Submitted by

Indian Nations Council of Governments

TRAVEL WITH CARE

2022 Safe Streets & Roads for All Implementation Grant

US Department of Transportatioon

DOT-SS4A-FY2201

Congressional District-01

TABLE OF CONTENTS

TABLES

FIGURES

KEY INFORMATION TABLE

Application Name	Travel with Care Tulsa	
Application Name	Travel with Care Tulsa	
Lead Applicant	Indian Nations Council of Governments (INCOG) Staff Contact: Richard Brierre, Executive Director	
If multijurisdictional, additional eligible entities jointly applying	Tulsa County Wagoner County City of Tulsa City of Broken Arrow City of Jenks City of Owasso	
Roadway Safety Responsibility	☒ Ownership and/or maintenance responsibilities over a roadway network ☐ Safety responsibilities that affect roadways ☐ Have agreements from the agencies that have ownership and/or maintenance responsibilities for the roadway within the applicant's jurisdiction	
Population in Underserved Communities	INCOG	39%
	Tulsa County	39%
	Wagoner County	47%
	City of Tulsa	48%
	City of Broken Arrow	12%
	City of Jenks	15%
	City of Owasso	7%
State(s) in which projects and strategies are located	Oklahoma (OK)	
Costs by State (if project spans more than one State)	Not applicable.	
Funds to Underserved Communities	$11,816,384	
Cost total for eligible activity (A) supplemental action plan activities in support of an existing Action Plan	$250,000	
Cost total for eligible activity (B) conducting planning, design, and development activities for projects and strategies identified in an Action Plan	$2,718,750	
Cost total for eligible activity (C) carrying out projects and strategies identified in an Action Plan	$23,531,250	
Action Plan or Establish Plan Link	INCOG Local Road Safety Plan (2022)	

B. NARRATIVE

I. Overview Applicant

The lead applicant for this implementation grant is the **Indian Nations Council of Governments (INCOG)**, who will facilitate the grant with other **joint applicants:** ***Tulsa County, Wagoner County, City of Tulsa, City of Broken Arrow, City of Jenks, and City of Owasso***. INCOG is the Metropolitan Planning Organization (MPO) for the Tulsa Transportation Management Area (TMA) in northeast Oklahoma. The joint applicants INCOG is partnering with are the ***authority having jurisdictions*** over the local roads where projects will be implemented. INCOG, as the MPO, took the lead in completing a regional Local Road Safety Plan (LRSP) beginning in 2020 utilizing the Federal Highway Administration (FHWA) Resource Center technical assistance program. The plan was completed in 2022 and adopted along with a resolution to reduce fatalities and serious injuries by 25% by 2030 by the INCOG Board of Directors. This application seeks Federal assistance to advance low-cost, high-impact strategies and projects identified as part of the LRSP. INCOG will administer the grant and manage the funds, while the partner entities will implement projects identified in this application and seek reimbursement from INCOG. INCOG has the capacity and history of working with both the FHWA and the Federal Transit Administration (FTA) in administering Federal funds.

INCOG Region

INCOG member governments include Creek, Osage, Rogers, Tulsa, and Wagoner counties, along with 50 cities and towns located in those counties, and the Cherokee, Muscogee, and Osage Nations. The INCOG service area is shown in Figure 1. INCOG is responsible for planning and programming Federal funds within TMA covering 81% of the population of the Tulsa Metropolitan Statistical Area.

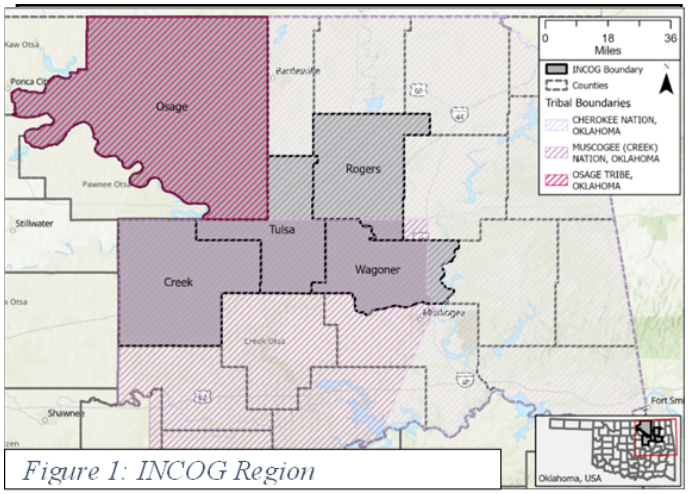


Figure 1: INCOG Region

Local Road Safety Plan

With assistance from FHWA, INCOG partnered with the Oklahoma Department of Transportation (ODOT) and Oklahoma Highway Safety Office (OSHO) to develop and adopt the regional LRSP in 2022 to address safety on locally owned roads in the INCOG region. Plan development was coordinated with several parties, with active participation from eight cities, two counties and tribal nations over an 18-month period. The process included setting a regional vision and goals to target fatality and injury reduction as well as data collection and analysis. The vision was to advance toward zero transportation-related deaths, starting with reducing by 25% by 2030. The LRSP (Appendix A) includes strategies and action items intended to reduce traffic related fatalities and serious injuries in the region, which will be discussed in the Selection Criteria below. As shown in the Self-Certification Eligibility Worksheet, provided in Appendix B, the LRSP satisfies the Safe Streets and Roads for All (SS4A) Action Plan requirements.

