

Oklahoma Long Range TRANSPORTATION PLAN



Moving Oklahoma
FORWARD

Technical Memorandum

Policies and Strategies

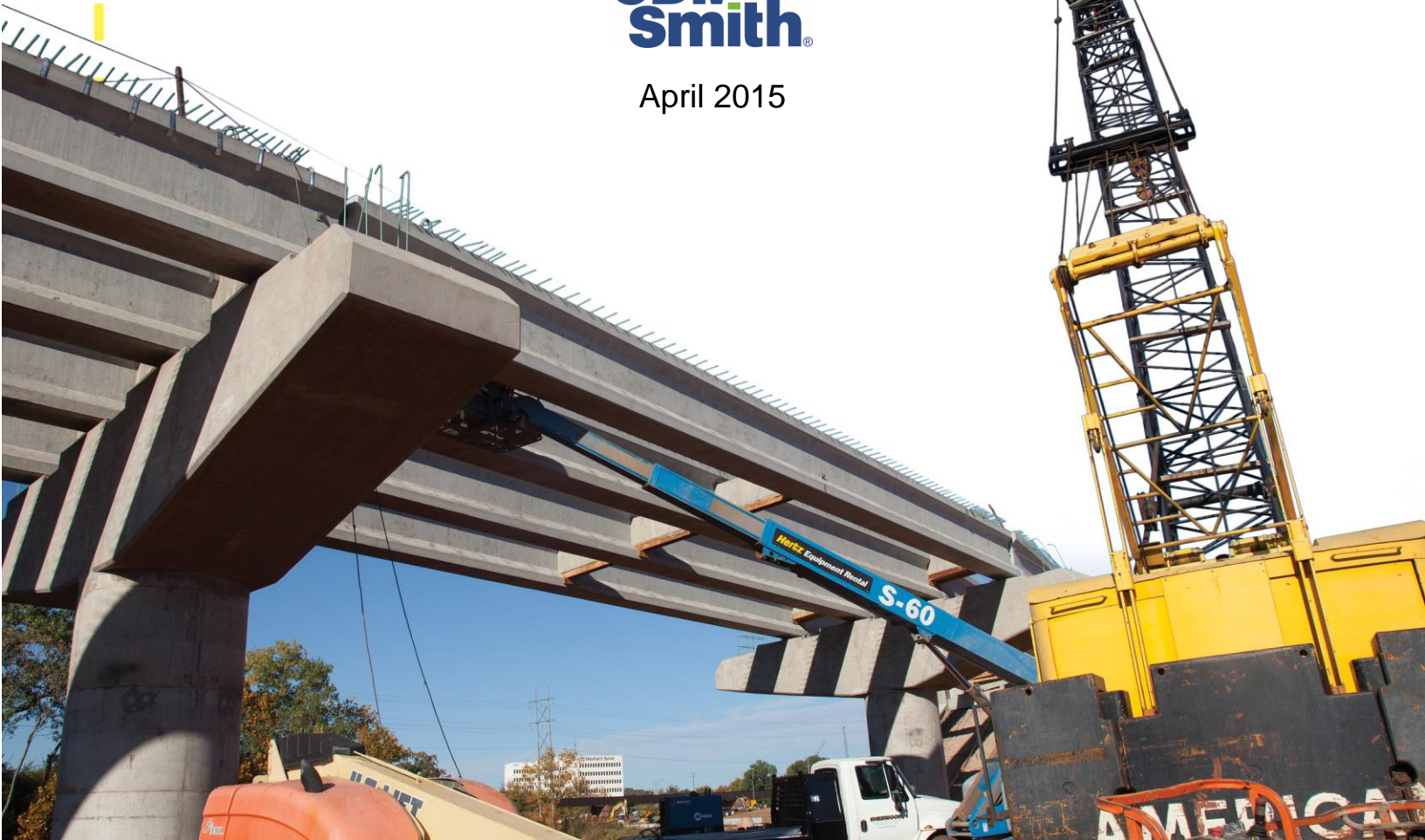
Prepared for:

Oklahoma Department of Transportation

Prepared by:

**CDM
Smith**

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The Technical Memos were written to document early research for the 2015-2040 Oklahoma Long Range Transportation Plan (LRTP). Most of these memos were written in 2014; all precede the writing of the 2015-2040 Oklahoma LRTP *Document* and 2015-2040 Oklahoma LRTP *Executive Summary*.

The 2015-2040 Oklahoma LRTP *Document* and 2015-2040 Oklahoma LRTP *Executive Summary* were composed in Spring 2015.

If there is an inconsistency between the Tech Memos and the 2015-2040 Oklahoma LRTP *Document* or 2015-2040 Oklahoma LRTP *Executive Summary*, the reader should assume that the *Document* and *Executive Summary* contain the most current and accurate information.



