

# OKLAHOMA Active Transportation Plan

October 2023



# ACKNOWLEDGMENTS

The Oklahoma Department of Transportation would like to thank the many staff, state and local partners, stakeholders, and citizens who provided valuable feedback and guidance throughout the development of this plan.

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Cover photo: River Parks Authority

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**WHAT IS ACTIVE TRANSPORTATION?**

For this plan, active transportation includes more than just people who walk and bike, but also people who use wheelchairs and mobility scooters, pedal and electric scooters, electric bikes, skateboards, and other similar wheeled vehicles. Basically, anything that could legally use the sidewalk, bicycle lane, or path!

Credit: River Parks Authority

**VISION FOR ACTIVE TRANSPORTATION IN OKLAHOMA:**

Provide a safe, comfortable, and connected transportation network for people who walk, bike, and use other active modes to reach everyday destinations regardless of age, background, or abilities.

# CHAPTER 1. INTRODUCTION

## Background and Purpose

Transportation is vital infrastructure that touches people's lives daily. It determines one's access to jobs, goods, services, and it affects each individual's safety, health, and well-being. ODOT is dedicated to supporting a safe and effective transportation system that provides multimodal opportunities for active transportation users of all ages, abilities, and backgrounds. Consisting of sidewalks, bikeways, multi-use trails, and other infrastructure, an active transportation system promotes safety and health while benefiting the environment and the economy. Simply put, increased access to multimodal transportation makes Oklahoma a better place to live, work, and visit.

This first-ever Active Transportation Plan (ATP) was developed with input from stakeholders and the public from across Oklahoma. The purpose of the ATP is to build a foundation for greater opportunities to safely and comfortably walk, bike, and use active modes for transportation in communities across the state. This plan recommends policies, programs, design tools, and other resources that will lead to more proactive consideration of active transportation needs in the planning and design of roadways and will help support local communities' active transportation planning, design, and implementation efforts.

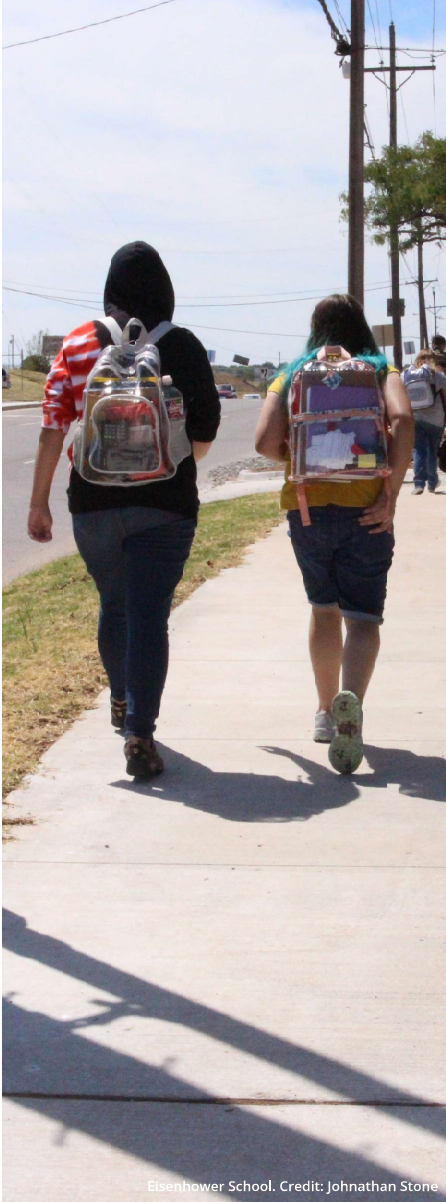
In the State's 2045 Long Range Transportation Plan (L RTP), the Oklahoma Department of Transportation (ODOT) articulated the agency's strategic direction for the next 25 years, acknowledging that a vibrant *multimodal* transportation system is vital to Oklahoma's future economic viability and competitiveness. The L RTP set a broad vision for the agency: to "[p]rovide a *connected, multimodal transportation system that supports a thriving economy and improved quality of life for Oklahomans by providing for safe and efficient movement of people and goods.*" The ATP builds on the L RTP and provides a vision, policy framework, and partnership opportunities for providing and promoting safe and integrated active transportation options across the state.

Before the development of this ATP, ODOT had not previously taken a comprehensive look at the experience of active transportation users across the state and the policies that impact their everyday experience. This plan was developed through a year-long process that included an analysis of existing plans and policies, national best practices, and conversations with ODOT staff, state partners, local governments, stakeholders, and the general public. The plan focuses on policy recommendations and strategies framed by the active transportation guiding principles and goals that were developed with project stakeholders and vetted with the public.

## ACTIVE TRANSPORTATION GUIDING PRINCIPLES AND GOALS:







Eisenhower School. Credit: Johnathan Stone

Although most of the multi-use trails, bicycle routes, and sidewalks in Oklahoma are owned and maintained by partners of ODOT, ODOT plays an important role in setting underlying policy and providing design guidance, technical resources, and funding to support local governments and Metropolitan Planning Organizations (MPOs) in the planning, design, implementation, and maintenance of active transportation infrastructure in urban, rural, and suburban communities across the state. This plan sets the stage for greater collaboration between ODOT and local governments around active transportation needs and lays important groundwork for future improvements:

**This plan is bold, but realistic.** As the state's first Active Transportation Plan, the plan provides a clear vision for the future of active transportation in Oklahoma and identifies goals that reflect the needs and experience of a broad group of stakeholders.

**This plan acknowledges that a one-size-fits-all approach doesn't match the state's mix of community sizes and varied needs.** Oklahoma is made up of big cities, small towns, university towns, tribal areas, communities with large military bases, and sparsely populated rural areas. A varied approach to planning, funding, and implementing active transportation in these areas is needed.

**The plan addresses new requirements and funding opportunities related to the federal Infrastructure Investment and Jobs Act (IIJA) also known as the Bipartisan Infrastructure Law (BIL).** This plan identifies and leverages increased active transportation funding available to Oklahoma communities.

**The plan maximizes contributions from stakeholders and the broader public.** ODOT worked closely with internal and external stakeholders and the broader public to better understand trends, challenges, and opportunities related to active transportation demand, needs, and safety across the state.

**The plan provides policy recommendations that directly impact improvements in safety, health, connectivity, and access for current and future active transportation users.** While this plan does not provide a detailed network plan of pedestrian and bicycling infrastructure locations, its focus on policy recommendations will directly impact safety and connectivity for people who choose to walk, bike, and roll for transportation in Oklahoma.



## Benefits of Active Transportation

Walking and bicycling and the provision of safe and connected active transportation infrastructure in our communities benefit both individuals and the communities at large. Walking and bicycling are simple, affordable, and efficient means of transportation and, while not everyone may choose to walk or bike on a regular basis, almost everyone is a pedestrian for at least a portion of some of their trips, whether it be walking to the bus stop, down the street to a neighbor's house, or crossing the street to a restaurant or shop from their car. Active transportation has benefits for the economy, public health, quality of life, and community.

### ECONOMIC BENEFIT

Projects that support walking, biking, and moving actively using assistive devices **COST OVER 75 PERCENT LESS** to build per mile compared to typical, car-focused transportation projects, they also can bring a broad range of economic benefits for local economies, local governments, and communities.

A 2012 study commissioned by the American Association of State Highway and Transportation Officials (AASHTO) and referenced in a Rails-to-Trails Conservancy report found that transportation improvement projects for greenways, sidewalks, and bikeways created more jobs than any other type of project at **17 JOBS PER \$1 MILLION SPENT.**

Active friendly projects can increase property and sales tax revenue by up to 10 times.



Bicyclists and walkers, on average, spend similar amounts or more, and make more trips than those using automobiles at local retailers.



### PHYSICAL AND MENTAL HEALTH BENEFITS

- ✓ Heart disease, cancer, stroke, and diabetes are all within the top ten causes of death in Oklahoma, the risk of which can be reduced by increased physical activity.
- ✓ Regular physical activity such as walking 30 minutes a day 5 days a week helps improve your overall health, fitness, and quality of life. It also helps reduce your risk of chronic conditions like obesity, type 2 diabetes, heart disease, many types of cancer, depression and anxiety, and dementia.
- ✓ Studies show a 4 to 15 percent increase in productivity, and 27 percent fewer task errors for physically fit employees and an easy way to promote that is through bicycling to work.
- ✓ An 18% lowered risk of depression was found among adults who got just half the recommended amount of physical activity per week—the equivalent of about 75 minutes of brisk walking—compared with adults who reported no physical activity.



**CYCLISTS, ON AVERAGE, LIVE TWO YEARS LONGER THAN NON-CYCLISTS AND TAKE 15% FEWER DAYS OFF WORK DUE TO ILLNESS.**

### QUALITY OF LIFE AND COMMUNITY BENEFITS

More people walking and bicycling means more eyes on the street which improves safety, encourages more activity, and enhances community cohesion.

More people walking and bicycling for transportation means fewer vehicles on the road, reducing congestion and parking demand.



