

8.0 Glossary

8 Year Construction Work Plan (CWP)	the eight-year construction work plan administered by ODOT that guides the scheduling and conducting of the complex engineering, environmental, and right-of-way activities necessary to complete construction projects in a timely fashion. The first four years of the Eight Year Construction Work Plan are represented in the Statewide Transportation Improvement Program (STIP).
Automated/autonomous vehicle technology	robotic vehicle that is designed to travel between destinations without a human operator. To qualify as fully autonomous, a vehicle must be able to navigate without human intervention to a predetermined destination over roads that have not been adapted for its use.
Average Annual Daily Truck Traffic (AADTT)	the total volume of truck traffic on a highway segment for one year, divided by the number of days in the year.
Barge	the cargo-carrying vehicle that inland water carriers primarily use. Basic barges have open tops, but there are covered barges for both dry and liquid cargoes.
Bottleneck	a section of a highway or rail network that experiences operational congestion
Bulk Cargo	cargo that is transported unpackaged in large quantities in either liquid or granular, particulate form, as a mass of relatively small solids, such as petroleum/crude oil, grain, coal, or gravel
Capacity	physical facilities, personnel and process available to meet the product of service needs of the customers. Capacity generally refers to maximum output of transportation network or facility.
Carload	unit of rail freight equivalent to one freight car
Carrier	a firm that transports goods or people via land, sea or air
Class I Rail Carrier	classification of rail carriers having annual operating revenues of \$447,621,226 (current dollars) or more
Class II Rail Carrier	classification of rail carriers having annual operating revenues less than \$447,621,226 but in excess of \$35,809,698 (current dollars)
Class III Rail Carrier	classification of rail carriers having annual operating revenues of \$35,809,698 (current dollars) or less
Combination Vehicles	standard 5-axle semi trailer-trucks with a trailer on tractor (see Long Combination Vehicles)
Commodity	synonym for type of good (e.g., coal, grain, iron, metallic minerals)
Container	a large metal box of a standard design and size used for the transportation of goods by road, rail, sea, or air
Containerized Cargo	cargo transported in containers that can be transferred easily from one transportation mode to another
Critical Rural Freight Corridors	public roads not in an urbanized area that provide access and connection to the Primary Highway Freight System and the Interstate system providing access to freight generators

Critical Urban Freight Corridors	public roads in urbanized areas that provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities
Distribution Center (DC)	facility that holds inventory from manufacturing for distribution to stores or smaller local warehouses; can perform consolidation, warehousing, packaging, decomposition and other functions linked with handling freight
Dynamic Message Signs (also called Variable Message Signs)	large, electronic signs that overhang or appear along major highways. The signs are typically used to display information about traffic conditions, travel times, construction, and road incidents.
Economies of Scale	factors that cause the average cost of producing goods or services to fall as the volume of its output increases. Hence it might cost \$3,000 to produce 100 copies of a magazine but only \$4,000 to produce 1,000 copies. The average cost in this case falls from \$30 to \$4 a copy because the main elements of cost in producing a magazine (editorial and design) are unrelated to the number of magazines produced. Similarly, it is less expensive to run one freight train with 150 cars than two trains of 75 cars each.
Fixing America's Surface Transportation Act (FAST ACT)	authorized \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs
Freight Analysis Framework 4 (FAF 4)	database produced through a partnership between Bureau of Transportation Statistics and Federal Highway Administration, integrating data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation
Gross Domestic Product	sum of all goods and services produced within a nation's borders. In the U.S., it is calculated quarterly by the Commerce Department.
Gross Vehicle Weight	combined weight of a vehicle and its freight
Hazardous Material	a substance or material that the U.S. Department of Transportation has determined to be capable of posing a risk to health, safety, and property when stored or transported in commerce
Highway Performance Monitoring System	a national level highway information system that includes data on the extent, condition, performance, use and operating characteristics of the nation's highways
Hours of Service	amount of time a driver is allowed to work without rest
Hub/Freight Hub	a facility where cargo is exchanged between vehicles or between transport modes
IHS Market Transearch Database	exclusive source for U.S. county-level freight-movement data by commodity group and mode of transportation
Indian Nations Council of Governments (INCOG)	a voluntary association of local and tribal governments in the Tulsa metropolitan area in northeast Oklahoma comprising Creek, Osage, Rogers, Tulsa, and Wagoner Counties
Infrastructure for Rebuilding America (INFRA) Program	a program that provides dedicated, discretionary funding for projects that address critical issues facing our nation's highways and bridges. INFRA grants creates opportunities for all levels of government and the private sector to fund infrastructure, using innovative approaches to improve the necessary processes for building significant projects, and increasing accountability for the projects that are built.