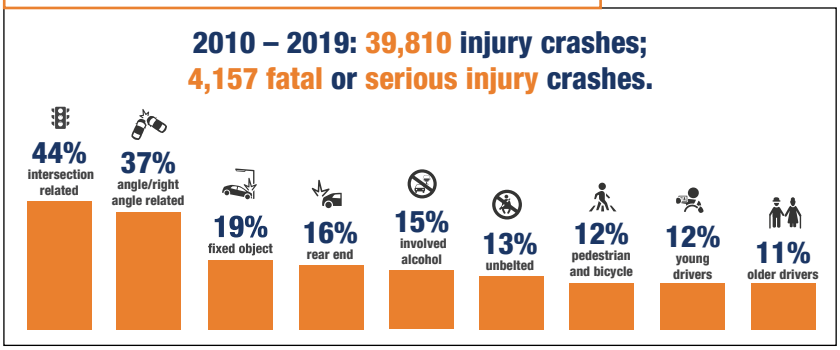
Key problem areas identified by the INCOG LRSP:

- 71% of fatal and serious injury crashes occurred at intersections
- 83% of fatal serious injury crashes occurred due to lane departures
- 50% of bicyclist involved crashes occurred at intersections

Safety Context

The INCOG LRSP analyzed 2010 to 2019 crash data, identifying significant levels of the following crash types: intersection-related, angle or right-angle, fixed object, rear end, alcohol involved, unbelted, pedestrian and bicycle, young drivers (15 to 20 years old), and older drivers (65 years and older).

Figure 2: 2010-2019 LRSP Crash Analysis



INCOG has been leading and taking steps to increase safety prior to developing the LRSP in 2022. Starting in 2005, INCOG developed regional incident management training for first responders and formed a continuing funding partnership with local agency first responders. In 2015, the Tulsa Regional Bicycle and Pedestrian Master Plan, also called the GO Plan identified a need to improve safety for all users of the transportation system in the Tulsa Metropolitan Statistical Area. In 2017, INCOG's Connected 2045 Regional Transportation Plan (RTP) demonstrated a focus on transportation safety with recommendations for further collision analysis, created a transportation safety committee to oversee safety-related projects and programs whose first goal would be to devise a regional safety plan. INCOG also has a decade of using OHSO and the National Highway Transportation Safety Administration (NHTSA) funding to produce and publicize locally relevant videos on pedestrian and bicyclist safety, disseminated via targeted social media. Further, INCOG implemented Travel with Care Tulsa, a public awareness campaign also supported by OHSO.

II. Location

As shown in Figure 1, the INCOG service area covers five counties: Creek, Osage, Rogers, Tulsa, and Wagoner. The INCOG LRSP studied all five counties' local, rural, and tribal roadways. This application is to implement projects through a data driven approach in the core part of the INCOG region where most fatalities and serious injuries have occurred.

Tulsa is the core city with nearly 60% of the population of the TMA, and when combined with the other three cities and Tulsa and Wagoner Counties, the joint applicants to this SS4A implementation grant, it provides for not only a large geography but also includes 75% of the population of the region, where over one million people reside. In addition, the Tulsa MSA welcomed approximately 9.9 million visitors in 2019, a 6% increase from 2018.

Figure 3: Project Service Area

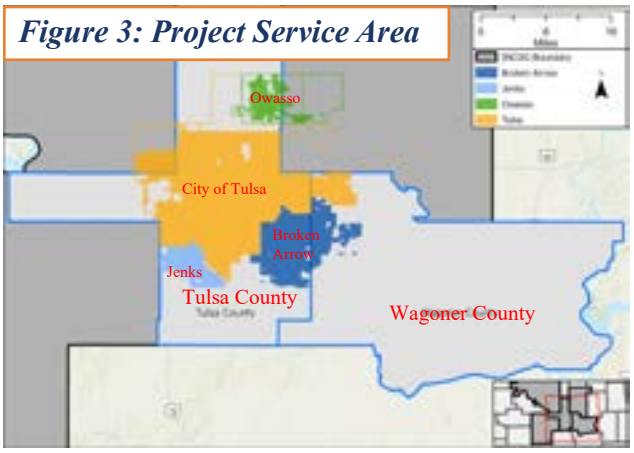


Figure 3 to the implementation area, consisting of the partner agencies who will be implementing projects.