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1. INTRODUCTION

The purpose of the 2015-2040 LRTP policies and strategies is to synthesize the Plan which provides guidance for the development, management, and operation of the intermodal transportation system of the State of Oklahoma. (The number or magnitude of policies and strategies in one mode does not reflect on the degree of importance of a particular mode.) The policies and strategies, also described as Plan recommendations, are intended to guide the use of a performance based approach to transportation decision-making. They demonstrate the State's commitment to partnering with the private sector in promoting economic development through strong transportation planning and infrastructure development. Recommendations have been developed for each mode and these recognize the connections between the various modes. The strategies herein are described in the context of a policy framework, in which strategies flow from a specific recommendation. Multimodal policy recommendations and strategies address topics which encompass several or all modes.

The recommendations from the 2010 – 2035 Oklahoma Long Range Transportation Plan were used as a starting point for development of the 2040 LRTP recommendations. The previous recommendations were reviewed by advisory committees and compared with the identified transportation needs to develop the initial recommendations. Finally these recommendations were refined based on the input from transportation providers, users, the public, and other interested parties.

The report is organized primarily according to modes, although a multimodal group is included as well. The multimodal policies and strategies cover several modes or topics which apply to all modes. The order of the policies is as follows:

- Highways and Bridges
- Freight Rail
- Passenger Rail
- Public Transportation
- Multimodal
- Bicycle and Pedestrian
- Airport Access and Aviation
- Ports and Waterways

A glossary and index is located at the end of the report



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2. HIGHWAY AND BRIDGE

Oklahoma has made safety and preservation as priority because of the importation of the highway system for providing mobility and enhancing commerce. Oklahoma's 12,265 mile state highway system is mostly rural in nature with two major metropolitan areas (Oklahoma City and Tulsa) accounting for urbanized area highways and expressways.

The safety of the travelling public, regardless of vehicle type or highway system classification is of paramount importance to ODOT. Safety strategies are developed based on an analysis of many possible contributing factors including crash data and highway inventories. When undesirable patterns become evident, specific counter measures are identified and evaluated for possible implementation. Almost all safety measures on the highway system involve the integration of the 3 E's: Engineering, Enforcement, and Education.

ODOT replaced or rehabilitated 823 bridges between 2006 and 2013. This investment followed on the heels of 20 years of stagnant funding with little investment in the state's 6,828 bridges. ODOT's priority today continues to focus on eliminating structurally deficient and functionally obsolete bridges, and consequently Oklahoma no longer leads the nation in poor bridge conditions. The current ODOT 2015-2022 Eight Year Construction Work Plan includes an additional 935 bridge replacements or major rehabilitations which will reinforce the continued investment in Oklahoma's bridges. In fact, this investment is triple the financial commitment made 10 years earlier in the 2004-2012 Eight Year Construction Work Plan. ODOT will continue its efforts to provide a safe, well-managed highway and bridge system, as evidenced in the following Plan recommendations.

Traffic on the major state highways has increased dramatically over the past 20 years with the exception of the recession years of 2008 and 2009. Freight traffic has experienced this same dramatic growth and is expected to continue to compound in growth for the foreseeable future. The daily vehicle miles travelled on highways with four-lanes or more was over 42 million miles in 2012. This represents over 72 percent of the total vehicle miles travelled every day on Oklahoma's state highway system. Preserving existing pavements and bridges, particularly those on the National Highway System (NHS), including the interstate system, is critical to the system's cost effectiveness and sound operations.

The needs of the highway system are continuously assessed in order to program appropriate reconstruction, rehabilitation, and maintenance improvements in a fully integrated and systematic manner; and regular maintenance extends the life cycle of the facilities.



The following recommendations focus on strengthening the State’s highway system, recognizing the key national, regional, and state role it plays in economic competitiveness and safety.

Highway and Bridge Policy		Strategies/Action Items
1	Improve safety and bridge conditions by replacing or rehabilitating structurally deficient bridges on the State Highway System. <i>(Existing Policy)</i>	<ul style="list-style-type: none"> a. Implement adopted schedule for replacing or rehabilitating structurally deficient bridges on the State Highway System. <i>(Updated)</i> b. Pursue methods of rehabilitating and replacing fracture-critical bridges. <i>(Updated)</i> c. Develop a programmatic approach to identify and address potential preservation issues on noteworthy historic bridges, including, but not limited to, truss-style bridges, working collaboratively with community partners. <i>(Existing)</i>
2	Preserve and improve the condition of highways and bridges by implementing asset management systems. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Further develop the State’s Bridge Management System (PONTIS). Utilize data from the Bridge Management System to highlight specific areas requiring action in relation to safety, rehabilitation, reconstruction and replacement. <i>(Updated)</i> b. Continue to utilize the bridge rating system as a tool to identify “at risk” structures, and incorporate them into the Bridge Maintenance Program. <i>(Updated)</i> c. Utilize the Pavement Management System as a tool to enhance pavement condition on the State Highway System. <i>(Updated)</i> d. Assess the impact that increased truck size, weight, and axle configurations will have on State Highway System. <i>(Updated)</i> e. Implement the regulations outlined in MAP-21 as they pertain to performance measures and asset management for bridges and pavements. <i>(New)</i>
3	Reduce fatalities and serious injuries on Oklahoma highways through appropriate engineering solutions and systemic improvements. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Improve safety of roadway infrastructure and <ul style="list-style-type: none"> i. Continue to add shoulders on two-lane rural highways where high collision rates have been predicted. ii. Continue to install cable median barriers on high volume divided highways with high crossover collision history or appropriate geometric characteristics. iii. Continue to implement approaches outlined in the Oklahoma Strategic Highway Safety Plan to address four emphasis areas: unsafe driver behavior, intersection crashes, crashes involving young drivers, and lane departure crashes. <i>(Updated)</i>



