s.

4.2.2 PARTNERSHIP

INCOG has committed to working with a broad array of stakeholders to complete the project successfully and seamlessly. The stakeholders are critical partners in completing the project as demonstrated in **Table 11**.

Table 11. Description of Partners, Responsibilities & Commitment

Partner	Responsibility	Commitment
Indian Nations Council of Governments (INCOG)	Applicant and program manager and administrator of the grant.	\$1.0 million in capital costs
City of Tulsa	Funding partner, responsible for design and construction of project elements within its corporate limites, and responsible for future maintenance.	\$4.09 million in capital costs and maintenance
City of Jenks	Funding partner, responsible for design and construction of project elements within its corporate limites, and responsible for future maintenance.	\$2.83 million in capital costs and maintenance
Tulsa County	Responsible for maintaining the levee and repairs which enables the trails to go on top of the levee	Maintenance
Oklahoma Department of Transportation (ODOT)	Responsible for completing the NEPA process for the BUILD 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 BUILD grant project to access new trail.	Allowing rights of way
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 B**.

Mayor G.T. Bynum - City of Tulsa	US Army Corps of Engineers, Tulsa District
Chief of Staff, Jack Blair - City of Tulsa	Tulsa Regional Chamber of Commerce
Mayor Robert Lee - City of Jenks	Jenks Chamber of Commerce
Tulsa County-Board of County Commissioners (BOCC)	Jenks Public Schools
Indian Nations Council of Governments	Tulsa Community Foundation
Chief David Hill - Muskogee Creek Nation	Tulsa Bike share Inc.
Oklahoma Secretary of Transportation Tim Gatz	Saint Francis/Warren Clinic
Oklahoma Turnpike Authority	Bicycle/Pedestrian Advisory Committee (BPAC)
U.S. Senator James. M. Inhofe	T-Town Bikeshop
Oklahoma Representative Lonnie Sims	Tulsa Urban Wilderness Coalition
River Parks Authority	King Investments & Development

5.0 ENVIRONMENTAL RISK REVIEW

The project is reasonably expected to begin construction in a timely manner as described in the following sections.

INCOG’s experience in administering federally funded projects minimizes risk: 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 projects (such as Gilcrease Expressway, a TIFIA project) 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 Drive 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.

5.1 PROJECT SCHEDULE

The project is ready for a timely implementation with conceptual plans completed for nearly all project elements. It is anticipated that the project design can begin in FFY 2021. The project will be built on public lands, rights of way and easements. The pre-construction phase is anticipated to be completed by September 2021 and construction to be scheduled to begin in October 2021.

The project construction is envisioned to be let in the following phases by each project segment as described in **Table 12** below. All elements of the project will be complete by September 2024.

Table 12. Project Schedule by Project Segment

Project Element	Start	Complete	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024
Pre-Construction							
Conceptual Plans	Various	Dec. 2020	■	■			
BUILD Grant Award (Estimate)	Dec. 2020			■			
NEPA Categorical Exclusion	Oct. 2020	Sept.2021		■	■		
Survey, Design & Engineering	Oct. 2020	Sept.2021		■	■		
Construction							
#3 East Bank Trail 86th St to 96th St	Oct. 2021	Sept.2022			■	■	
#2 West Bank to 96th St to 104th St	Oct. 2021	Sept.2024			■	■	■
#4 East Bank Trail -96th St to 104th St	Oct. 2021	Sept.2024			■	■	■
#1 West Bank Trl - Turkey Mtn. to 91st St	Oct. 2022	Sept.2024				■	■
Construction Complete	Sept.2024						

5.2 REQUIRED APPROVALS

ENVIRONMENTAL PERMIT AND REVIEW:

The 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 analysis has 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 BUILD project is scheduled to be completed by June 2020. The NEPA Schedule is attached in **Appendix C**.

PLANNING CONSISTENCY AND SUPPORT:

The BUILD 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 (Phases I, II and III), 2004-10
- Arkansas River Low Water Dams and Pubic Access/Recreational Improvements, 2015
- The Tulsa Regional Bicycle and Pedestrian Master Plan, the GO Plan, 2015
- INCOG’s Connected 2045 Regional Transportation Plan, 2017
- Turkey Mountain Master Plan, 2020

5.3 ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

The City of Tulsa and Jenks, with support from INCOG, have decades of experience in implementing complex capital projects involving federal funds. The cities understand the risks associated with such investments and consider them in the development of project schedules and budgets, such as those presented earlier. The project schedule allows for completion well before the statutory BUILD program deadlines. **Table 13** lists the top three risks associated with the project and the mitigation plan for each.

Table 13. *The Project Risks and Mitigation Strategies*

Project Risk Item	Risk	Mitigation Plan
Cost Overruns	With any project, cost overruns are a potential, especially if the project is delayed.	The Budget includes contingency and year of expenditure 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.
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 outlined of roles and responsibilities (Table 14).
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.

Table 14. *Partner Responsibilities, Leads*

Role	Lead Entity
Program Management	INCOG
Final Design, Construction Plans and Bid Documents	City of Tulsa, City of Jenks
NEPA Clearance	ODOT
Compliance with federal grant requirements	INCOG
Bid award and construction oversight	City of Tulsa, City of Jenks

6.0 BENEFIT COST ANALYSIS

An economic benefit-cost analysis (BCA) was conducted for the project using a model that follows USDOT’s 2019 Benefit-Cost Analysis Guidance for Discretionary Grant Programs. The analysis found that the project has a net present value (NPV) of \$59.8 million (in 2018 dollars in 2019, discounted at 7%), resulting in a discounted benefit cost ratio of 3.79. As such, the project is expected to generate economic benefits that outweigh its costs. **Table 15** shows the overall results of the BCA for the project. The BCA Technical Memorandum can be found in **Appendix A**.