- ✓ A connected, safe system of active transportation infrastructure provides increased mobility options for getting around independently for those who can't drive including children, many seniors, people with disabilities, and low-income residents
- ✓ Communities designed to be bike and pedestrian-friendly draw people in and foster social connections among neighbors.

**FOUR IN FIVE MILLENNIALS SAY THEY WANT TO LIVE IN PLACES WHERE THEY HAVE A VARIETY OF OPTIONS TO GET TO JOBS, SCHOOL, OR DAILY NEEDS.**





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## CHAPTER 2. CURRENT TRENDS, NEEDS, AND ISSUES

### Active Transportation Snapshot

#### EXISTING INFRASTRUCTURE

Oklahoma's active transportation system includes a network of multi-use trails, bicycle routes, sidewalks, shoulders, crossings, signals, lighting and other infrastructure. Most of this active transportation infrastructure is owned and maintained by local jurisdictions, however ODOT does own and maintain some active transportation infrastructure on the state highway system. This ATP does not include a comprehensive analysis of existing active transportation infrastructure beyond public input, however this section provides a high-level overview of the current infrastructure available.

While comprehensive data is not available for all of pedestrian and bicycle facilities on the local- and state-owned roadway system, the bicycle network includes an estimated 520+ miles of bike routes, bike lanes, and shared-use paths or trails located primarily in the MPO regions.<sup>1</sup> Comprehensive sidewalk data on state and local roadways is not currently available.

Oklahoma has approximately 116,000 miles of public roads, of which ODOT is responsible for the 12,254 centerline miles of the state highway system. While bicyclists and pedestrians are not permitted on the 933 miles of state-maintained interstate, there are approximately 11,000 miles of state highways that may serve bicyclists and pedestrians including those state highways serve as main streets or otherwise part of a community's street network. On many of these state highways, high speeds, long crossings, infrequent signals, and lack of sidewalks and ADA ramps make active transportation use challenging and often create unintentional barriers within communities.

<sup>1</sup> Oklahoma DOT 2020-2045 Long Range Transportation Plan

#### EXISTING MILEAGE OF BIKE ROUTES, BIKE LANES, AND SHARED-USE PATHS OR TRAILS

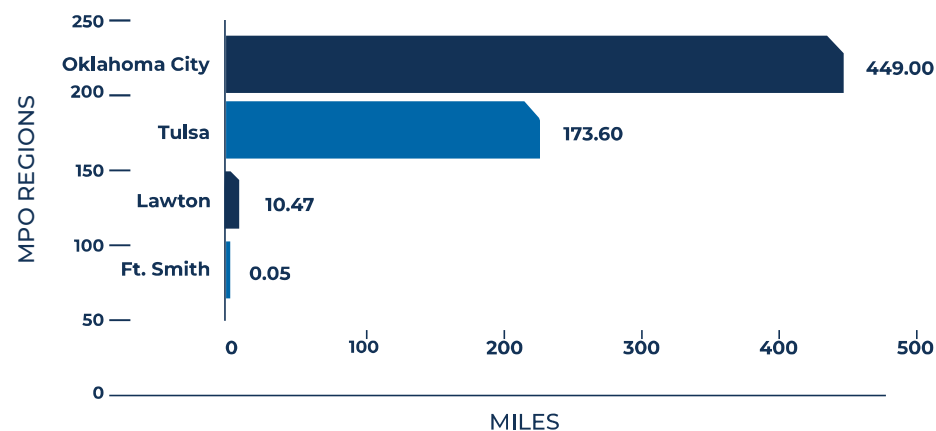


Figure 1: Existing Mileage of Bike Routes, Bike Lanes, and Shared-Use Paths or Trails

#### BENEFITS OF PAVED SHOULDERS

Approximately 9,500 miles of the state system are rural two-lane highways with potential for longer distance bicycle travel for both transportation and tourism, however nearly 5,400 miles of these lack paved shoulders. The LRTP recommends adding shoulders to these rural roads where they are lacking or deficient. This would improve safety for all roadway users.

"Paved shoulders proved a recovery area for errant motor vehicles, and lengthen the lifespan of the roadway by providing pavement structure support, reducing edge deterioration, and improving drainage. Paved shoulders significantly reduce maintenance costs and are proven to reduce crashes. Paved shoulders provide space for pedestrian and bicycle travel, which facilitates safer passing behaviors and improves comfort for all users."

—FHWA Achieving Multimodal Networks

#### US BIKE ROUTE 66

The US Bike Route (USBR) System is a developing network that currently features 18,000 miles of bike routes across 34 states. The system aims to create a national network of bicycle routes that connect urban and rural areas across the country via on and off-street bike paths. USBRs create the opportunity for people of all abilities to bicycle for travel, transportation, and recreation.

In 2022, the Oklahoma Department of Transportation Commission approved the designation of historic Route 66 in Oklahoma as a new bicycle route. This historic route in Oklahoma is now a part of a national US Bike Route map, and more than 400 miles of bike route signage have been approved along the corridor. The bike route will pass through communities of all sizes including both Oklahoma City and Tulsa and include parts of state highways, city streets and county roads. It will also connect to segments in neighboring states that already have been designated as bike routes.

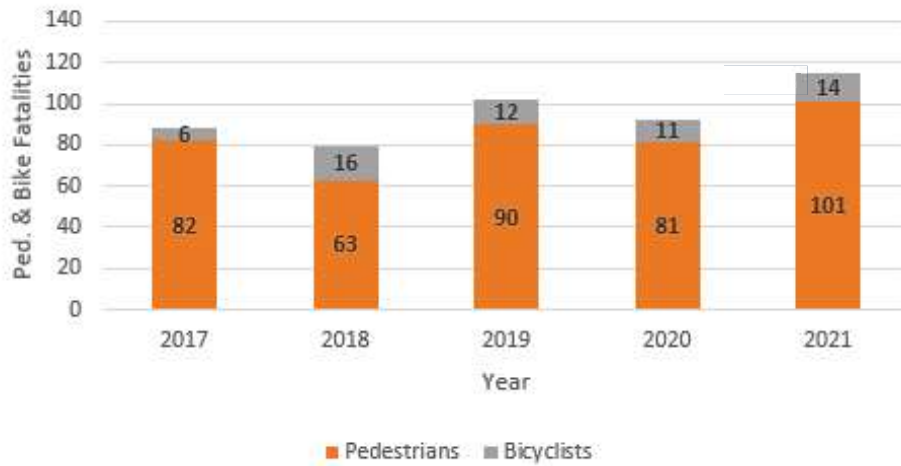


## SAFETY

Pedestrian and bicyclist serious injury and fatalities have been increasing in Oklahoma in recent years even as the total of serious injury and fatality crashes overall has decreased. Due to the fact that bicyclists, pedestrians, wheelchair users, scooters and other active modes are largely unprotected by any sort of compartment or shield, these users are more vulnerable to injury and fatalities when they are involved in collisions and therefore, need greater protection. These users have been categorized

as Vulnerable Road Users (VRU)<sup>2</sup> and as part of the federal Bipartisan Infrastructure Law (BIL), each state is required to complete a VRU assessment that studies safety trends related to VRUs and identifies opportunities to proactively improve them. The full VRU Assessment for Oklahoma roadways is provided as an appendix to the Strategic Highway Safety Plan (SHSP) and also included as Appendix A to this ATP. A brief summary of the finds is provided below.

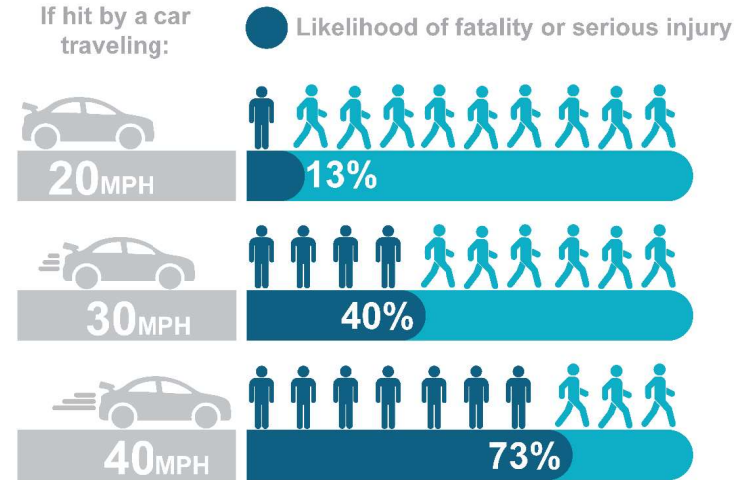
**ANNUAL FATALITIES BY VULNERABLE ROAD USER TYPE**



**Figure 2: Annual Fatalities by Vulnerable Road User Type**

<sup>2</sup> A vulnerable road user is a nonmotorist with a fatality analysis reporting system (FARS) person attribute code for pedestrian, bicyclist, other cyclist, and person on personal conveyance or an injured person that is, or is equivalent to, a pedestrian or pedalcyclist as defined in the ANSI D16.1-2007. (See 23 U.S.C. 148(a)(15) and 23 CFR 490.205). A vulnerable road user may include people walking, biking, or rolling. Please note that a vulnerable road user: • Includes a highway worker on foot in a work zone, given they are considered a pedestrian. • Does not include a motorcyclist.