Highway and Bridge Policy		Strategies/Action Items
4	<p>Improve operational performance of highways through increased use of traveler information systems. <i>(Existing Policy)</i></p>	<ul style="list-style-type: none"> a. Utilize operational strategies to reduce the impact of congestion-causing incidents on transportation systems. These include effective traffic incident management, traveler information systems, and technologies to manage safety in work zones, among others. <i>(Updated)</i> <ul style="list-style-type: none"> i. Consider utilization of internet-based systems and emerging technologies for managing traveler information and user notifications. ii. Improve Intelligent Transportation System (ITS) communication and the use of variable highway message signs to inform motorists of congestion, bottlenecks and work zones. b. Investigate the use of emerging technologies such as autonomous vehicles and explore their impact on operational and safety performance on highways. <i>(New)</i>
5	<p>Provide for safe, efficient, and effective efficient National Highway System to improve commercial motor vehicle mobility and connectivity (NHS). <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Continue the use of Oklahoma Permitting and Routing Optimization System (OKie PROS) to provide assistance to oversize, overweight commercial motor vehicle users for making safe and efficient route choices. <i>(Updated)</i> b. Continue development of Ports of Entry—technology-based commercial motor vehicle weigh and credential screening stations located at major highway entry points to the State. <i>(Existing)</i> c. Implement ITS program to monitor and manage congestion in cooperation with commercial vehicle industry and other stakeholders. <i>(New)</i> d. Make targeted investments on the National Highway System to accommodate traffic growth and truck routes and strengthen system safety and efficiency for truck operations. <i>(Updated)</i> e. Pursue opportunities to partner with private sector to enhance truck stops/rest areas by providing overnight parking availability information, identifying locations, etc. <i>(New)</i> f. Analyze freight truck travel time data to assist in decision-making about freight related system improvements on the National Highway System. <i>(New)</i>



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3. FREIGHT RAIL

Freight rail has proven to be vital in maintaining and improving both the state and national economies. Nearly three-quarters of all of the rail traffic in Oklahoma is through traffic, without an Oklahoma destination. The majority of this freight rail movement is for the transportation of coal from Wyoming to Texas. Freight rail brings finished goods and raw materials to and from Oklahoma businesses, and moves material through and across the state. This system has proven valuable to the agricultural and energy industries, as well as to Oklahoma military bases.

Freight rail traffic is projected to experience significant growth over the next 25 years. The number of trains on some corridors is expected to double over the next the life of the Plan, and the largest growth in freight rail traffic per day is projected on the BNSF line in northern Oklahoma as a result of the recent construction of an additional mainline for its *TRANSCON*¹ system. Freight rail flows to, from, and within northeastern Oklahoma are expected to see strong growth as well, boosted by gains in exports from the Tulsa area to Arkansas and Missouri.² Additionally, west to east cross continent flows are substantial. The 25-year freight rail capacity/service and safety needs total \$1,922.0 million.

Freight railroad safety will continue to be a priority with ODOT. The following recommendations focus on strengthening the State's rail system, recognizing the key national, regional, and state role it plays in economic competitiveness and safety.



Freight Rail Policy		Strategies/Action Items
1	<p>Improve rail operations and operational effectiveness by encouraging public-private partnerships. <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Support identification and elimination of bottlenecks both on main lines and classification yards (the multi-track facilities where freight cars are transferred from one engine to another based on their destination) by the use of Class I railroads. <i>(Updated)</i> b. Support double tracking and signal/operations improvements to mitigate freight rail congestion and to meet projected increase in rail traffic. <i>(Existing)</i> c. Maintain coordination between government agencies and Class I railroads. <i>(Updated)</i> d. Support upgrades to state-owned Class III track and structures to permit use of 286,000–pound standard rail cars and larger, which in turn will support Class I service and improve service efficiency. <i>(Existing)</i> e. Develop options for statewide programs to target preservation and upgrading of Class III lines. <i>(Updated)</i>
2	<p>Improve rail conditions, operations and safety through continued support and refinement of the Oklahoma Statewide Freight and Passenger Rail Plan. <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Periodically, perform an analysis of Oklahoma’s rail network to identify future connectivity gaps based on changing freight patterns and the Oklahoma Statewide Freight and Passenger Rail Plan. <i>(Updated)</i> b. Update the existing rail crossing inventory with current rail and highway traffic data and review accident exposure ratings using the Federal Railroad Administration (FRA) safety program. (see Passenger Rail #2d) <i>(Existing)</i> c. Provide technical assistance to local communities planning to improve rail-highway crossing facilities, including crossing surfaces and signal devices. (see Passenger Rail #2e) <i>(Existing)</i> d. Continue efforts to evaluate the consolidation of at-grade crossings to further improve safety. (see Passenger Rail #2f) <i>(Existing)</i>