Intelligent Transportation System	a system that collects, stores, processes and distributes information relating to the movement of people and goods
International Roughness Index (IRI)	a scale for roughness based on the simulated response of a generic motor vehicle to road surface irregularities
Intermodal	the transportation of freight in an intermodal container or vehicle, using multiple modes of transportation (rail, barge, and truck), without any handling of the freight itself when transferring modes
Intermodal Connectors	highways that provide access between major intermodal facilities and the other four subsystems making up the National Highway System
Intermodal terminal	a facility for the transfer of containers between railroad and truck
Inventory	number of units and/or value of the stock of good a company holds
Land Mobile Radio	terrestrially based wireless commonly used for critical communications by public safety organizations such as police, firefighters, and other emergency response organizations
Last Mile	figure of speech describing movement of goods from a transportation hub to the final delivery destination
Level of Service	qualitative measure of a road's operating conditions
Liquid Bulk Cargo	type of bulk cargo that consists of liquid items, such as crude oil or liquid natural gas
Lock	device used for raising and lowering boats, ships and other watercraft between stretches of water of different levels on river and canal
Logistics	all activities involved in the transport of goods to customers
Long Combination Vehicles	commonly defined as tractor-trailer with two or more trailers that can carry more than 80,000 pounds of gross vehicle weight
Long Range Transportation Plan	document produced by regional or statewide agency serving as the vision for the region's or state's transportation systems and services. In metropolitan areas, the plan typically indicates all of the transportation improvements scheduled for funding over the next 20 years, and is sometimes known as the metropolitan transportation plan.
Moving Ahead for Progress in the 21st Century Act (Map-21)	in 2012, MAP-21 authorized over \$105 billion in federal funding for surface transportation programs for fiscal years 2013 and 2014. It was extended until the signing of the FAST Act in December 2015.
McClellan-Kerr Arkansas River Navigation System	the 445-mile navigation channel that begins at the confluence of the White and Mississippi Rivers and proceeds one-half mile upstream on the White River to the Montgomery Point Lock and Dam. From there, the channel proceeds 9 miles upstream on the White River to the manmade Arkansas Post Canal, and then 9 miles through the canal to the Arkansas River. The McClellan-Kerr Arkansas River Navigation System crosses the state of Arkansas into Oklahoma, traversing the state until it reaches the confluence of the Arkansas and Verdigris Rivers where the navigation channel follows the Verdigris River terminating 51 miles upstream at the Port of Catoosa, near Tulsa.

Metropolitan Planning Organization	regional policy-setting body, required in urbanized areas with populations over 50,000, and designated by local officials and the governor of the state; responsible in cooperation with the state and other transportation providers for carrying out the metropolitan transportation planning requirements of federal highway and transit legislation
Mobility	the ease with which people or goods move from place to place
Multimodal	transportation of freight using several modes
National Highway Freight Network	mandated by the Fixing America's Surface Transportation Act (FAST Act) to strategically direct federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system and includes the Primary Highway Freight System (PHFS) plus remaining Interstates not on the PHFS
National Highway System (NHS)	roadway system established by Congress consisting of roads important to the national economy, defense, and mobility. The NHS includes the following subsystems of roadways, Interstates, some Principal Arterials, the Strategic Highway Network, and Intermodal Connectors. The MAP-21 legislation made some significant changes to the NHS.
National Multimodal Freight Network	proposed national freight network inclusive of all modes
National Performance Management Research Data Set (NPMRDS)	Federal Highway Administration database that contains location information collected in five-minute intervals for road segments on the National Highway System. The data can be used to estimate speed for roadway segments. (Sometimes referred to as National Travel Time Data.)
National Travel Time Data	see National Performance Management Research Data Set
Near-shoring	relocation of businesses from overseas locations to bordering or nearby countries
Oversize/Overweight Loads	load that exceeds the standard or ordinary legal size and/or weight limits for a specified portion of road, highway or other transport infrastructure, such as air freight or water freight
Owner/Operator	trucking operation in which the owner of the truck is also the driver
Performance Measures	metrics that can be used to track results serve and can serve as a basis for comparing progress against a target or other objective
Port of Entry	in Oklahoma, Ports of Entry are locations at the state border where commercial vehicles undergo electronic processing for a number of items, including but not limited to driver credentials, weight, tax and fee status, and safety inspection. At the national level, Ports of Entry usually means a place where foreign goods may be cleared through customs
Primary Highway Freight System	network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerlines miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads.
Radio Frequency Identification (RFID)	uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information. Passive tags collect energy from a nearby RFID reader's interrogating radio waves.
Regional Railroad	see Class II railroad