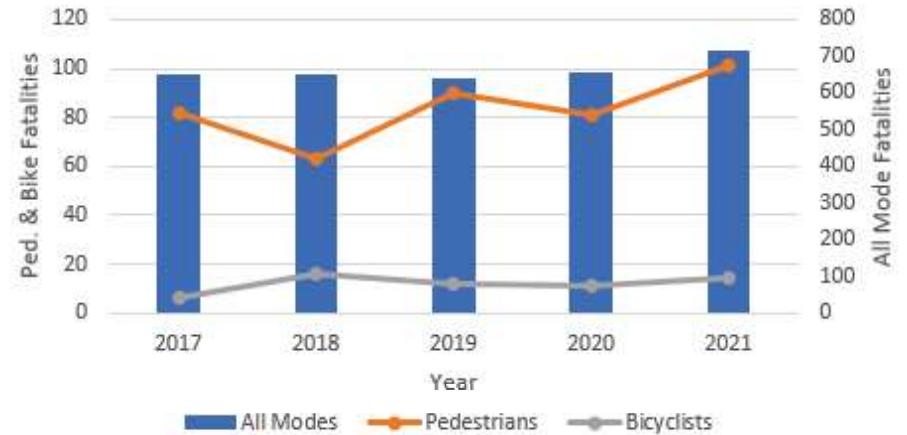
If hit by a car traveling:



Data Citation: Tefft, B.C. (2011). Impact Speed and a Pedestrian's Risk of Severe Injury or Death (Technical Report). Washington, D.C.: AAA Foundation for Traffic Safety.

**Figure 3: Impact of Speed on Pedestrian Safety**

**ANNUAL FATALITIES BY MODE**



**Figure 4: Annual Fatalities by Mode**

Across Oklahoma, VRU fatalities and serious injuries have been on the rise, with a 23% increase in pedestrian fatalities across the state from 2017 through 2021. High density of crashes resulting in VRU deaths and serious injuries were found in urban areas, including Oklahoma City and Tulsa, but there were also high VRU fatalities and serious injury rates per 100,000 residents in smaller cities, including Norman, Lawton, and Muskogee. Additionally, given the greater number of American Indians living in Oklahoma and overrepresentation in pedestrian and bicycle crashes nationally, Tribal Communities were also a high-risk area. The VRU Safety High-Risk Areas are identified as the following:

- Oklahoma City and ACOG
- Tulsa and INCOG
- Norman
- Lawton
- Muskogee
- Tribal Communities

Analyses also identified an overrepresentation of these fatalities and injuries in disadvantaged communities across the state and particularly in our larger metro areas. Other key findings include higher rates of pedestrian fatalities and serious injuries, VRU fatalities and injuries in dark, unlit conditions, as well as a high rate of DUI and hit-and-run involvement. Analyses and consultations also noted the importance of focusing

efforts and investments in communities with large indigenous populations, recognizing the unique needs and histories that the communities represent. These findings are key to informing Oklahoma authorities' decision making related to VRU safety and guiding the development of this VRU safety assessment. However, Oklahoma has made efforts to improve VRU safety in many existing policies, programs, and practices. This includes adding a new VRU Safety Emphasis Area in the 2023 SHSP, the 2045 LRTP, the ATP, the OHSO, safety awareness programs, such as Watch for Me OK program, and various policies underneath the Oklahoma Motor Vehicle Statues. However, more work needs to be done to reach zero VRU fatalities and serious injuries on all roads across Oklahoma.

The next steps in Oklahoma should include adopting a goal of zero VRU deaths or serious injuries by a target year in Oklahoma, moving towards fully embedding the Safe System Approach in all road safety decisions and prioritizing VRU safety across programs. This includes prioritizing resources and improvements in the identified VRU Safety High-Risk Areas and advancing the VRU Safety Strategies outlined, while also monitoring what improvements are working to prevent VRU deaths and serious injuries. Those improvements should be applied in similar conditions where crashes could occur to be sure that the state is utilizing a proactive approach to VRU safety.

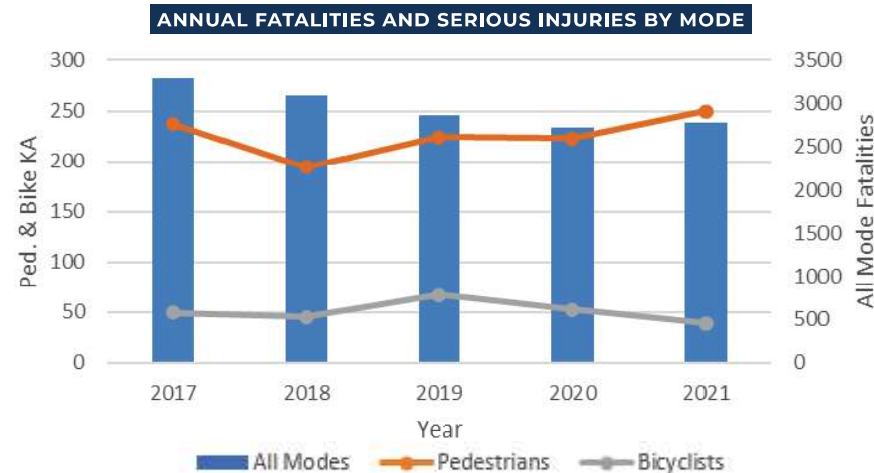


Figure 5: Annual fatalities and serious injuries by mode

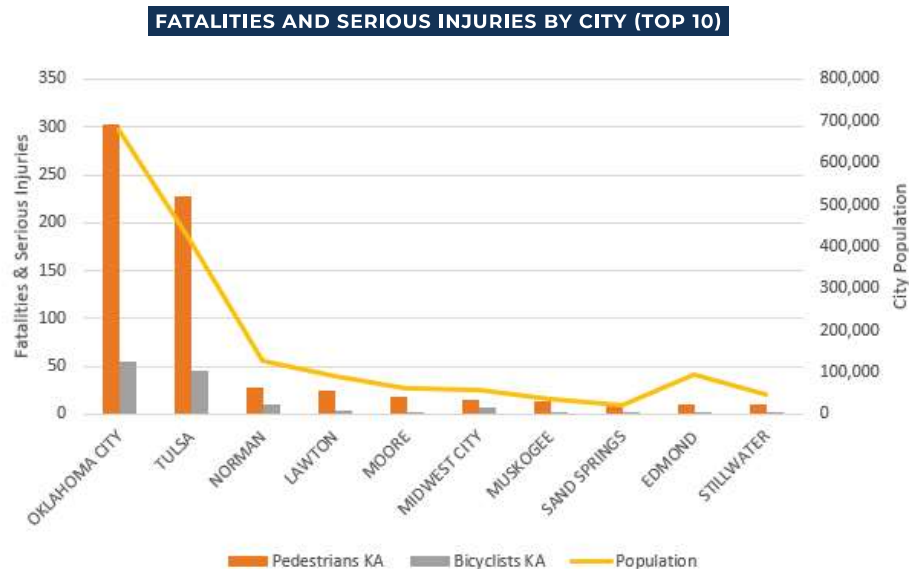


Figure 6: Fatalities and serious injuries by city (top 10)



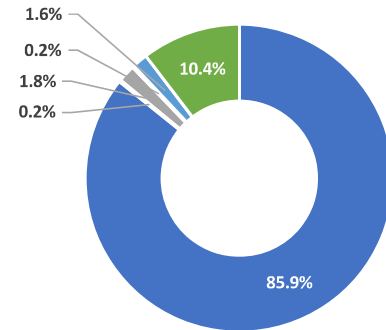


## Means of Transportation to Work

For nearly 70 years, most American communities have taken a car-centric approach to providing transportation infrastructure and many of the choices that Oklahomans make reflect that reality. As shown in Figure 8, nearly 86 percent of Oklahomans travel to work by car, truck, or van.<sup>3</sup> Only 0.2 percent currently commute by bike, 1.8 percent by walking, and 0.2 percent by public transportation. Over 10.4 percent of employees work from home in Oklahoma. This compares to national figures of nearly 76 percent commute by car, truck or van; 17.9 percent work from home; 0.4 percent commute by bicycle; 2.2 percent walking; 2.5 percent public transportation.

These data provide a snapshot of transportation habits; however, it is important to keep in mind that traveling to work is typically one of the longest trips that most people make on a regular basis and for many it may be simply too far to walk or bike to work. There are however many shorter trips that people make on a weekly basis that are prime opportunities for shifting to non-motorized trips.