Freight Rail Policy		Strategies/Action Items
3	Improve rail-highway-port connections to facilitate intermodal freight movement. <i>(Existing Policy)</i>	<ul style="list-style-type: none">a. Monitor and promote opportunities for development of intermodal and transmodal facilities in Oklahoma. <i>(Updated)</i>b. Support the development of intermodal freight corridors that connect major population centers with freight generators and international gateways. <i>(Existing)</i>c. Encourage industrial development near rail corridors to enhance intermodal freight movement. <i>(New)</i>



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4. PASSENGER RAIL

Passenger rail can be a very efficient transport mode, but because of the nature of its high capital cost, dense corridors are required to justify the investment. By connecting the largest of Oklahoma's cities with rail connection to major population centers in adjacent states, the efficiencies of rail can be put to work. To gain the travel densities needed, local connections and other collector systems can be developed to serve less dense corridors and form a cohesive regional transportation system.

Passenger rail returned to Oklahoma in 1999 after a 20 year absence. The Amtrak Heartland Flyer runs from the Santa Fe Depot in downtown Oklahoma City every morning to Fort Worth Intermodal Transfer Center and returns each night. Ridership has steadily increased annually to the point of counting the one millionth rider in 2013; the Heartland Flyer averages approximately 87,000 riders per year.

Following are the other rail routes that are undergoing evaluation, and that may be more suitable for implementation beyond the scope of this Plan period.

- Extend Heartland Flyer to Newton, Kansas;
- New Daytime Service between Kansas City – Oklahoma City – Fort Worth;
- Tulsa–Oklahoma City Intercity Passenger Rail; and
- Passenger Rail from South Texas to Oklahoma Study.

Other projects such as the ACOG sponsored Oklahoma City–Edmond, Oklahoma City–Norman and Oklahoma City–Midwest City corridor studies are in the alternative analysis phase.

Public sentiment about the existing passenger rail service in Oklahoma is positive and there is interest in expanding the passenger rail service. The following recommendations endorse the continuation of passenger rail system and improving the intermodal connections.



Passenger Rail Policy		Strategies/Action Items
1	Preserve and maintain existing service to provide people with multimodal options for intercity travel. <i>(Existing Policy)</i>	<ul style="list-style-type: none"> a. Cooperate and coordinate with Amtrak, BNSF, and the State of Kansas in evaluating potential passenger rail service by means of an Oklahoma City to Newton or Wichita, Kansas, Amtrak route. <i>(Updated)</i> b. Evaluate current ridership trends and train frequencies to improve the existing Amtrak passenger rail service. <i>(Updated)</i>
2	Improve passenger rail as a modal choice by improving travel time, safety and reliability of the service. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Proceed with planning activities to determine feasibility of passenger rail service between Oklahoma City and Tulsa. <i>(Updated)</i> b. Identify, develop, and secure funding that promotes and enhances passenger rail system investment. <i>(New)</i> c. Update the existing rail crossing inventory with current rail and highway traffic data and review incident exposure ratings using the FRA safety program. (see Freight Rail #2b) <i>(Updated)</i> d. Provide technical assistance to local communities planning to improve rail-highway crossing facilities, including crossing surfaces and signal devices. (see Freight Rail #2c) <i>(Existing)</i> e. Continue efforts to evaluate the consolidation of at-grade crossings to further improve safety further. (see Freight Rail #2d) <i>(Existing)</i>
3	Increase intermodal passenger travel choices by improved connections at passenger rail stations with intercity bus services, public transportation, and park-and-ride facilities. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Encourage expanded and improved connections to passenger rail stations from rural, tribal, and urban public transit, intercity buses, and airport terminals. (see Public Transportation #1a) <i>(Existing)</i> b. Coordinate schedules to provide better connections between local and regional public transportation systems and to provide seamless and convenient transportation throughout the State and region. <i>(Updated)</i>



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5. PUBLIC TRANSPORTATION

The past decade has seen an increased growth in national transit ridership and the same trend also occurred in Oklahoma. Urban transit ridership grew at a rate of 4.4 percent between 2009 and 2013. In that same time frame, rural transit ridership increased by 8.7 percent.

Oklahoma has twenty rural public transportation providers, five urban public transit providers, and fourteen tribal transit providers. Additionally, Oklahoma is served by two intercity private bus companies, Greyhound Lines and Jefferson Bus Lines. Providers in all three areas offer transport for the general public and specialized services for elderly and persons with disabilities. The rural transit providers operate in 73 of the 77 counties geographically spread across the entire state. These rural transit systems provide more than 3 million trips annually with approximately 25 percent of the trips made by the elderly and persons with disabilities. The urban public transit providers serve the Lawton region, the Tulsa metropolitan area, and (three providers offer service in) the Oklahoma City metropolitan area in Central Oklahoma. These urban transit system provide more than 7 million trips annually.