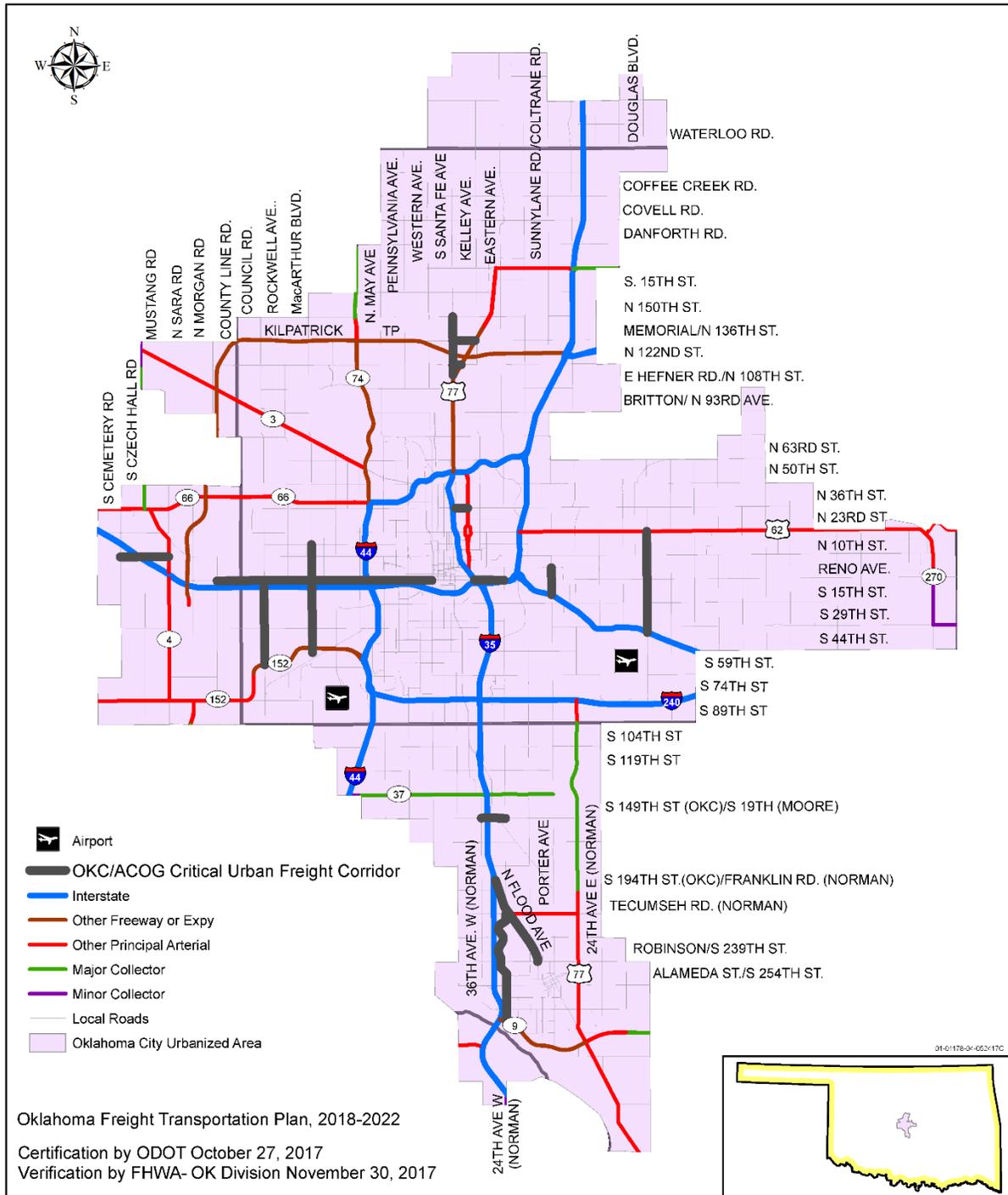
Reliability	refers to the degree of travel time certainty and predictability on the transportation system
Re-shoring	the practice of bringing manufacturing and services back to the United States from overseas.
Shipper	party that tenders goods for transportation
Short Line Railroad	see Class III railroad
Strategic Highway Network (STRAHNET)	critical to the Department of Defense's domestic operations. STRAHNET is a 62,000-mile system of roads deemed necessary for emergency mobilization and peacetime movement of heavy armor, fuel, ammunition, repair parts, other commodities to support U.S. military operations. STRAHNET facilities are also on the National Highway System. Strategic highway network connectors are highways that provide access between major military installations and highways that are part of the Strategic Highway Network.
Street	public thoroughfare especially in a city, town, or village including all areas within the right-of-way (such as sidewalks and tree belts) and sometimes further distinguished as being wider than an alley or lane but narrower than an avenue or boulevard
Supply Chain	system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer
Team Track	track designated for multiple customer use to load or unload shipments when direct rail service is unavailable
Ton-mile	measure of output for freight transportation to capture weight of shipment and the distance traveled
Train Speed	measures the line-haul movement between terminals. The average speed is calculated by dividing train-miles by total hours operated, excluding yard and local trains, passenger trains, maintenance of way trains, and terminal time.
Transit time	elapsed time between a shipment's pickup and delivery
Transloading	transferring bulk shipments from one mode to another
Travel Time Reliability	measured by the percentage of trips that succeed in achieving a predetermined standard for time or speed.
Truck Travel Time Reliability	the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day
Unit Train	train handling a single commodity type that remains as a unit between origin and destination
Vehicle-Miles Traveled (VMT)	unit for measuring vehicle travel distances; number of miles traveled nationally by vehicles for a period of one year
Warehouse	storage facility for products prior to shipment (at origin) or prior to delivery (at destination)