The High Injury Network displayed in Figure 4 was created using OKSAFE-T data that is geocoded from first responder agencies and is available from ODOT. It was used in the LRSP as well. High Injury Networks by jurisdiction can be viewed in Appendix C.

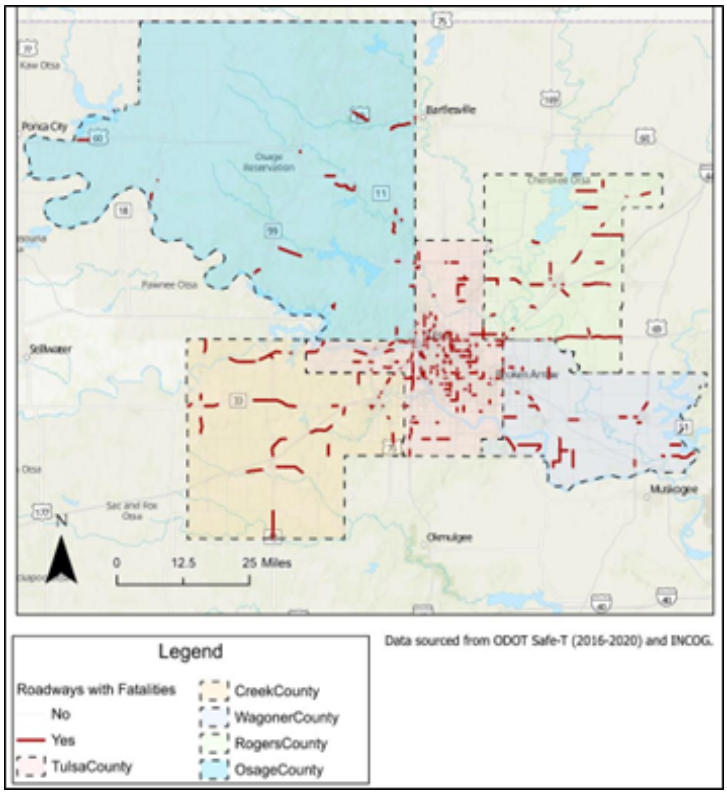
The High Injury Network demonstrates that fatalities are concentrated in Tulsa but not limited there. The region experienced fatalities on many road segments, calling for a systemic, multijurisdictional approach to reduce injury crashes and fatalities, as is being proposed in this application. All roadways shown on this map are locally owned and maintained by cities or counties with appropriate jurisdiction.

III. Response to Selection Criteria

1. Safety Impact

Description of Safety Problem

Figure 4: High Injury Network - INCOG Region



The ODOT-maintained OKSAFE-T database, consisting of geocoded historical multimodal crash data, includes variables related to each from the crash investigation reports by public safety agencies statewide and within the five-county INCOG region. The analysis showed a total of 23,257 fatal and injury crashes have occurred, averaging 4,651 per year, between 2016 and 2020 within the joint applicant jurisdictions. Figure 5 shows these broken down by year across three categories Urban (Tulsa), Suburban (Broken Arrow, Owasso, Jenks), and Rural (Tulsa and Wagoner Counties). Over these five years, crash fatalities have remained high, averaging 40 per year within the project region. The primary collision types have included: rear-end (front-to-rear), right angle (front-to-side), angle turning, sideswipe same direction, and fixed object. Pedestrian and cyclist collisions have also been significant, totaling 1,030 injury crashes over the five-year period. Motorcycle collisions have averaged 258 times per year.

Table 1. 2016-2020 Fatal and Injury Crashes

	2016-2020 Fatal and Injury Crashes				
Jurisdiction	Fatal	Serious Injuries	Non-Incapacitating Injuries	Possible Injuries	Total
Tulsa County	19	38	304	438	799
Wagoner County	16	56	197	39	308
Tulsa	142	1,118	5,386	10,865	17,511
Broken Arrow	19	145	1,823	1623	3,610
Owasso	6	55	261	426	748
Jenks	0	14	66	201	281
Total*	202	1,426	8,037	13,592	23,257

*Total reflects a 25% reduction observed in fatal and injury crashes for the year 2020 due to lower traffic.

The primary collision types identified over the five-year period reaffirmed the results of the LRSP, which studied crash data from 2010 to 2019, demonstrating continuing problems that require implementation of systemwide solutions to reduce fatal and serious injury crashes. While the reduced traffic in 2020, due to the COVID-19 pandemic, showed a reduction in fatal and serious injury crashes data observed since with traffic returning to roadways, has shown average speeds and crashes going up across the region, to meet or exceed previous years. While most crashes occur in urban areas of the region, rural areas experienced the highest severity rate per volume. The projects proposed support both the urban and rural areas.

Figure 5: Fatal and Serious Injury Crashes 2016 - 2020

*Lower numbers in 2020 reflect the decrease in traffic due to COVID-19 Pandemic.