Comments received through the LRTP public involvement phase indicated a strong concern for unmet transit needs in the State and the need for better communication, coordination and connections between rural, urban, tribal and intercity bus and train services. The following recommendations focus on increasing public transportation options and bringing the systems' assets to a state of good repair. These recommendations also aim to fortify Oklahoma's existing transit services, while advancing service improvements and efficiencies in locations where current demand are unmet or underserved.



Public Transportation Policy		Strategies/Action Items
1	<p>Improve public transportation system operations and performance by promoting coordination and connections statewide among rural, urban, tribal, and intercity bus services. <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Expand and improve connections between rural transit systems and tribal systems, intercity bus stops/terminals, urban transit system transfer points, airports, and Amtrak Heartland Flyer stops. (See Passenger Rail#3a) <i>(Updated)</i> b. Continue collaboration with stakeholders in development of an electronic database and mobility management system regarding the State's transit service routes and locations. <i>(Updated)</i>
2	<p>Support multiple modes of transportation connecting residential areas and employment locations, health services, and other activity centers. <i>(Existing Policy)</i></p>	<ul style="list-style-type: none"> a. Encourage improved coordination between land use and transit planning, including pedestrian and bicycle connections to transit routes, practical transit stop locations, transit shelters, park-and-ride lots, access for elderly and disabled, and transit oriented development. <i>(New)</i> b. Investigate potential for agreements between rural transit systems and health and hospital systems, social service providers, and major employers to expand transit service options. <i>(Existing)</i> c. Coordinate with health and human service agencies and others to expand paratransit services for special needs populations and individuals with disabilities. <i>(Existing)</i> d. Conduct a study to identify demand for off-peak intercity transit service. Include consideration of need for transport between rural transit areas, and between rural and urban parts of the state. <i>(Updated)</i>
3	<p>Protect Oklahoma's investment in the public transportation system by seeking additional/ dedicated funding. <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Encourage continued cooperation and collaboration among ODOT, the tribal transit agencies, and the urban transit systems and appear as one voice to the Oklahoma legislative delegation on FTA funding requests. <i>(Existing)</i> b. Promote development of dedicated transit funding sources beyond the existing Public Transportation Revolving Fund. <i>(Existing)</i> c. Support metropolitan area transit, including passenger rail initiatives, and dedicated transit funding. <i>(New)</i>



Public Transportation Policy		Strategies/Action Items
4	Develop a Statewide Public Transportation Plan that identifies and targets opportunities for strategic improvements to services. (<i>Existing Policy</i>)	<ul style="list-style-type: none">a. Develop Statewide Public Transportation Plan to analyze statewide transit network with recommendations for improvements to existing service as well as locations for new services. (<i>Existing</i>)b. Prepare a statewide program of FTA-eligible capital projects and operational needs every five years. Identify non-Federal match for FTA-eligible projects. (<i>Existing</i>)



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6. MULTIMODAL

Since the early 1990s, the U.S. Department of Transportation has focused on efforts to encourage communication and coordination among various transportation modes. Thus, use of the words intermodal and multimodal have become a larger part of the transportation planning vocabulary. For the purpose of ODOT Long Range Transportation Plan, these terms are explained as follows:

- Multimodal transportation is considered when the passengers or goods have multiple options to travel modes from origin to destination, for example via one or more of automobile, bicycle, pedestrian, transit, air, water, or freight. For example, on a multimodal street or highway, passengers may have the option to travel via automobile, bicycle, walking or bus.
- Intermodal transportation is the movement of passengers or goods from origin to destination through the use of one or more transportation modes – automobile, bicycle, pedestrian, transit, air, water, or freight – sequentially. Locations where passengers or goods switch from one mode to another are typically called intermodal facilities, terminals, or centers. Although some intermodal connections are as simple as a bus stop or a parking lot.

Thus, this multi-modal section addresses issues that overlap or affect several modes, as well as themes that are important to many modes. The following recommendations reinforce the key role that Oklahoma's transportation system plays with state and national economic competitiveness. The multimodal concepts acknowledge the importance of developing a diverse transportation system that offers the traveling public and businesses competitive, safe, convenient, affordable, and environmentally responsible transportation choices.

These multi-modal recommendations focus on maintaining the system in a "state of good repair" while also recognizing the fiscal challenges facing the Federal and State programs with current dedicated revenue sources inadequate to sustain current spending limits.

The Plan focuses on connectivity and safety among all of the modes: highways to railroads to ports; pedestrian and bicycle paths to public transit, passenger rail, and airports; and sidewalks and pedestrian paths to various destinations. Many linkages also promote more livable communities. The strategies also recognize the special role the transportation system plays in times of natural disasters and national emergencies.



As energy becomes increasingly expensive, alternative fuels and more energy efficient modes play important roles as do congestion management and traveler information systems. Reducing congestion and arming the traveler with information about mobility options leads to more efficient trips, improved air quality, and fewer greenhouse gas emissions.