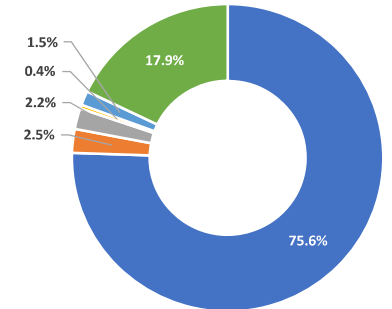
**MEANS OF TRANSPORTATION TO WORK IN OKLAHOMA**



- Car, truck, or van
- Public transportation (excluding taxicab)
- Walked
- Bicycle
- Taxicab, motorcycle, or other means
- Worked from home

**Figure 7:** Means of Transportation to Work in Oklahoma (ACS 2021)

**MEANS OF TRANSPORTATION TO WORK IN THE U.S.**



- Car, truck, or van
- Public transportation (excluding taxicab)
- Walked
- Bicycle
- Taxicab, motorcycle, or other means
- Worked from home

**Figure 8:** Means of Transportation to Work Nationally (ACS 2021)

<sup>3</sup> 2020 American Community Survey (ACS) 5-year estimates



## Vehicles per Household

It is also useful to examine the number of households with limited car access who may walk or bike to destinations by necessity rather than choice. Five percent of Oklahoma households do not have access to a vehicle at all representing more than 80,000 households. An additional 483,106 households or 32% only have access to one car. This active transportation plan provides guidance

to ensure that safe and connected networks are provided for those who do not have access to a vehicle, as well as encourage those who do have vehicles to choose active modes over driving for short trips of all types.

Vehicles per Household	Number of Households Estimate	Percentage of Households
No vehicle available	80,540	5.4%
1 vehicle available	483,106	32.3%
2 vehicles available	572,795	38.4%
3 vehicles available	240,434	16.1%
4 or more vehicles available	116,694	7.8%
<b>Total Oklahoma Households</b>	<b>1,493,569</b>	

**Table 1:** Vehicles per Household (ACS 2020)



Credit: Max Harris



## ACTIVE TRANSPORTATION USER EXPERIENCE

Through multiple engagement opportunities, ODOT gathered input from the public to better understand the user experience from people who walk, bike and use other active modes on a regular basis or who would like to but do not feel safe or comfortable currently doing so. Engagement opportunities included an online survey

housed on the project website, a series of ten virtual interactive workshops open to the public, and a focus group to gather information about school related travel. A full summary of the engagement opportunities and input gathered from the public is provided in Appendix B. Key takeaways are provided below.

### Survey Key Takeaways

While nearly **93%** of respondents report getting around their community by driving, **42%** also walk and **36%** also bike. (Respondents could choose more than one mode.)



Many respondents use active transportation for health benefits and enjoyment.



Lack of infrastructure was the most commonly identified barrier to active transportation, followed by motor vehicle speeds and volumes.



Respondents indicated they were most comfortable biking on a multi-use trail and other facilities with separation from motor vehicle traffic, and the least comfortable biking in the street.



**NEARLY HALF** of the respondents reported being involved in a near miss/close call while walking, bicycling, or using other active modes of transportation in Oklahoma.



Parks and trails were identified as the most important destination to reach by active transportation, followed by shopping, employment, and schools.

Sidewalk gaps were the top priority for improvements needed in respondents' neighborhoods.

## Online Workshop Takeaways

Nearly 170 attendees participated in the online public workshops which included 10 workshops over a in January 2023, one in each ODOT District plus additional workshops for the Tulsa and Oklahoma City Metro areas. Participants provided comments and built consensus around the following guiding principles of **Safety, Equity, Mobility, Connectivity, Livability, Coordination, and Education**. A full summary of survey comments is provided in Appendix C. A very high-level summary is provided below and organized by key themes:

### SAFETY AND CONNECTIVITY CONCERNS

- High speeds
- Lack of sidewalks, shoulders, bike facilities
- Important destinations on busy streets with no sidewalk
- Long crossings or lack of crossings
- Conflicts with vehicles, trucks
- Lack of lighting, signage
- Low-income users disproportionately affected due to lack of vehicle access and other factors



### EDUCATION AND AWARENESS

- Education is important for people to be proactive in their own safety.
- Add the protection of the vulnerable user, rights of bicyclists and pedestrians, laws and ordinance education.
- Need education for decision makers and the general public that these are valid uses of transportation, not just recreation.
- Promote Oklahoma as a destination/tourism.
- Maps of pedestrian/bicycle routes and signage with/in lieu of maps.



### PLANNING, PROJECT DELIVERY, DESIGN & MAINTENANCE

- Keep pedestrian and bicycle needs at the forefront during typical transportation projects.
- Project prioritization methods are needed. Funding is heavily weighted towards highway projects.
- Need guide on how to plan and implement pilot projects.
- Active Transportation Plan at the regional level, grant program for funding, developing plans
- Serve diverse populations and people with multiple needs.
- Community input is valuable.
- Develop tools to measure equity.
- Address urban, suburban, AND rural needs.
- Need policies for highways that cross communities.
- Top-down policy and guidance would help to keep projects with amenities.
- Sidewalk maintenance falling on homeowners is a barrier to implementing more sidewalks.
- Tie recommendations to ODOT 8-year Construction Work Plan. Bundle projects where possible.
- Improved signage and maintenance (regular sweeping of bike lanes).

### PARTNERSHIP AND COLLABORATION

- Sharing resources and collaboration is important.
- Need better coordination between local communities and ODOT.
- Work with communities to connect trails, sidewalks, and crossing barriers.

## PLANNING AND POLICY FRAMEWORK

### MULTI-JURISDICTIONAL ACTIVE TRANSPORTATION INFRASTRUCTURE PLANNING AND IMPLEMENTATION

Pedestrians, bicyclists and other active transportation users rely on a myriad of infrastructure that is planned, implemented, and maintained by a variety of jurisdictions. ODOT and city governments are involved in each of those steps. In addition, Metropolitan Planning Organizations (MPOs) also plan and fund infrastructure in urban areas and Regional Transportation Planning Organizations (RTPOs) educates local communities on funding opportunities in non-metropolitan areas. The Oklahoma Department of Tourism funds trails through the Recreational Trails Program (RTP).

While the greatest share of a community's active transportation network is often under local jurisdiction, connectivity to key destinations often includes access along and across US and State Highways as well. In Oklahoma, most US and State Highways are under the jurisdiction of ODOT and their primary function is to move people, goods and services long distances between cities. Different planning, design and maintenance policies may

apply depending on the roadway's jurisdiction resulting in an increased need for multi-jurisdictional coordination as these roadways often serve a dual-function: state roads may serve as long-distance connections as well as small-town Main Streets where walking, on-street parking, and lower speed limits are important for active transportation safety, community vibrancy, and economic development. In other local communities, discount stores, grocery stores, and convenient stores that provide access to essentials such as food and medicine and are located along state roadways or at intersections along them.

### ONGOING AND PREVIOUS PLANNING EFFORTS

The details of Active Transportation network planning largely occur at the local and regional level however, broader goals, strategies, and policies are often established at the state level through plans like this ATP, and other broad state transportation and safety documents like those summarized below. ODOT's internal policy directives, design standards, funding decisions, and state laws are other examples of how decisions at the state level can set an overall tone of support and impact local jurisdictions' ability to implement active transportation networks.



Credit: River Parks Authority

This section of the plan summarizes some of the most relevant plans at each level of government.

### Long Range Transportation Plan (LRTP) 2045

The [2020–2045 LRTP](#) is a policy document that guides ODOT in the development, management and operation of the state's transportation system for the next 25 years. The 2020–2045 LRTP provides strategic guidance for ODOT's long term vision referenced in the Introduction to this ATP – provide a connected, multimodal transportation system that supports a thriving economy and improved quality of life for Oklahomans by providing for safe and efficient movement of people and goods.

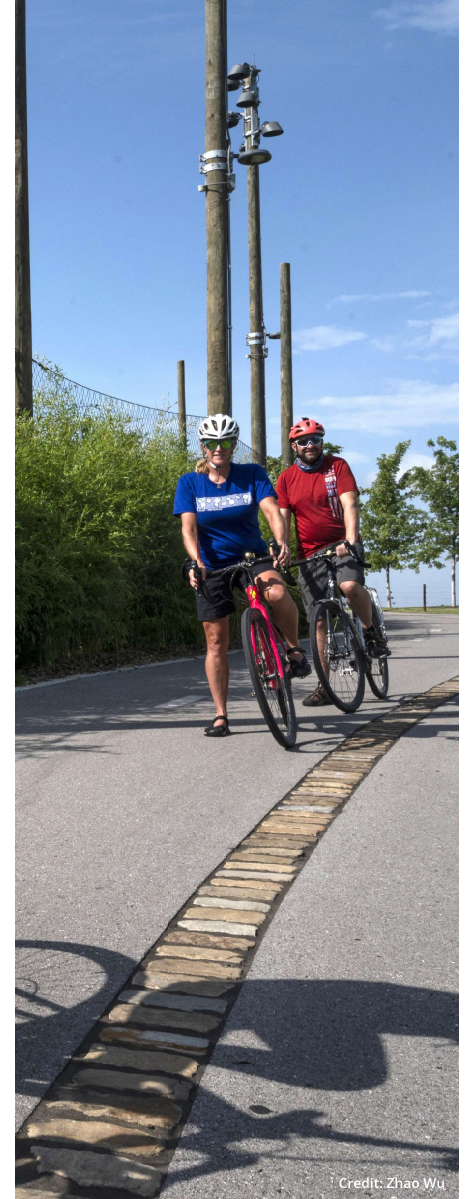
Chapter 10, Section 7 of the LRTP includes policies and strategies to address the needs of active transportation. This ATP incorporates and expands on those policies and strategies as indicated in the table on pages 29–31.