As part of the LRSP, based on crash analysis and stakeholder input, the following emphasis areas were chosen: Intersections, Lane Departures, Non-motorized user crashes, Native American fatalities, Young/Old Drivers, and Behavior (including unbelted, speeding, impaired driving, and distracted driving). Through the lens of these emphasis areas, the safety stakeholders further identified strategies that aligned with the "five Es" – Engineering practices, Education strategies, Enforcement practices, Encouragement strategies, and Program Evaluation.

Safety Impact Assessment

The INCOG stakeholders further developed the emphasis areas into strategic actions to effectively and efficiently meet the target of a 25% reduction in fatal and serious injury crashes by 2030, as recognized by the INCOG Board of Directors in its resolution to adopt the LRSP. This grant will enable INCOG and its joint applications to implement low-cost, high-impact strategies at hundreds of locations to improve safety over a wider geographical area.

Table 2. Low-Cost, High-Impact Project Quantities

Project Description	Unit Price	Quantity
Upgrading traffic signal backplates (reflective yellow)	$400	4,448
Flashing yellow arrow traffic signal heads	$1,500	644
Advanced warning signage for signalized intersections	$3,000	30
Enhanced stop-controlled intersection signage	$4,000	30
Upgrade stop-controlled intersections to LED stop signs	$7,500	57
Post mounted speed feedback signs	$7,500	46
Mid-block crossings	$250,000	6
Rectangular Rapid Flash Beacons at Pedestrian Crossings	$7,500	30

The full array of proposed projects, which are evidence-based and have significant Crash Reduction Factor effectiveness to reduce both crashes and crash severity, is discussed further in Criterion 3, as well as in the Budget. The LRSP identified additional crash hotspots with stakeholder input and identified locations for potential safety projects. These can be viewed in Appendix A on pages 45-46.

In determining the final location of projects, a minimum of three criteria will be used. The project team will consider: (1) Equity: percent of households with zero cars and DOT identified census tracts with equality indicators (Areas of Persistent Poverty (APP) and Historically Disadvantaged Communities (HDC)), (2) Number of Vulnerable Users Walking, Rolling, or Biking across the streets, and (3) the Crash Rates per 10,000 Vehicles traversing any given hotspot or segment.

2. Equity, Engagement, and Collaboration

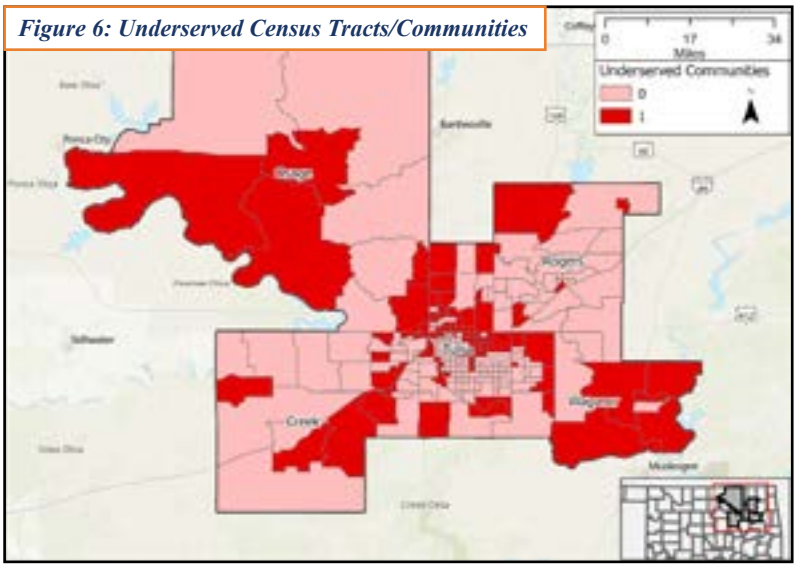
The INCOG region is diverse with minorities and low-income individuals. Native American (Cherokee, Osage, and Muscogee Nations), African American, and Hispanic populations make up most of the minorities in the region. These population groups reside throughout the region but are more concentrated in the census tracts identified by the USDOT as underserved communities.

INCOG's LRSP analysis identified Native American fatalities as an emphasis area. During the development of the INCOG LRSP, all tribes were engaged. The plan identified emphasis areas for tribal citizens: pedestrians, intersections, road departure, impaired driving, and lack of seatbelt use. All the low-cost, high-impact strategies proposed in this application and derived from the INCOG LRSP emphasis areas will ensure positive benefits to the tribal citizens living in the MSA and the nations regionally.

In addition to the LRSP already completed, the INCOG region is seeking to develop a Supplemental Action Plan to address the following topics:

1. Evaluate equity considerations previously used for crash analysis and effectiveness.
2. Identify underserved community stakeholders.
3. Analyze of crash data specific to the identified communities/census tracts.
4. Conduct equity analysis, in collaboration with appropriate partners.
5. Identify implementation strategies and actions through the adoption of revised or new policies, guidelines, and/or standards.