Multimodal Policy		Strategies/Action Items
1	Protect Oklahoma's investment in transportation by seeking to preserve and enhance current and/or new funding mechanisms for all modal systems. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Develop and maintain information on historical trends and provide this information to State government leaders and the Congressional Delegation to support their search for new funding sources for the transportation system. Continue to assist government leaders in determining appropriate transportation funding and improvements priorities. <i>(Existing)</i> b. Explore various alternatives for funding the State's surface transportation program, such as: securing increased percentage of state Motor Vehicle Revenue, increasing diesel tax, increasing freight fees, considering vehicle miles traveled fee and innovative tolling. <i>(Updated)</i> c. Provide information to State government leaders and Oklahoma's Congressional Delegation to assist them in finding additional sources of funding for rural, urban, and tribal transit, passenger and freight rail service improvements, aviation improvements, and waterways improvements. <i>(Existing)</i> d. Continue to work with sovereign Native American Tribes and Nations to leverage resources for transportation improvements. <i>(Existing)</i> e. Cooperate and coordinate with local governments to research possible new funding partnerships for transportation projects of mutual interest. <i>(Existing)</i>
2	Improve efficiency, economic vitality, and intermodal connectivity by developing a comprehensive State Freight Plan. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Develop a comprehensive State Freight Plan by expanding and continuing meetings with freight stakeholders from various modes and industries and incorporating highlights of recently conducted freight studies. <i>(New)</i> b. Collaborate with freight stakeholders and utilize latest technologies and data to identify freight bottlenecks and prioritize investments to eliminate the bottlenecks. <i>(Updated)</i> c. Support investments to improve linkages between the airports, highway, railway, and water systems. <i>(Updated)</i>



Multimodal Policy		Strategies/Action Items
3	Enhance modal choice for people and provide favorable conditions for transit ridership growth by identifying and improving intermodal connection points for travel by public transportation, intercity bus, passenger rail, airport, walking, bicycling, and automobile. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Identify gaps and opportunities in urban, tribal, and rural public transportation, intercity bus, passenger rail, airports, automobiles, and bicycle and pedestrian facilities and operations. <i>(Updated)</i>
4	Protect the environment by promoting clean fuel and energy conservation practices within ODOT and to the traveling public. <i>(Existing Policy)</i>	<ul style="list-style-type: none"> a. Assess current ODOT practices in construction, maintenance, and agency operations to identify areas for potential energy conservation. (This could include installing light emitting diode traffic signals, reducing roadside mowing, using warm-mix asphalt, etc.). <i>(Existing)</i> b. Focus efforts to assist the travelling public in conserving fuel, such as developing efficient traffic operations, traffic signal optimization, and work zone design to minimize idling time, etc. <i>(Updated)</i> c. Improve air quality by reducing traffic congestion and bottlenecks that result in increased emissions. <i>(Existing)</i> d. Support the use of clean fuels by ODOT, other state agencies, and the public. <i>(Updated)</i>
5	Improve and promote security across all transportation modes through adoption of emergency preparedness protocols for managing natural and man-made threats to human resources, transportation capital assets, and information. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Contribute to the public's safety by coordinating with the State Department of Emergency Management, U.S. Departments of Homeland Security and Defense, and the U.S. Department of Transportation to plan for the restoration, and ensure the availability, of transportation services after a disaster and during times of national emergencies. <i>(Updated)</i> b. Improve the security and resilience of the transportation system, including highways, transit, rail, ports and marine, air cargo, and passenger aviation, through identification of "safety-critical" assets. <i>(Existing)</i> c. Develop alternate routes and transportation system redundancy to maintain mobility during emergencies or natural disasters. <i>(Existing)</i> d. Maintain and improve urban area program to remove debris and litter from drains, culverts, and roadsides to minimize roadway flooding. <i>(New)</i>



Multimodal Policy		Strategies/Action Items
6	Develop a comprehensive performance management framework for ODOT to align with State and federal partners. <i>(New Policy)</i>	<ul style="list-style-type: none">a. Strengthen working relationships with Oklahoma's MPO community on performance measures. (OKC and Tulsa). <i>(New)</i>b. Monitor national rules for pavement condition and bridge performance and begin to develop appropriate capability to report data for the national pavement condition and bridge performance measures. (see Highway #2b and 2c). <i>(New)</i>c. Monitor federal rulemaking for freight movement, system performance, and congestion reduction and begin to develop appropriate capability to report freight, system performance and congestion measures. <i>(New)</i>d. Create an electronic performance measures dashboard as part of ODOT's website and update regularly. <i>(New)</i>



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7. BICYCLE AND PEDESTRIAN

Bicycle and pedestrian facilities throughout Oklahoma consist of multi-use trails, bicycle routes, and sidewalks. The planning and implementation of bicycle and pedestrian improvements are typically completed at the local government level, and/or through a Metropolitan Planning Organization (MPO). Funding for these bicycle and pedestrian improvements is almost always from a combination of federal, local, and private and/or non-profit sources.

Statewide initiatives for bicycle and pedestrian facilities have been implemented through the federal Transportation Enhancement Program funding (TEA-21 and SAFETEA-LU), and subsequently through the MAP-21 Transportation Alternatives Program (TAP).