### 2023–2028 Strategic Highway Safety Plan

No more than every five years, Oklahoma Department of Transportation (ODOT) develops a multi-year [Strategic Highway Safety Plan \(SHSP\)](#) that focuses on all surface transportation modes, including highway, rail, transit, bicyclists, and pedestrians. The 2023–2028 SHSP was developed through a data-driven, comprehensive, multidisciplinary process that establishes statewide performance measures, goals, objectives, and several safety emphasis areas including Vulnerable Road Users (VRU) which includes active transportation. The SHSP describes a program of strategies to reduce or eliminate safety hazards using federal aid highway funds. The 2023–2028 SHSP includes a VRU assessment as described on pages 13–15 which identifies projects and strategies to improve VRU safety.

### ODOT Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations

The [ODOT Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations](#) was developed as part of the Federal Highway Administration's (FHWA) Safe Transportation for Every Pedestrian (STEP) initiative and targets specific countermeasures for improving pedestrian safety at uncontrolled intersections. This document was tailored to Oklahoma and was developed with representatives from ODOT in coordination with the FHWA Division Office.



Credit: Zhao Wu



The Action Plan recommends actions that when implemented may reduce the number and rate of pedestrian crashes, fatalities, and injuries on Oklahoma and the nation's highways. If emulated by local transportation agencies, these benefits may also be realized on local roads. Many of the Action Plan recommendations are incorporated into the Chapter 3 Recommendation Strategies and Actions summarized in the tables on pages 29–31.

### 2018-2022 Statewide Comprehensive Outdoor Recreation Plan (SCORP)

[The Oklahoma Statewide Comprehensive Outdoor Recreation Plan \(SCORP\)](#) developed for the Oklahoma Department of Tourism provides an assessment of the state's recreational resources and management issues. SCORP provides Oklahoma decision-makers an analysis of the most significant outdoor recreation issues facing the people of Oklahoma and suggests strategies to address these issues during the next five years. The planning process found that Oklahomans want access to and provision of more recreational trails; the state lacks long trails that cross jurisdictional boundaries; and the state is missing out on health and economic benefits offered by trails. The SCORP recommends that Oklahoma update its now outdated statewide trail plan.



Eisenhower School. Credit: Johnathan Stone

### Local and Regional Plans

While many communities in Oklahoma have developed bicycle, pedestrian, trail, safe routes to school, or active transportation plans, there is not a comprehensive inventory of these plans. However, Oklahoma's three MPOs and the Frontier MPO which covers the Ft. Smith, Arkansas region and portions of eastern Oklahoma have each developed regional active transportation plans:

- Oklahoma City Area Regional Transportation Study (OCARTS) Area Active Transportation Plan
- Indian Nation Council of Governments GO Plan Tulsa Regional Bicycle and Pedestrian Master Plan
- Lawton Metropolitan Planning Organization Bicycle and Pedestrian Plan Phase 1 Route Analysis & Feasibility Study
- Frontier Metropolitan Planning Organization Regional Pedestrian and Bicycle Plan 2016

### State Laws

A summary of the most relevant laws affecting pedestrians and bicyclists is provided below. Appendix D includes general resources for active transportation planning, design, and implementation as well as model policies for pedestrian and bicycle laws:

- **PEDESTRIAN RIGHT-OF-WAY IN CROSSWALKS** (47 OK STAT § 11-502 (2022))
  - » When traffic-control signals are not in place or not in operation, the driver of a vehicle shall yield the right-of-way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within a crosswalk. Whenever a vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the roadway, the driver of any other vehicle approaching from the rear shall not overtake and pass such stopped vehicle.
- **PEDESTRIANS CROSSING AT LOCATIONS OTHER THAN CROSSWALKS** (47 OK STAT § 47-11-503 (2016))
  - » Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway. Between adjacent intersections at which traffic-control signals are in operation pedestrians shall not cross at any place except in a marked crosswalk.



Bike Safety Class in OKC. Credit Bill Elliott

- **PEDESTRIANS ON ROADWAYS OR BRIDGES** (47 OK STAT § 11-506 (1986))
  - » Where sidewalks are provided, it shall be unlawful for any pedestrian to walk along and upon an adjacent roadway. Where sidewalks are not provided, any pedestrian walking along and upon a highway shall, when practicable, walk only on the left side of the roadway or its shoulder facing traffic which may approach from the opposite direction and shall yield to approaching vehicles.
- **SAFE PASSING LAWS** (47 OK STAT § 47-11-1208 (2014))
  - » When overtaking and passing a bicycle proceeding in the same direction, a person driving a motor vehicle shall exercise due care by leaving a safe distance between the motor vehicle and the bicycle of not less than three (3) feet until the motor vehicle is safely past the overtaken bicycle.
- **SHARE THE ROAD LICENSE PLATES** (47 OK STAT § 1135.3V1 (2022))
  - » Authorizes to design and issue appropriate official special license plates to persons wishing to demonstrate support, interest, or membership to or for an organization, occupation, cause or other subject.
- **DISTRACTED DRIVING LAWS** (47 OK STAT § 11-901B (2022))
  - » The operator of every vehicle, while driving, shall devote their full time and attention to such driving.
- **MANDATORY USE OF SEPARATED FACILITIES** (47 OK STAT § 47-11-1205 (2018))
  - » Every person operating a bicycle or motorized scooter upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as close as is safe to the right-hand curb or edge of the roadway, except under specified conditions.
- **BICYCLING UNDER THE INFLUENCE** (47 OK STAT § 47-11-902V1 (2017))
  - » It is unlawful and punishable as provided in this section for any person to drive, operate, or be in actual physical control of a motor vehicle within this state, whether upon public roads, highways, streets, turnpikes, other public places or upon any private road, street, alley or lane which provides access to one or more single or multifamily dwellings, who is under the influence of alcohol or any intoxicating substance other than alcohol.



- **"IDAHO STOP" AND VEHICLE DETECTION ERRORS (47 OK STAT § 11-202 (2022))**
  - » A person operating a bicycle approaching a stop sign shall slow down, if required to avoid an immediate hazard, stop at the stop sign before entering the intersection, and cautiously enter the intersection and yield the right-of-way to pedestrians within an adjacent crosswalk and to other traffic using the intersection. If a person operating a bicycle determines there is no immediate hazard, he or she may cautiously make a right or left turn, or proceed through the intersection without stopping at the stop sign.
  - » A person operating a bicycle approaching a steady red traffic-control signal shall make a complete stop at the steady red traffic-control signal before entering the intersection, and yield the right-of-way to all oncoming traffic that constitutes an immediate hazard during the time that he or she is moving across or within the intersection. If a person operating a bicycle determines there is no immediate hazard, he or she may proceed through the steady red traffic-control signal with caution.
- **AUTHORIZATION FOR LOCAL REGULATION OF BICYCLES (47 OK STAT § 15-102 (2022))**
  - » Regulating the operating of bicycles and requiring the registration and licensing of same, including the requirement of a registration fee.