ENDNOTES

- ¹ Woods and Poole data from Oklahoma Long Range Transportation Plan: 2015-2040 (LRTP).
- ² National numbers from https://www.rita.dot.gov/bts/press_releases/bts013_16, Oklahoma from IHS Markit Transearch, *Freight Analysis Framework 4.3, WSP*. Both national and Oklahoma long term forecasts come to just over 1.2 percent per year.
- ³ Source: IHS 2014 Transearch, WSP analysis, 2017
- ⁴ The two largest airports in Oklahoma, Tulsa International Airport in Tulsa and Will Rogers World Airport in Oklahoma City, rank 65th and 84th respectively in landed weight according to the Federal Aviation Administration's 2012 report on landed weight by airport. https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/cy12cargopairports.pdf
- ⁵ Commodity groups used in the analysis are based on Standard Transportation Commodity Codes (STCCs), which are the system employed by the TRANSEARCH database. STCCs can be expressed at different levels of detail. For example, the 2-digit code 20 covers all processed food products, while the 4-digit code 2086 isolates soft drink beverages and mineral water.
- ⁶ Currently available at OKroads.org <http://ok.maps.arcgis.com/apps/Viewer/index.html?appid=023e821ebf7b4acd999ccfd58d92c3da>
- ⁷ ODOT is considering reducing the number sites initially and contracting for weather prediction service in order to compare the two sources and determine the most efficient method.
- ⁸ ODOT and the Oklahoma Department of Public Safety jointly developed a system, OKiePROS, which provides motor carriers the ability to submit a standard OS/OW permit request over the internet at any time of day, generate a safe route, and pay and receive their permit electronically. The system was opened for operation in 2011.
- ⁹ In the United States, according to the Surface Transportation Board, a Class I railroad has annual operating revenues of \$447.6 million or more (current dollars).
- ¹⁰ Oklahoma's Five Military Installations: An Economic Impact Report. Oklahoma Department of Commerce website http://okcommerce.gov/wp-content/uploads/2015/06/Military_Impact_Study.pdf
- ¹¹ Freight and Congestion Federal Highways Administration, Freight Management and Operations https://ops.fhwa.dot.gov/freight/freight_analysis/freight_story/congestion.htm
- ¹² The National Performance Management Research Data set (NPMRDS) is a dataset provided by FHWA that includes detailed information about travel time and delay for commercial motor vehicles. More information is available in the Technical Report 5: Goals and Performance Measures, Policies and Strategies available here (<http://www.okstatefreightplan.com>).
- ¹³ <http://usdpartners.com/terminal/stroud>
- ¹⁴ <https://rbenenergy.com/get-back-on-my-stroud-canadian-congestion-revives-cushing-rail-op>
- ¹⁵ See http://www.fhwa.dot.gov/environment/alternative_fuel_corridors/. For purposes of the Oklahoma Freight Transportation Plan, access to compress natural gas and fast-charge electric vehicle stations is used as a performance measure related to the achievement of Oklahoma environmental goals
- ¹⁶ Woods and Poole data from LRTP
- ¹⁷ https://economy.okstate.edu/forecasts/files/Economic_Outlook_2017-Feb.pdf
- ¹⁸ http://www.greateroklahomacity.com/clientuploads/pdf/OKC_Economic_Forecast_2016_web.pdf
- ¹⁹ <https://www.conference-board.org/data/globaloutlook/>
- ²⁰ Bruce Blanton, *USDA's Perspective on Agricultural Transportation Priorities*, Ag Transportation Summit, August 4, 2015, Rosemont, IL.
- ²¹ The Tompkins Consortium is a benchmarking organization of Fortune 500-type companies, approximately half of them retailer manufacturers. Tompkins International citations are taken from the public presentations of the Triangle Regional Freight Plan, Capitol Area MPO, Durham-Chapel Hill-Cary, and North Carolina DOT, December 2015.
- ²² Walker Sands Future of Retail Study, quoted in "Will the Sharing Economy Disrupt Transportation and Logistics", presentation by Richard Metzler of uShip, Stifel, Nicolaus & Co., June 29, 2016
- ²³ The Tompkins Consortium is a benchmarking organization of Fortune 500-type companies, approximately half of them retailers and half manufacturers. Tompkins International citations here and below are taken from public presentations of the Triangle Regional Freight Plan, Capitol Area MPO, Durham-Chapel Hill-Cary MPO, and North Carolina DOT, December 2015.
- ²⁴ Direct experience of a major retailer, reported in "Logistics and Supply Chain Asset Study", Michigan Economic Development Corporation, March 2015
- ²⁵ Dr. Michael Lierow, Oliver Wyman, "Digital Turmoil: Digitalization of the Logistics Value Chain", Stifel, Nicolaus & Co., October 12, 2016
- ²⁶ "Self-Driving Truck's First Mission: A 120-Mile Beer Run", *New York Times*, October 25, 2016.
- ²⁷ www.ottomotors.com, accessed February 24, 2017
- ²⁸ "Autonomous Truck Platooning a Game Changer for Fuel Efficiency, Safety", *Texas A&M Today*, February 26, 2016.
- ²⁹ "New NXP Technology Allows Tighter Truck Platooning", *Forbes*, November 7, 2016.
- ³⁰ "Truck Platooning, Past, Present and Future", *TruckingInfo.com*, April 2016