The following recommendations seek to enhance bicycle and pedestrian facilities in the State of Oklahoma.

Bicycle and Pedestrian Policy		Strategies/Action Items
1	Establish a vision to support bicycle and pedestrian modal choices and promote healthy affordable modes of transportation. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Continue to pursue opportunities to bring State highways in small communities into compliance with the Americans with Disabilities Act. <i>(Existing)</i> b. Incorporate bicycle facility design standards into the next version of the ODOT Roadway Design Manual. <i>(Existing)</i> c. Develop a statewide bicycle plan that emphasizes safety and builds and expands upon the work of the Metropolitan Planning Organizations. <i>(Updated)</i>



Bicycle and Pedestrian Policy		Strategies/Action Items
2	<p>Improve modal choices and safety by incorporating pedestrian and bicyclist facilities in accordance with approved design standards. <i>(Updated Policy)</i></p>	<ul style="list-style-type: none"> a. Continue to provide pedestrian signals, warning beacons, signage, striping and lighting at intersections of state routes with high-volume pedestrian crossings. <i>(Updated)</i> b. Support inclusion of bicycle and pedestrian facilities into new and renovated intermodal facilities and connection points, such as train depots, bus terminals, etc. <i>(Existing)</i> c. Support efforts by local governments, public transit providers, passenger rail systems, and others to expand and improve bicycle ways and walkway connections. <i>(Updated)</i> d. Assess and respond to needs for pedestrian and bicycle infrastructure on or adjacent to state highways concurrent with related highway improvements, and as a part of the project development process. <i>(Updated)</i> e. Inform bicycle/pedestrian community about coordinating with the State's bicycle and pedestrian coordinator and about the public involvement process. <i>(New)</i>
3	<p>Promote and support public information outreach and education regarding safe and accessible transportation routes for bicyclists and pedestrians. <i>(New Policy)</i></p>	<ul style="list-style-type: none"> a. Continue to educate communities about sidewalk and trails requirements associated with the Americans with Disabilities Act. <i>(New)</i> b. Promote statewide and local-area education programs to make transportation users aware of pedestrian and bicyclist rights and responsibilities. <i>(Existing)</i> c. Support efforts by health departments, educational facilities, and public safety agencies to provide bicycle and pedestrian safety lessons/workshops. <i>(New)</i> d. Encourage local communities that are planning or constructing new facilities for pedestrians and bicyclists to seek technical support from the State's bicycle and pedestrian coordinator. <i>(Existing)</i>



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8. PORTS AND WATERWAYS

The McClellan-Kerr Arkansas River Navigation System (MKARNS) is the nation's most inland waterway and Oklahoma's primary navigable waterway originating from the Tulsa Port of Catoosa and flowing southeast through Arkansas to the Mississippi River. The MKARNS was completed at a cost of \$1.2 billion and dedicated in 1971 by President Richard Nixon. The waterway contains 18 locks and dams to traverse the 445 mile trip, with an elevation change of 420 feet from Tulsa to the Mississippi River.

The entire MKARNS shipped 12.1 million tons of commodities with a value of \$3.85 billion in 2013. Oklahoma's ports and terminals provide loading and off-loading services to an average 2,000 commercial semi-trucks daily. Intermodal connections, such as rail to barge, truck to port movements, especially adjacent to Oklahoma's ports, are critical.

The strength of Oklahoma's waterways sets the State apart from other areas by providing greater options for the shipping and distribution of goods. However, waterways often do not receive the necessary attention and funding to utilize the waterways fully. The available funding has not kept pace with the demand over the years, and wear and tear continues on the locks that are now over 40 years old. Faced with decreased federal funding, there have been discussions regarding contributions from the stakeholders, not only with funds, but other shared resources including equipment, labor, and materials.

The following recommendations seek to strengthen the waterways system in order to meet economic and security needs.

Ports and Waterways Policy		Strategies/Action Items
1	Protect the investment in the McClellan-Kerr Arkansas River Navigation System (MKARNS) by seeking increased federal funding. <i>(Updated Policy)</i>	<ul style="list-style-type: none"> a. Continue to work with federal and state officials to obtain funding for the maintenance of existing locks and dams. <i>(New)</i> b. Continue to work with federal and state officials from Oklahoma and Arkansas to protect the confluence of the White and Arkansas Rivers. <i>(Updated)</i> c. Continue to work with federal and state officials to authorize the deepening of the MKARNS channel. <i>(Updated)</i>



Ports and Waterways Policy		Strategies/Action Items
2	Enhance intermodal connectivity by targeting improvements to truck corridors and railroads which provide access to MKARNS ports. <i>(Existing Policy)</i>	a. Work collaboratively with the Ports and other stakeholders to address issues related to transporting “super” loads from the Ports. This could include improvement to bridge structures and pavement on routes to accommodate the “super” loads. <i>(Updated)</i>
3	Facilitate modal choices for goods movement and provide a sustainable budget for marketing and development of Oklahoma ports and waterways. <i>(Existing Policy)</i>	a. Seek partnerships with private sector user groups, economic development associations, and other stakeholders to support promotion of the MKARNS channel. <i>(Updated)</i>