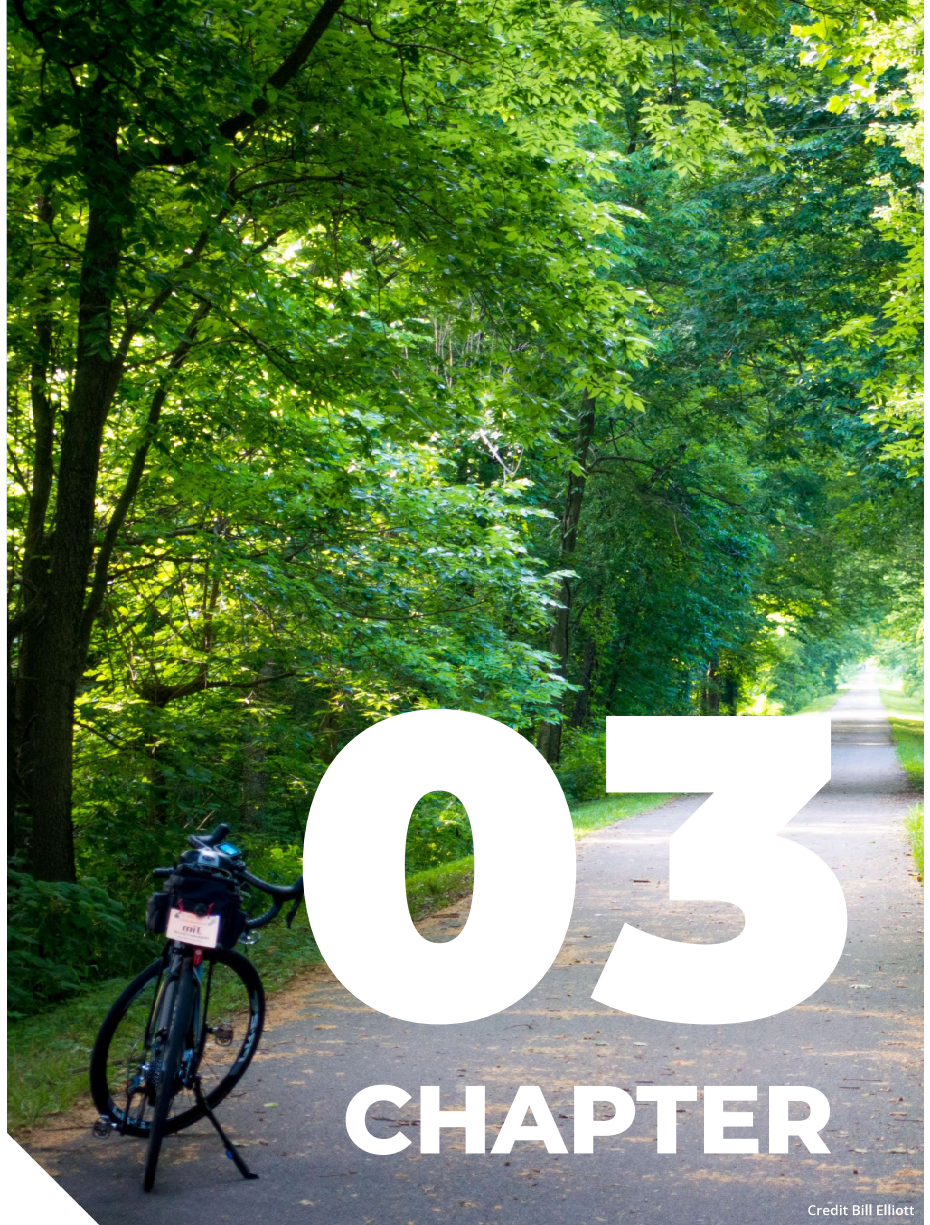
- **DOORING LAW (47 OK STAT § 11-1105 (2022))**
  - » No person shall open the door of a motor vehicle on the side available to moving traffic unless and until it is reasonably safe to do so, nor shall any person leave a door open on the side of a vehicle available to moving traffic for a period of time longer than necessary to load or unload passengers.
- **ELECTRIC BIKES AND OTHER ELECTRIC MICRO-MOBILITY DEVICES (47 OK STAT § 1-104 (2022))**
  - » A bicycle is a device upon which any person or persons may ride, propelled solely by human power through a belt, chain, or gears, and having two or more wheels, excluding mopeds. An electric-assisted bicycle is any bicycle with two or three wheels; and fully operative pedals for human propulsion and equipped with an electric motor with a power output of not more than seven hundred fifty (750) watts that meets the requirements of one of the three classes.

Oklahoma does not currently have the following statutes, but best practice and recommendations are provided for each in the appendix.

  - Treatment as a Vehicle (N/A)
  - Vulnerable Road User Laws (N/A)
  - Sidewalk Riding (N/A)
  - Helmet Law (N/A)



Peoria Ave and 67th St, Tulsa. Credit: Zhao Wu



Credit Bill Elliott





Bike Safety Class in OKC. Credit: Bill Elliott

## CHAPTER 3. RECOMMENDATIONS AND STRATEGIES

This Chapter provides an overview of recommended strategies organized by key themes that will help accomplish the Vision and Goals of the plan that were detailed in Chapter 1.

### Planning Themes and Recommended Strategies

Since many of the recommended programmatic and policy strategies developed for this plan address multiple plan goals simultaneously, we have organized them below according to the following plan themes:

- Safety and Connectivity
- Planning, Design, Project Delivery, and Maintenance
- Education and Awareness
- Partnership and Collaboration

The tables below summarize the recommendations and the goals they address.

		SAFETY	EQUITY	MOBILITY	CONNECTIVITY	LIVABILITY	COORDINATION	EDUCATION
SAFETY AND CONNECTIVITY		Active Transportation Guiding Principles						
SC1	Use a systemic approach to active transportation safety that identifies and prioritizes sites for appropriate safety countermeasures based on crash risk factors	X	X			X		
SC2	Utilize the state's forthcoming Vulnerable Road User (VRU) Analysis to identify and prioritize projects and strategies to reduce safety risks for vulnerable road users in high-risk areas	X	X			X		
SC4	Support expansion of active transportation networks in both urban and rural areas	X	X	X	X	X		
SC5	Work with local communities to eliminate gaps and barriers in the active transportation network.	X		X	X	X		
SC6	Add shoulders on portions of the state highway system that lack them or have deficient shoulders. (Updated) LRTP	X		X	X			
SC7	Improve active transportation data collection (user volumes, exposure, facility inventories) to establish baselines for improvements to safety and connectivity							X
SC8	Use the prioritization system in the ODOT ADA Self-Evaluation and Transition Plan to implement sidewalk, ramp, and marked crossing improvements at controlled and uncontrolled locations throughout the state.	X	X	X	X	X		
SC9	Cross-reference findings and recommendations from the VRU assessment and ADA prioritization system to create a comprehensive prioritization plan for all ODOT pedestrian safety projects.	X	X	X	X	X	X	
SC10	Continue to provide pedestrian signals, warning beacons, signage, striping, and lighting at intersections of state routes with high-volume pedestrian crossings. (Existing) LRTP	X						

SAFETY  
EQUITY  
MOBILITY  
CONNECTIVITY  
LIVABILITY  
COORDINATION  
EDUCATION

PLANNING, DESIGN, PROJECT DELIVERY & MAINTENANCE		Active Transportation Guiding Principles						
		SAFETY	EQUITY	MOBILITY	CONNECTIVITY	LIVABILITY	COORDINATION	EDUCATION
PDM1	Support local planning for and documentation of active transportation needs through active transportation planning resources, technical assistance, and coordination		x				x	x
PDM2	Create an online map and database inventory of local active transportation plans to facilitate multijurisdictional collaboration		x				x	
PDM3	Institutionalize the consideration of active transportation users into the ODOT planning, design, project delivery and maintenance process through strategies such as: <ul style="list-style-type: none"> <li>• Checklists/memos</li> <li>• Documentation of project delivery process</li> <li>• Monthly or Quarterly cross division meetings</li> <li>• Greater integration of active transportation in District 8-year plans</li> </ul>	x	x		x		x	
PDM4	Centralize active transportation information and resources through a robust program webpage.						x	x
PDM5	Institutionalize and facilitate best practices in active transportation design at both the state and local level. Examples: <ul style="list-style-type: none"> <li>• Development/Provision of Design resources/ toolkits</li> <li>• Review and update DOT existing manuals such as: <ul style="list-style-type: none"> <li>• Roadway Design Standards &amp; Specifications</li> <li>• Traffic Engineering Standards &amp; Specifications</li> <li>• 2009 Special Provisions</li> <li>• Roadway Design Manual</li> </ul> </li> <li>• Trainings for staff, consultants, locals partners</li> </ul>	x			x		x	x
PDM6	Develop maintenance guidelines that address active transportation user needs	x			x			x
PDM7	Assess and adjust project selection criteria for grant-based programs such as Transportation Alternatives and others to include points for existing active transportation plans, equity, rural vs. urban and other considerations		x					
PDM8	Increase percentage of Transportation Alternatives funds that are spent on active transportation related infrastructure.				x	x		

SAFETY  
EQUITY  
MOBILITY  
CONNECTIVITY  
LIVABILITY  
COORDINATION  
EDUCATION

EDUCATION AND AWARENESS		Active Transportation Guiding Principles						
		SAFETY	EQUITY	MOBILITY	CONNECTIVITY	LIVABILITY	COORDINATION	EDUCATION
EA1	Coordinate with partners to disseminate safety educational information to the public						x	x
EA2	Develop active transportation communications/ promotion strategy around mode shift and increased awareness of benefits of active transportation use			x		x		x
EA3	Develop and promote ODOT's active transportation program and coordinator as resources for local communities and a clearinghouse for funding information and technical resources internally and externally.							x
EA4	Build capacity at the state and local level to leverage federal active transportation funding sources and deliver high-quality active transportation facilities across the state through the provision of trainings, webinars, toolkits, and other resources to a variety of audiences	x			x		x	x
EA5	Track and share progress on the implementation of the ATP and other gains for active transportation							x

### PARTNERSHIP AND COLLABORATION

Active Transportation Guiding Principles

		SAFETY	EQUITY	MOBILITY	CONNECTIVITY	LIVABILITY	COORDINATION	EDUCATION
PC1	Increase internal ODOT coordination						x	
PC2	Strengthen and continue ongoing coordination with other state agencies such as Tourism & Recreation, Education, Health, TSET, Department of Commerce/ Oklahoma's Main Street Program						x	
PC3	Support local communities', RTPOs' and MPOs' active transportation efforts						x	x
PC4	Integrate pedestrian and bicycle infrastructure to create more multimodal opportunities				x	x	x	
PC5	Work with ODOT legislative liaison to consider changes to state law to improve active transportation user safety and acceptance	x	x		x			x



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Credit: Zhao Wu

## CHAPTER 4. IMPLEMENTATION

As Oklahoma looks towards the implementation of this first-ever Active Transportation Plan, it is important to recognize that building more statewide capacity for implementation of high-quality active transportation infrastructure and programs will require solidifying relationships with federal, state, and local government partners as well as private foundations; fostering a sense of true collaboration; and rolling out new policies and programs strategically to create the necessary building blocks for success. Some recommendations will take years to fully implement while others may already be partially underway or easily completed within the first couple years. This section of the plan identifies key partners for implementation and their roles and responsibilities as well as a brief overview of funding and immediate next steps towards implementation.