Figure 6: Underserved Census Tracts/Communities



This Supplemental Action Plan (SAP) will enable INCOG to develop the most equitable approach for future Federal, state and local funding decisions related to road users' safety, project implementation and efficacy evaluation with a focus on the underserved communities (Figure 6) and mitigate disparities. The SAP will also address existing policies, guidelines, and standards for opportunities to prioritize safety, to grow the culture of transportation safety in the region that started with the **Travel With Care Tulsa** program described earlier. Additional strategies and action items that are identified as a part of the SAP will ensure continual work toward improvement with a focus on the underserved communities in the region.

Table 3. Funds to Underserved Communities

INCOG SS4A Implementation Grant Total	$26,500,000
% of Implementation grant to be spent in underserved tracts	45%
Amount of implementation grant to be spent in underserved tracts	$11,816,384
Supplemental Action Plan Amount proposed	$250,000
% of Supplemental Action Plan Funding to be spent in Underserved Census Tracts	100%

In terms of Public Engagement, INCOG and the joint applicants will engage their constituent communities during the implementation of location specific projects such as the mid-block crossings, pedestrian refuge islands, corridor-based improvements. In addition, during the development of the SAP, substantial public and stakeholder engagement will be programmed. Through the stakeholder group, impacted communities will be continuously informed and engaged during the SS4A project implementation and to measure and assess project impacts.

INCOG is responsible for adding SS4A projects to the FFY2022-26 Transportation Improvement Plan (TIP) and as a part of that, project notices will be published and stakeholders will be notified, along with notifications on the INCOG website. INCOG will use their existing Active Transportation-related community outreach program, Travel With Care Tulsa, to notify the public of projects and provide implementation updates. The Travel With Care Tulsa campaign includes Facebook and other digital media. This will provide a variety of outreach methods to the community, including public meetings, web-based engagement, and newspaper announcements to reach a large portion of the community and foster meaningful engagement throughout project implementation. INCOG will also leverage partnerships with all six joint applicants and other future stakeholders guiding the SAP to achieve safety benefits.

In this application, INCOG's equity consideration is two-fold:

i. Equitable Distribution of project funds to underserved communities as identified by the USDOT Justice40 initiative.

ii. 100% of SS4A Supplemental Action Plan funds sought will be allocated to study and analyze crash types, then identify community driven solutions in the census tracts identified as underserved.

3. Effective Practices and Strategies

Continuing the discussion from Criteria 1, the project will employ low-cost, high-impact strategies to improve safety over a wide geographical area, rooted in the analysis of the adopted 2022 INCOG LRSP. The INCOG LRSP stakeholders focused on evidence-based solutions for implementation and aligned with the Safe System Approach (SSA), focusing on crash reduction factors, human vulnerability, human susceptibility to mistakes, and the idea that it is unacceptable that these mistakes result in death or injury. As demonstrated in Table 4, the proposed implementation project types encompass ***three of the five safety elements of SSA: Safe Users, Safe Roads, and Safe Speeds***. Proposed projects seek to account for and mitigate human mistakes by increasing visibility of road features. NHTSA, FHWA, and Iowa's Center for Transportation Research and Education enable us to understand the impact proposed projects will have on decreasing crashes or injuries. Low-cost, high-impact systemic improvements like advanced warning signs, LED stop signs, and better stop-controlled intersection signage result in a 10% reduction in crashes and generally have a 12:1 cost benefit ratio. Reflective backplates have been proven to reduce total crashes by 15%. Dynamic Speed feedback signs, also proposed, have effectively reduced speeds and in turn reduced the number of fatal or serious injury crashes. These results have been shown to last several years. Reflective edge striping on rural roadways will significantly improve safety on low-volume rural roadways. Crosswalk visibility enhancements will reduce pedestrian injury crashes by 40%, and it is anticipated that High-Intensity Activated Crosswalk (HAWK) Beacons will have a similar impact to Rectangular Rapid Flashing Beacons (RRFBs), which are proven to reduce pedestrian crashes up to 47% and increase motorist yielding rates up to 98%. Pedestrian Refuge Islands reduce pedestrian crashes 56%. These measures, while none of them are individually new or innovative, once employed as a whole, systematically regionwide, will be innovative in their combined approach to solving the identified problem, recognized by the LRSP. These data driven countermeasures will improve the system for all users.