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9. AIRPORT ACCESS AND AVIATION

Air transportation plays an important role in economic competitiveness and the access to airports and surrounding infrastructure is important for quality of life, tourism, and commerce. Three major airports serve Oklahoma — Will Rogers World Airport in Oklahoma City, Tulsa International Airport in Tulsa, and Lawton-Ft. Sill Airport in Lawton. These airports serve the vast majority of state passenger traffic; and all cargo activity is processed through Will Rogers and Tulsa. Lawton-Ft. Sill Airport has a great deal of use by military personnel. In addition, Oklahoma has 122 general aviation airports that serve public and private aircraft.

ODOT is not responsible for funding specific airport improvements, such as runway extensions, hangars, etc.; however, the 2015 - 2040 LRTP acknowledges airport access needs. The following recommendations support development of the airport access to provide passenger and freight aviation linkages. They address the intermodal and transshipment opportunities within the State and illustrate the importance of reliable airport access in Oklahoma.

Airport Access Policy		Strategies/Action Items
1	Improve intermodal freight connectivity through maintenance and improvement of access to air cargo hub facilities. <i>(Updated Policy)</i>	a. Coordinate with metropolitan planning organizations, chambers of commerce, the Oklahoma Trucking Association, defense installations, Oklahoma airport operators, and other stakeholders to support access to new and existing air cargo hubs and related transmodal center(s) in Oklahoma. <i>(Updated)</i>
2	Improve intermodal choices for people through improved connection to airports via car, truck, bus, and passenger rail. <i>(Updated Policy)</i>	a. Coordinate with local stakeholders and public transportation providers to expand and improve connections to airports from rural, tribal, and urban public transit, buses, and passenger rail stations. <i>(Updated)</i> b. Support efforts to obtain regional air service for strategically located rural communities that would benefit from and sustain such airport facilities. <i>(New)</i>



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10. CONCLUSION

ODOT will use this Plan to develop and implement programs to enhance the State's multimodal transportation system. This system will provide the traveling public and businesses competitive, safe, convenient, affordable, and environmentally responsible transportation choices. ODOT will work with the elected officials, public, and private stakeholders to ensure the State's transportation network is a high-performing system ensuring economic competitiveness for the next 25 years.



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11. GLOSSARY

Asset Management

Asset management is a systematic process of operating, maintaining, and improving physical assets, with a focus on data driven analysis, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair of the State's transportation assets at minimum practicable cost. (Reference: 23 U.S.C. 101(a)(2), MAP-21 § 1103). For example, ODOT has seen strong performance in bridge asset management in recent years, such as decline in number of structurally deficient bridges.

Intermodal transportation

Intermodal transportation is the movement of passengers or goods from origin to destination through the use of one or more transportation modes – automobile, bicycle, pedestrian, transit, air, water, or freight – sequentially. Locations where passengers or goods switch from one mode to another are typically called intermodal facilities, terminals, or centers. Some intermodal connections are as simple as a bus stop or a parking lot.

(Multimodal and intermodal transportation are often used interchangeably in a transportation perspective.)

Multimodal transportation

Multimodal transportation is considered when the passengers or goods have multiple options to travel modes from origin to destination, for example via one or more of automobile, bicycle, pedestrian, transit, air, water, or freight. For example, on a multimodal street or highway, passengers may have the option to travel via automobile, bicycle, walking or bus.

(Multimodal and intermodal transportation are often used interchangeably in a transportation perspective.)

National Highway System

The reference to National Highway System (NHS) in the policies and action items refers to the January 2012 version of NHS and does not refer to enhanced NHS. The National Highway System consists of roadways important to the nation's economy, defense, and mobility. National Highway System (NHS) roadways are important to the United States economy, defense, and mobility. The NHS includes all Interstate highways (arterials), the Strategic Highway Network (defense purpose), intermodal connectors (roads connecting to major intermodal facilities), and other principal arterials.



Performance Management

Performance management is a strategic approach that uses system information to make investment and policy decisions to achieve performance goals.

Systemic Approach

Systemic Approach to Safety: The systemic approach to safety involves widely implemented improvements based on high-risk roadway features correlated with specific crash types. The approach provides a more comprehensive method for safety planning and implementation that supplements and compliments traditional site analysis. It helps agencies broaden their traffic safety efforts and consider risk as well as crash history when identifying where to make low cost safety improvement. .

“Super” loads

“Super” loads are the extremely oversize or overweight loads that require independent analysis for review and route approval prior to transporting on the highway system.



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12. INDEX

Index is organized by mode with term under each mode. Terms are followed by a code indicating related mode (alphabetic character) and policy and/or strategy (number and/or small alphabetic character).

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13. ENDNOTES

¹ *Transportation Tracking and Communications System used by the U.S. DOE for hazardous materials monitoring.*

² *Oklahoma Department of Transportation, Freight and Goods Movement, January 2014.*