- Building Partnerships
- Funding Overview
- Immediate Next Steps

### Building Partnerships

#### INTERNAL COORDINATION

ODOT should continue to strengthen partnerships within the agency including in particular between Government Affairs, Multimodal, Roadway Design, Traffic Engineering, and Local Government. These partnerships will help

ensure that active transportation needs are considered early in the planning, scoping and design process; that design manuals reflect the latest in active transportation best practices; and funding is allocated to active transportation projects.

#### STATE PARTNERS

Many partners such as Tourism & Recreation, Education, Health, TSET, Department of Commerce/Oklahoma's Main Street Program also play an role in active transportation across the state. Continuing to work with these partners through the Active Transportation Committee and other efforts will be essential.

#### METROPOLITAN PLANNING ORGANIZATIONS AND REGIONAL TRANSPORTATION PLANNING ORGANIZATIONS

ODOT should continue to partner with Metropolitan Planning Organizations (MPOs) responsible for conducting urban transportation planning processes in Oklahoma's metropolitan regions, and Regional Transportation Planning Organizations (RTPOs) that work to identify and address rural needs/issues. These agencies are important links between ODOT, the federal government and local jurisdictions of all sizes.

#### ADVOCATES AND PRIVATE GROUPS

Advocates and private organizations can also play an important role in identifying needs, supporting projects and identifying funding from alternative sources.

#### Funding Overview

Similar to other transportation modes, active transportation funding support comes from federal, state, local, and private funding sources, all of which have their own funding schedules, amounts, and eligibility requirements. This section summarizes existing federal and state funding programs that can help fund active transportation in Oklahoma.

#### FEDERAL TRANSPORTATION PROGRAMS

The Bipartisan Infrastructure Law (BIL), passed in November 2021, reauthorized many important surface transportation funding programs, with more funds available and more specific language on the importance of a balanced transportation system for all users. The legislation boosts existing programs that fund planning, implementation, maintenance, and programming around active transportation. The federal programs that are most critical to funding active transportation projects include:

- Active Transportation Infrastructure Investment Program
- Surface Transportation Block Grant Program (STBG)
- Transportation Alternatives STBG set-aside (TA)
- Recreational Trails Program TAP set-aside (RTP)
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation and Air Quality (CMAQ)
- Safe Streets and Roads for All Grant Program (SS4A)

#### ACTIVE TRANSPORTATION INFRASTRUCTURE INVESTMENT PROGRAM

The Active Transportation Infrastructure Investment Program (ATIIP) awards competitive grants to eligible organizations (a local or regional governmental organization, planning organization or council; a multicounty special district; a State; a multistate group of governments; or Tribes) to plan, design, and construct networks of safe and connected active transportation facilities that connect between destinations within a community or metropolitan region. Additionally, the program may fund projects to plan, design, and construct an active transportation spine, a facility that connects between communities, metropolitan regions, or States. Additional details on how to apply for this funding is available at [fwa.dot.gov/environment/bicycle\\_pedestrian/atiip/](https://fwa.dot.gov/environment/bicycle_pedestrian/atiip/).







Downtown OKC, Credit: Bill Elliott

## SURFACE TRANSPORTATION BLOCK GRANT (STBG)

On a national scale, BIL increased the overall formula funding for STBG from \$12.1 billion to an escalating annual amount starting at \$13.8 billion for projects that preserve or improve conditions and performance on any Federal-aid highway, public road bridge projects, facilities for nonmotorized transportation, transit capital projects, and public bus terminals and facilities. Shared micromobility was added as an eligible use.

## TRANSPORTATION ALTERNATIVES (TA)

TA encompasses a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity. It is the nation's largest dedicated source of funding for trail and active transportation projects. The U.S. Department of Transportation Federal Highway Administration (FHWA) allocates funding to states where state departments of transportation and metropolitan planning organizations administer their own competitive process and deal directly with applicants. The BIL increased funding for the TA by nearly 70%. The program now is a 10% set-aside (annual average of \$1.44 billion) from the STBG program. States are also now allowed to use up to 5% of available funds for technical assistance to administer grants and assist local governments in applying.

## RECREATIONAL TRAILS PROGRAM (RTP)

The RTP provides funds to the states to develop and maintain recreational trails and trail-related facilities for motorized and nonmotorized recreational trail uses. Eligible projects include: maintenance and restoration of existing recreational trails; development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails; purchase and lease of recreational trail construction and maintenance equipment; construction of new recreational trails (with specific requirements when federal land is involved); acquisition of easements and fee simple title for

recreational trail corridors; and assessment of trail conditions. The U.S. Department of Transportation Federal Highway Administration (FHWA) allocates funding to states. States must use 30% of their funding for motorized trail uses, 30% for nonmotorized use trails, and 40% for diverse trail uses. Under the Bipartisan Infrastructure Law, annual funding for the program maintains at \$84 million annually.

## HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The purpose of the HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. HSIP funds can be used for any transportation safety improvement project on any public road or publicly owned bicycle or pedestrian pathway or trail. With the passage of the Bipartisan Infrastructure Law, there were new and significant changes to the HSIP, which include increased overall funding, as well as a new reform for biking and pedestrian safety. This new policy mandates that in states, including Oklahoma, where 15% or more of the community's annual crash fatalities are biking or pedestrian fatalities, these states must

spend 15% or more of their HSIP funds to address safety improvement for vulnerable road users (e.g., pedestrians, bicyclists and wheelchair users). Distribution of HSIP funds are to be data driven and related to the goals, objectives, and strategies indicated in the Oklahoma Strategic Highway Safety Plan.

## CARBON REDUCTION PROGRAM (CRP)

The CRP will help fund a wide range of projects designed to reduce transportation emissions from on-road highway sources. Included as an eligible use of funds are Transportation Alternative-eligible projects, including the construction, planning, and design of on- and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation—a move that recognizes the role that trails and active transportation play in addressing and mitigating the climate impacts of the transportation sector, the largest carbon emitting sector in the U.S. Any other Surface Transportation Block Grant Program (STBG)-eligible projects are also eligible for CRP funding if a state can demonstrate to the Secretary of Transportation that the project reduces transportation emissions.



Other projects not listed as an eligibility may still be eligible for CRP funds if they can demonstrate a reduction in transportation emissions consistent with the CRP's goals. These include efforts that support mode shift and the increased safety and separation of motor vehicles from vulnerable road users and micromobility and electric bike projects. Projects that add lane capacity for single occupant vehicles use will not be eligible without demonstrating emissions reductions over the project's lifecycle.<sup>4</sup>

## CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

The CMAQ Program provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). In addition to continuing to fund activities that were previously allowed under CMAQ, under BIL, these funds are also eligible for spending on shared micromobility, including bikesharing and shared scooter systems.

## SAFE STREETS AND ROADS FOR ALL GRANT PROGRAM (SS4A)

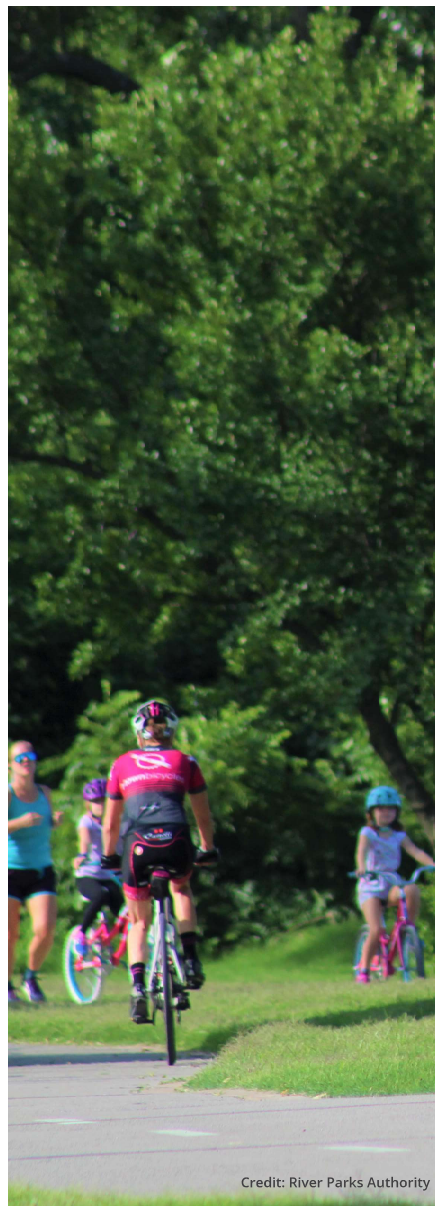
The [Bipartisan Infrastructure Law](#) (BIL) established the new Safe Streets and Roads for All (SS4A) discretionary program, with \$5 billion in appropriated funds over 5 years, 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. The SS4A program supports the U.S. Department of Transportation's [National Roadway Safety Strategy](#) and goal of zero roadway deaths.