Table 4. Proposed Project Types and their Safe System Element

Project Type	Safe System Element
Travel with Care Tulsa (funded by NHTSA/OHSO)*	Safe Users
INCOG Local Road Safety Action Plan*	Safe Systems
INCOG Supplemental Safety Action Plan	Safe Systems, Justice40
Mid-block Pedestrian Crossings (Pedestrian Signal)	Safe Roads, Safe Speeds, Safe Users
Upgrade Traffic Signal Backplates (Reflective Yellow)	Safe Roads, Safe Users
Flashing Yellow Arrow Traffic Signal Heads	Safe Roads, Safe Users
New Traffic Signals	Safe Roads, Safe Users
Traffic Signal Retrofit	Safe Roads, Safe Users
Battery Backup Retrofits	Safe Roads
Overhead Guide Sign Retrofits	Safe Roads, Safe Users
Overhead Guide Sign	Safe Roads, Safe Users
APS Push Button Retrofit at Signalized Intersections	Safe Roads, Safe Users
Pedestrian Refuge Islands	Safe Roads, Safe Users
Upgrade Stop-Controlled Intersections to LED Stops	Safe Roads, Safe Users
Enhanced Stop-Controlled Intersection Signage	Safe Roads, Safe Users
Post Mounted Speed Feedback Signs	Safe Roads, Safe Speeds, Safe Users
Advanced Warning Signage for Signalized Intersections	Safe Roads, Safe Users
Advanced Warning Beacons	Safe Roads, Safe Users
Mid-Block Pedestrian Crossing with HAWK Beacon	Safe Roads, Safe Speeds, Safe Users
Upgrade Crosswalk Markings at Intersections	Safe Roads, Safe Speeds, Safe Users
Roadway Striping	Safe Roads, Safe Users

*Completed or existing.

INCOG has championed Complete Streets policies, another effective strategy, with each city in the region. Tulsa and Owasso, both joint applicants, have adopted Complete Streets policies. These policies identify segments of roadways where vulnerable users are present and seek to mitigate roadway conflicts using context-sensitive designs and tools. Further, INCOG coordinates the regional micro-mobility travel solutions deployment with policies and procedures as appropriate. For example, INCOG enabled a local non-profit, the Tulsa Bikeshare Inc. (TBS), operated as "this Machine," to provide equitable access to its services in two of the joint applicant regions. INCOG has funded TBS, Inc using Congestion Mitigation and Air Quality (CMAQ) Improvement Program funding to deploy shared bikes for public in the cities of Tulsa and Broken Arrow. INCOG also works and partners with area bike clubs that focus on children using bicycles to reach schools. INCOG is engaged in developing a regional Complete Streets policy as required by the Infrastructure Investment and Jobs Act (IIJA).

4. Climate Change and Sustainability, and Economic Competitiveness

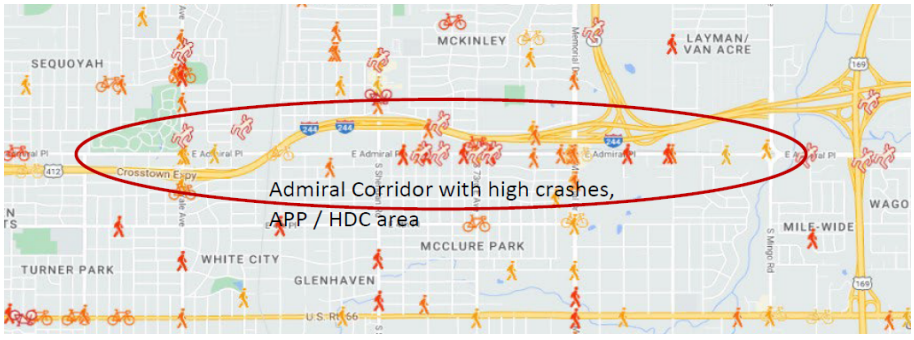
Travel delay in the INCOG region primarily is attributed to traffic incidents, more than the recurring congestion based on local travel time studies. According to NHTSA, motor vehicle crashes have an economic, social and environmental impact. Congestion related to crashes, caused by lane closures, emergency services on-site, detours, and general slowdowns result in excess fuel consumption and higher greenhouse gas and pollution emissions. According to North Carolina Environmental Quality, 20 pounds of greenhouse gases are produced per gallon of gas burned. Improving transportation safety through projects and strategies designed to reduce crashes will improve travel time reliability, as well as reduce the amount of greenhouse gasses emitted.

Improvements as proposed in this application will improve safety for active modes of transportation, especially for vulnerable users, which will encourage a mode shift in the community from motor vehicles to walking or biking, thereby increasing lower-carbon travel modes. This is evidenced by recent projects designed and implemented locally with improved crosswalks and sidewalk access at schools. Schools located in Tulsa and Broken Arrow have experienced an increase in students biking and walking to school from neighborhoods due to improved sidewalk connectivity. In 2022, the INCOG CMAQ program funded Tulsa Public Schools to install bike racks at multiple schools. By providing safe transportation and making existing sidewalks and signals safer with the methods and means identified in this application, vulnerable users will also have better access to essential services such as groceries or health care, especially in low income, minority, and underserved areas. Existing poor and unsafe conditions prevent trips that are necessary for the distressed communities, and a data driven methodology has identified possible locations for several mid-block pedestrian crossing signals that can improve such access. Appendix D shows mid-block pedestrian crossing locations identified in the City of Tulsa.