6.1.1 COSTS

The costs reflected in this BCA are the capital costs of \$27.6 million associated with constructing the project. O&M costs amount to a total of \$700,000 in upkeep with the 7.75-mile stretch of trails over the 40-year lifespan of the trails, coming out to an annual cost of \$153,125. The No-Build scenario would not have any capital costs associated with the project but would have an expected repair and rehabilitation of the trail in 2030 totaling \$500,000.

The capital costs of construction amount to \$25.0 million (2018 dollars); construction will occur between FFY2022 and FFY2024. The capital construction costs include: the cost to construct the trails and access points to these trails in addition to a 15 percent contingency and a 10 percent management and inspection cost which total \$25 million. Design costs account for the remaining \$2.6 million in costs (2018 dollars).

6.1.2 BENEFITS

The key benefits of project include the following: safety benefits, residual value of the construction, personal health and mobility and sustainability benefits.

6.1.3 SAFETY

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 \$79.0 million (2018 dollars, discounted at seven percent) in safety benefits due to accident reductions, which amounts to approximately 1711 fewer accidents, including 55 fewer incapacitating injuries and 12 fewer fatalities throughout the project's lifecycle.

6.1.4 RESIDUAL VALUE OF THE TRAILS

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 2022 – FY 2044). At the end of the project analysis period, INCOG will realize the additional benefit of the residual value of the trails that still exist. The original value of the trails will be \$27.6 million (2018 dollars), amounting to \$2.5 million (2018 dollars, discounted at seven percent) in residual value benefits through the end of the analysis period.

6.1.5 HEALTH AND SUSTAINABILITY-MOBILITY

The project's multi-use trails are anticipated to increase the Vehicle Miles of Travel for both cyclists and pedestrians in the area, 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 of the project amount to \$0.4 million (2018 dollars, discounted at 7 percent) because of added users on the trails. The sustainability and mobility benefits amount to \$0.2 million (2018 dollars, discounted at 7 percent) because of positive atmospheric effects from added cyclist and pedestrian VMT.

6.1.6 REDUCED AGENCY OPERATIONS AND MAINTENANCE (O&M) COSTS

While not explicitly adding positively to the BCR, the project includes necessary O&M costs that do not currently exist on 85% of (7.75 miles) proposed trail, other than maintaining the levee without the benefit of a paved surface on its top, and because there are no other trails to manage in the corridor. The project's build-case O&M costs will contribute negatively to the benefits by roughly \$1.0 million (2018 dollars, discounted at seven percent).

Table 15. Project Cost-Benefits Summary

Type of Benefit	Undiscounted	Discounted (7%)
Costs	\$27.6	\$21.4
Benefits		
Accident Cost Reduction	\$209.1	\$79.0
Residual Value	\$13.8	\$2.5
Sustainability-Mobility	\$0.7	\$0.2
Health	\$1.4	\$0.4
Reduced Agency (O&M Costs)	(\$3.0)	(\$1.0)
Total Benefits	\$221.7	\$81.2
Benefits - Costs	\$194.1	\$59.8
Benefit - Cost Ratio (BCR)	8.02	3.79
Internal Rate of Return (IRR)	27%	N/A

6.1.7 SENSITIVITY ANALYSES

The BCA results above use a Crash Modification Factor (CMF) of 0.75 - derived from a previous study installing a shared path for cyclists and pedestrians - to show crash reductions are expected to increase from the build case. To use a more localized example to test further, the River Spirit Casino and Event Center recently underwent

a trail construction project similar to this project’s planned improvements and experienced a 69.3% crash reduction from 2017 to 2019 compared to the equivalent period from 2014 to 2016. The sample size of the casino’s crash reductions is limited, but if a similar crash reduction rate is applied only to the bike and pedestrian crashes in the project area, crash benefits will increase to \$103.6 million in 2018 dollars. The new BCR then becomes 4.94. Sensitivity analysis results are shown in **Table 16**, and changes from the above tables are in bolded italics.

Type of Benefit	Undiscounted	Discounted (7%)
Costs	\$27.6	\$21.4
Benefits		
Accident Cost Reduction	<i>\$285.7</i>	<i>\$103.6</i>
Residual Value	\$13.8	\$2.5
Sustainability-Mobility	\$0.7	\$0.2
Health	\$1.4	\$0.4
Reduced Agency (O&M Costs)	(\$3.0)	(\$1.0)
Total Benefits	<i>\$302.8</i>	<i>\$106.3</i>
Benefits - Costs	<i>\$275.2</i>	<i>\$84.9</i>
Benefit - Cost Ratio (BCR)	<i>10.97</i>	<i>4.94</i>
Internal Rate of Return (IRR)	<i>30%</i>	N/A

Table 16. Sensitivity Analysis with Muscogee Casino & Resort Crash Reduction Rate

7.0 APPENDICES

All appendices are hosted on the project website:

http://www.incog.org/Transportation/BUILDFY20_RiverConnection.html

Appendix A:

- Benefit-Cost Analysis Technical Memo
- Benefit-Cost Analysis spreadsheet model

Appendix B:

- Part 1: Letter of Financial Commitment
- Part 2: Letters of Support

Appendix C: Related Project Documents and Plans