Counties, cities, towns, transit agencies, and other special districts that are political subdivisions of a State; Metropolitan planning organizations (MPOs); and federally recognized Tribal governments are eligible to apply for funds.

## RECONNECTING COMMUNITIES AND NEIGHBORHOODS (RCN) PROGRAM

This program combines two major discretionary grants, [Reconnecting Communities Pilot \(RCP\)](#) and [Neighborhood Access and Equity \(NAE\)](#) into one Notice for Funding Opportunity (NOFO). Together, this combined program will be known as the Reconnecting Communities and Neighborhoods (RCN) Program. While they remain separate programs for the purposes of award, the programs share many common characteristics, including:

- Prioritizing disadvantaged communities;
- Aiming to improve access to daily needs such as jobs, education, healthcare, food, and recreation;
- Fostering equitable development and restoration;
- Reconnecting communities by removing, retrofitting, or mitigating highways or other transportation facilities that create barriers to community connectivity, including to mobility, access, or economic development.



Credit: River Parks Authority

## Immediate Next Steps

Implementing this Active Transportation Plan will require cooperation among many partners within ODOT, across state agencies, and with local partners and communities. Immediate next steps include adopting this plan, publishing to ODOT's website and beginning to prioritize and implement the recommendations listed on pages 29–31. ODOT should begin that this process be including recommendations into departmental work plans within ODOT and leveraging the ongoing support of staff and partners who were involved in the development of this plan. ODOT should also work to align the recommendations with existing performance measures.

<sup>4</sup> <https://www.railstotrails.org/policy/funding/dimate/crp/>



## GLOSSARY

There are many terms used to describe different components of the transportation system, treatments, and bikeway types. To promote consistency and ease of understanding, the following terms are used throughout this Active Transportation Plan.

**Accessible:** Able to be reached or used by people of all levels of abilities. Often used to describe a facility that is, at a minimum, compliant with the Americans with Disabilities Act (ADA, see below).

**Active Transportation:** An umbrella term for all the ways people can get around in an active manner, such as walking, biking, using mobility assistance devices (such as wheelchairs and scooters), in-line skating, skateboarding, and more.

**Americans with Disabilities Act (ADA):** The Americans with Disabilities Act (ADA) is a comprehensive federal statute that prevents discrimination and requires equal opportunity in the areas of employment, transportation, state and local services, programs and activities, public accommodations and communications. Federal standards provide guidance on accessible routes, curb ramps, transit shelters, and other elements of the built environment. For more info, visit [www.ada.gov/index.html](http://www.ada.gov/index.html)

**Infrastructure:** In the context of this plan, infrastructure refers to any type of physical treatment or facility designed to be used by active transportation modes (biking, walking, skateboarding, using a wheelchair, riding a scooter). Infrastructure examples could be linear, such as sidewalks, trails, or on-street bikeways, or they could be at specific locations, such as curb extensions, pedestrian crossing islands, or marked crosswalks.

**Barrier:** In the context of this plan, a barrier is some kind of obstacle that prevents movement or access via active transportation. Natural barriers could be lakes, rivers, or mountains, while unnatural barriers could be highways, walls, or fences.

**Bikeway:** Any type of bicycle facility, including paths in separate rights-of-way and on-street bikeways. Includes bike lanes, paved shoulders, signed bike routes, and sidepaths.

**Bikeshare:** A service made available by public or private entities where individuals may access shared bicycles on a short-term basis for a price or for free.

**Capital Improvement Program (CIP):** A short-range plan that identifies and plans for capital projects and related financing options.

**Complete Streets:** Streets that are designed to provide safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, riders and drivers of public transportation, as well as drivers of other motor-vehicles, and people of all ages and abilities, including children, older adults, and individuals with disabilities.

**Curb Extension:** Treatment or application designed to visually and physically narrow the roadway in order to create safer and shorter crossing distances for pedestrians while increasing the available space for street furniture, benches, plantings, and trees.

**FHWA:** Federal Highway Administration. Gap - In the context of this plan, a gap is a break in continuity of infrastructure. An example could be a section of sidewalk that is missing between two other segments of sidewalks. Network: In the context of this plan, “network” refers to the system of active transportation infrastructure that are connected to enable access to a wide variety of destinations.

**Infrastructure:** In the context of this plan, infrastructure refers to any type of physical treatment or facility designed to be used by active transportation modes (biking, walking, skateboarding, using a wheelchair, riding a scooter). Infrastructure examples could be linear, such as sidewalks, trails, or on-street bikeways, or they could be at specific locations, such as curb extensions, pedestrian crossing islands, or marked crosswalks.

**Micromobility:** Transportation over short distances provided by lightweight, usually single-person vehicles (such as bicycles and scooters).

**Mid-Block Crossing:** Designated crosswalks away from an established intersection provided to facilitate crossings at places where there is a significant pedestrian desire line such as bus stops, parks, and building entrances.

**Mobility:** The potential for movement and the ability to get from one place to another using one or more modes of transport to meet daily needs. As such, it differs from accessibility, which refers to the ability to access or reach a desired service or activity.

**Mode Split:** The percentage of travelers using a particular type of transportation (e.g., driving, biking, walking, transit).

**Multimodal:** Refers to transportation and land use planning that considers diverse transportation options, typically including walking, cycling, public transit and automobile, and accounts for land use factors that affect accessibility.

**Pavement Markings:** Pavement markings are used to convey messages to roadway (or shared use path) users. They indicate which part of the road to use, provide information about conditions ahead, and indicate where passing is allowed.

**Performance Measure:** A metric used to determine progress or setbacks toward achieving a specific goal and objective. Performance measures are usually tracked regularly (e.g., annually) to understand trends.

**Placemaking:** Creating places and focuses on transforming public spaces to strengthen the connections between people and these places. Placemaking is a process centered on people and their needs, aspirations, desires, and visions, which relies strongly on community participation.

**Raised Crosswalk:** Traffic calming treatment at a pedestrian crossing or crosswalk that raises the entire wheelbase of a vehicle to encourage motorists to reduce speed.

**Right of Way:** A right to make a way over a piece of land, usually to and from another piece of land, for transportation purposes.

**Separated Bike Lane:** One or two way bikeway that combines the user experience of a sidepath with the on street infrastructure of a conventional bike lane. They are physically separated from both motor vehicle and pedestrian traffic.

**Shared Lane Marking:** Shared lane markings (or “sharrows”) are pavement markings that denote shared bicycle and motor vehicle travel lanes.

**Shared Use Path:** Shared use paths, also commonly referred to as trails or greenways, are paths designed for and generally used by bicyclists, pedestrians, and other non-motorized users.

**Speed Management:** A set of measures to limit the negative effects of excessive and inappropriate speeds.

**Traffic Calming:** A strategy to slow the speed of motor vehicle traffic to a “desired speed” by incorporating physical features, such as chicanes, mini traffic circles, speed humps, and curb extensions.

**Transportation Demand Management (TDM):** A set of strategies aimed at maximizing traveler choices. Managing demand is about providing travelers, regardless of whether they drive alone, with travel choices, such as work location, route, time of travel, and mode. In the broadest sense, demand management is defined as providing travelers with effective choices to improve travel reliability

**Vulnerable (Users and/or Modes):** Non-motorists including pedestrians, bicyclists, other cyclists, and persons on personal conveyances.

**Walkable:** An area or a route that is suitable or safe for walking. Walking - Walking is an inclusive term that includes both ambulatory and non-ambulatory modes. Walking encompasses all forms of mobility devices, including using a wheelchair, cane, walker, or other mobility device that allows the user to travel at human speed.

**Wayfinding:** A system of directional signs along streets or paths that assist people in finding major destinations. Wayfinding can be designed specifically for drivers, bicyclists, or pedestrians.





Credit: Zhao Wu



Duncan Heritage Trails. Credit: Julie Sanders

## APPENDICES

Appendix A - VRU Analysis

Appendix B - Engagement Survey

Appendix C - Workshop and Focus Group Summary

Appendix D - Active Transportation Resources