One significant element of this project is to install mid-block pedestrian crossings and center refuges along a heavily used three-mile section of an arterial, shown in Figure 7, where the most vulnerable users have been killed or sustained serious injuries. The arterial serves numerous hispanic businesses and population, where cycling and walking is a major mode of travel.

Also addressing rural traffic safety, the grant will provide safe, low-cost rural intersection control with four-way LED stop signs, where a greater proportion of rural and tribal crashes take place. The proposed implementation strategies will also help develop sustainable land-use patterns with active transportation modes.

Figure 7: Pedestrian-Involved Crashes on Admiral Corridor



The proposed improvements will enhance driver attention on the roadway and make all modes of travel safer, resulting in increased mobility and enhanced connectivity between the partnering jurisdictions, boosting local economies. These safer roadways will decrease dependability on non-renewable resources and increase affordability for all users, specifically low-income and underserved populations. This project, unlike other types of traditional projects such as road or corridor

improvements, will seek to develop systemic implementation of safe solutions benefiting all populations. The project is further supported by credible planning activity involving numerous public agency stakeholders.

IV. Additional Considerations: Project Readiness

INCOG has a history of coordinating Federally funded local projects including a local TIGER funded scenic parkway and pedestrian bridge project, a BUILD grant for a bus-rapid transit project, and developing a successful RAISE grant application more recently to enable multiple jurisdictions to expand a trail network in the Tulsa MSA. INCOG also coordintes numerous projects through ODOT and other Local Public Agencies (LPA) that utilize state and Federal funds. The joint applicants have demonstrated their approval through a Memorandum of Understanding (MOU), a draft of which is shown in Appendix F, and each has dedicated capacity for these projects. Moreover, each municiplaity and county that are joint applicants with this SS4A grant have been involved with various public works projects as a core function to each.

Table 5 illustrates anticipated timelines for a variety of project milestones. It also divides project types into heavy, moderate, and light based on amount of time it requires to implement. Heavy refers to projects such as refuge islands, mid-block pedestrian crossings, and traffic signals. Moderate refers to signage, striping, and similar activities. Light refers to feedback signs, LED stop signs, and reflective traffic signal back plates. It is expected many of these will be implemented concurrently. If this application is awarded funding and said funds are obligated in 2023, procurement and approvals would be completed within Fiscal Year (FY) 2024. Construction would begin in 2024 and end by 2026.

Table 5. Milestone Timelines

Milestone	Project Type	Timeline
State and Local Approvals	Heavy Moderate Light	6 months 3 months 1 month
NEPA / Environmental Reviews	Heavy Moderate Light	6-12 months N/A or up to 6 months N/A – Likely not required
Public Involvement	Heavy Moderate Light	3-6 months 1-2 months 1-2 months
Design Completion	Heavy Moderate Light	4-9 months 2-4 months 1-3 months
Right of Way (ROW) Acquisition	Heavy Moderate Light	Not Required Within existing ROW Within existing ROW
Approval of Plans, Specifications, Estimates; Procurement	Heavy Moderate Light	6 months 3 months 1 month

C. SELF-CERTIFICATION ELIGIBILITY WORKSHEET

Per the Self-Certification Eligibility Worksheet, Appendix B, an applicant is eligible to apply for an Implementation Grant if the applicant answers yes to questions **3, 7, and 9**, as well as yes to at least four of the six remaining **questions: 1, 2, 4, 5, 6, and 8**.

Table 6. Self-Certification Summary

#	1	2	3	4	5	6	7	8	9
Answer	**Yes**	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**	**Yes**	**Yes**

INCOG answered yes to questions 3, 7, and 9, and four of the remaining six questions, indicating the Local Road Safety Plan qualifies as a Safety Action Plan.

D. BUDGET

The overall cost of these systemic improvements is $26,500,000, a Federal share of $21,200,000 and a local match of $5,300,000. A minimum of $11,816,384 or nearly 45% of funds will go to underserved communities. Table 7 breaks down the local match funds being contributed by each participant. Table 8 provides the full estimated budget, broken into (A) Supplemental Action Plan Activities, (B) Planning and Design Activities, and (C) Implementation Activities, as well as showing the Federal and Non-Federal share. Table 9 demonstrates again the funding going to underserved communities, as well as the breakdown of spending in the variety of jurisdiction types participating – urban, rural, tribal, and regional. Table 10 demonstrates the contingencies and inflation adjustment included in the total grant amount.