- ³¹ “European Truck Platooning Challenge 2016”, Dutch Ministry of Infrastructure and the Environment, available at <https://www.eutruckplatooning.com/home/default.aspx>
- ³² <https://operations.erd.cdrn.mil/pdfs/TechExtLife1.pdf>
- ³³ “The Future of Chicago Manufacturing? Fewer People Doing More”, *Chicago Tribune*, 9/19/15, quoting from a White House press release of July 2015.
- ³⁴ U.S. GDP by Industry, issued by Bureau of Economic Analysis, U.S. Department of Census, extracted February 2017.
- ³⁵ “U.S. Re-Shoring: Over Before It Began? A.T. Kearney, December 2015
- ³⁶ “Nearshoring Gaining Popularity in Western Europe While N. American Activity Slows”, AlixPartners, reported by Stifel Nicolaus & Company, September 9, 2015
- ³⁷ Cambridge Systematics, Inc. 2011. *Potential Effects of the Panama Canal Expansion on the Texas Transportation System*. Texas Department of Transportation
- ³⁸ <https://static.tti.tamu.edu/tti.tamu.edu/documents/tti-testimony-05042016-1.pdf>
- ³⁹ Legacy network refers to highways on the National Highway System prior to Moving Ahead for Progress in the 21st Century Act (MAP 21). The State of Oklahoma has not completed some revisions that it began in 2013.
- ⁴⁰ Federal Highway Administration. August 2015. *Freight Performance Measure Approaches for Bottlenecks, Arterial, and Linking Volumes to Congestion*. U.S. Department of Transportation, Washington, D.C.
- ⁴¹ Technical Report 7, Bottlenecks and Mobility Issues, presents a more detailed discussion of assessing delay and reliability and how these factors are related to bottlenecks and other mobility issues available at <http://www.okstatefreightplan.com>.
- ⁴² The National Performance Management Research Data set (NPMRDS) is a dataset provided by Federal Highway Administration that includes detailed information about travel time and delay for commercial motor vehicles. More information is available in the Technical Report 5, Goals and Performance Measures, Policies and Strategies, available at <http://www.okstatefreightplan.com>.
- ⁴³ The National Performance Management Research Data Set data was from 2016 and AADT data was from the 2015 HPMS.
- ⁴⁴ ODOT has an extensive system of designated Overweight Truck permit “green” routes for approved heavy-haul and long-combination vehicle routes. See ODOT website at <http://www.okstatefreightplan.com>.
- ⁴⁵ Oklahoma DOT Waterways Division, February 1, 2017, email to Oklahoma Freight Transportation Plan project team.
- ⁴⁶ Oklahoma DOT Waterways Division, February 27, 2017, email to Oklahoma Freight Transportation Plan project team.
- ⁴⁷ Freight-related strategies are described in detail in Technical Report 5, Goals and Performance Measures, Policies and Strategies, available at <http://www.okstatefreightplan.com>.
- ⁴⁸ For example, ODOT is investing in a tool called “Decision Lens” to support the development of its 8 Year Construction Work Plan. The Decision Lens tool may include performance criteria addressing criteria such as bridge condition, pavement condition, geometric deficiencies, crash mitigation, system utilization, and system mobility/performance. Freight performance measures may also be incorporated into the tool.