Table 7. Source of Local Match

Source of Local Match	Funds
City of Tulsa	$2,750,000
City of Broken Arrow	$1,000,000
City of Jenks	$200,000
City of Owasso	$200,000
Tulsa County	$1,000,000
Wagoner County	$100,000
INCOG	$50,000
Total	$5,300,000

Table 8. Estimated Budget

Eligible Activity Area	Federal $	Non-Federal $	Total $
A. Supplemental Action Plan Development for Underserved Tracts	**$200,000**	**$50,000**	**$250,000**
i. Public outreach & Education	$20,000	$5,000	$25,000
i. Equity (Environmental Justice) Analysis & needs assessment	$50,000	$12,500	$62,500
iii. Plan development for implementable safe countermeasures	$50,000	$12,500	$62,500
iv. Develop schedule and actions with estimate of costs	$80,000	$20,000	$100,000
B. Planning, Design, and Development Activities	**$2,175,000**	**$543,750**	**$2,718,750**
i. Identification of specific locations for public involvement	$100,000	$25,000	$125,000
i. Public outreach with identified actions	$75,000	$18,750	$93,750
iii. Concept/Design development	$1,000,000	$250,000	$1,250,000
iv. Engineering, Specifications, and Estimates	$1,000,000	$250,000	$1,250,000
C. Implementation of Projects - Budget by identified strategy	**$18,825,000**	**$4,706,250**	**$23,531,250**
Mid-Block Pedestrian Crossings, Signal and Islands in Underserved area	$2,884,112	$721,028	$3,605,140
Upgrade Traffic Signal Backplates (Reflective Yellow) - Regionwide	$1,358,688	$339,672	$1,698,360
Flashing Yellow Arrow Traffic Signal Heads - Regionwide	$747,000	$186,800	$933,800
Install New Traffic Signal in Underserved Areas	$2,316,000	$579,000	$2,895,000
Traffic Signal Retrofit for Protected Left Turn Movements - Regionwide	$1,164,000	$291,000	$1,455,000
Battery Backup Retrofits - in Underserved Areas	$780,000	$195,000	$975,000
Overhead Guide Sign Retrofit - Regionwide	$498,400	$124,600	$623,000
Overhead Guide Sign Monotube Structure Replacement - Underserved	$300,000	$75,000	$375,000
APS Push Button Retrofit at Signalized Intersections - Regionwide	$4,985,000	$1,246,200	$6,231,200
Mid-block Pedestrian Crossing with HAWK Beacon - Schools/Ped zones	$544,400	$136,100	$680,500

Centerline Striping, Edge striping, crosswalks - Regional/Rural	$1,728,000	$432,000	$2,160,000
Rectangular Rapid Flash Beacons - Schools and Churches	$80,000	$20,000	$100,000
Flashing Advanced Warning Beacons for Signalized Intersections - Rural	$2,304,000	$576,000	$2,880,000
Enhanced Stop-Controlled Intersection Signage - Rural/Regional/Tribal	$230,400	$57,600	$288,000
Upgrade Stop-Controlled Intersections to LED Stop Signs - Rural/Tribal	$720,000	$180,000	$900,000
Post Mounted Speed Feedback Signs - Rural/Tribal	$360,000	$90,000	$450,000

Table 9. Funds to Underserved Communities

Subtotal Funds to Underserved Communities in the Region:	Federal $	Non-Federal $	Total $
Justice 40 Area - Underserved Population Region	$10,196,356	$1,620,028	$11,816,384
Rural & Tribal Areas	$1,390,400	$347,600	$1,738,000
Rural, Regional	$4,032,000	$1,008,000	$5,040,000
Urban, Regional	$5,581,244	$2,324,372	$7,905,616

Table 10. Expenditure by Capital, Contingencies, Inflation

Proposed Expenditure by Area Type	Federal $	Local $	Total $
Supplemental Action Plan	$200,000	$50,000	$250,000
Capital for Implementation	$15,625,000	$3,906,250	$19,531,250
Contingencies - 20% of total	$3,125,000	$781,250	$3,906,250
Inflation adjustment - 12% of total	$2,250,000	$562,500	$2,812,500
Total	**$21,200,000**	**$5,300,000**	**$26,500,000**

E. APPENDICES

A. Local Road Safety Plan
B. Self-Certification Eligibility Worksheet
C. High Injury Network Map Series
D. Proposed City of Tulsa Mid-Block Pedestrian Crossing Signals
E. HDC/APP Areas with Crashes Mapped
F. DRAFT Agreement to Implement SS4A Grant
G. Resolution of INCOG Board regarding LRSP and Goal to Reduce Fatal and Injury Crashes
H. Jurisdictional Crash Analysis Reports from OKSAFE-T
I. Engineer Cost Estimates
J. Letters of Commitment
    a. INCOG
    b. City of Tulsa
    c. Tulsa County
    d. Wagoner County
    e. City of Broken Arrow
    f. City of Owasso
    g. Senator Inhofe
    h. Oklahoma Department of Transportation
    i. INCOG Bicycle Pedestrian Advisory Committee