- ⁴⁹ Technical Report 5, Goals and Performance Measures, Policies and Strategies, explains performance measures in greater detail at <http://www.okstatefreightplan.com>.
- ⁵⁰ During the development of these criteria, work on Decision Lens was in progress, so that a final set of Decision Lens criteria was not available. Some measures have also been customized to freight.
- ⁵¹ The 8 Year Construction Work Plan (CWP) is updated annually. Research and analysis for the OFTP was based on years 2018-2022 from the CWP, 2017-2024. The CWP was being updated concurrently with the development of the OFTP. With very few exceptions, all projects in the first five years of the CWP 2017-2024 were also included in the CWP 2018-2025. Minor inconsistencies were addressed prior to completion of this OFTP.
- ⁵² Most of Oklahoma’s truck traffic occurs on the National Highway System (NHS), which includes the interstates and major U.S. and state highways. The federal freight performance measure requirement applies to this system as well. Freight-related performance measure for bridge data and pavement conditions are required for the NHS.
- ⁵³ <https://ops.fhwa.dot.gov/freight/infrastructure/nfn/>
- ⁵⁴ The terms network and system are used interchangeably when referring to the primary highway freight network/system or the national highway freight.
- ⁵⁵ The Infrastructure for Rebuilding America (INFRA) program advances the pre-existing FASTLANE grant program established in the FAST Act of 2015 and utilizes updated criteria to evaluate projects to align them with national and regional economic vitality goals and to leverage more non-federal funding. The INFRA program utilizes Nationally Significant Freight and Highway Projects (NSFHP) funds that are offered on a competitive grant application basis by USDOT in the amount of \$4.5 billion over a five-year period. <https://www.fhwa.dot.gov/fastact/funding.cfm>; accessed November 30, 2017
- ⁵⁶ The U.S. Census Bureau defines urbanized areas as having a population of 50,000 or more people in the most recent decennial census. <https://www.census.gov/geo/reference/ua/urban-rural-2010.html>
- ⁵⁷ The high truck volume map shows highway segments with high combination (tractor-trailer) vehicle volumes, where “high” is defined as 1,280 combination vehicle AADTTs per highway segment. The 1,280 combination vehicle AADTT’s threshold was selected as the high truck count reference point because highway segments having 1,280 AADTTs represented the highest 25 percent segment AADTTs. Further information on this subject is contained in Technical Report 6, Network Designation, at <http://www.okstatefreightplan.com>
- ⁵⁸ More details on the evaluation criteria and process for developing the proposed CRFC and CUFC routes are contained in Technical Report 6, Network Designation, at <http://www.okstatefreightplan.com>.

ATTACHMENT 2 – OKLAHOMA CITY (ACOG) AREA CRITICAL URBAN FREIGHT CORRIDORS



ATTACHMENT 3 – TULSA (INCOG) AREA CRITICAL URBAN FREIGHT CORRIDORS

