Chapter 6 Transportation Mode Inventory and Utilization

Introduction

This chapter documents an inventory of transportation modes and current transportation conditions throughout the State. It includes all passenger and freight modes. The data sources for this chapter include ODOT, Federal databases, interviews with modal representatives, and other transportation industry sources.

The transportation mode inventory and utilization focuses on two main sections: (1) person/passenger transportation facilities and (2) freight transportation facilities. This chapter also discusses the Intelligent Transportation System (ITS) in Oklahoma. The person/passenger transportation section focuses on highways and toll facilities, public transit, aviation, bicycle and pedestrian facilities, and ridesharing and telecommuting. Within the freight section, modal discussion includes trucking, freight rail, intermodal connections (truck, rail, ports, etc.), ports and waterways, and air cargo. The ITS section focuses on an inventory and discussion of existing and proposed ITS improvements.

Passenger Transportation Facilities

Oklahoma maintains an extensive transportation network for moving people throughout the State. This section includes an inventory and analysis of the following passenger transportation modes:

- Highways
- Public transportation
- Aviation
- Bicycle and pedestrian
- Ridesharing and telecommuting

Highways

Introduction to the Oklahoma Highway System

Highways and roads are the vital arteries allowing people and goods to move from place to place locally, within the State, and to adjoining states and throughout the nation. Oklahoma's highway system includes major roadways that cover a total of 12,882 miles. The system includes 12,280 miles of non-toll roads owned by the State and maintained by ODOT and 602 miles of toll roads owned and operated by the OTA.

The Oklahoma highway system[1] includes routes designated as interstate, U.S. highways, or state highways as well as interchanges and bridges on these facilities.

Various ways exist to describe the highway network. One highway classification method that takes into account jurisdiction and intensity of use is the federal and state designation system. This is a hierarchical method that includes interstate, U.S. highway, state highway, turnpike, and local city and county designations.

The facilities serving the highest traffic volumes are interstate, U.S. highways, and state highways, while local government roadways support less traffic on smaller facilities. The Federal Highway Administration has identified a subset of this group as the National Highway System (NHS). The NHS consists of major roadways, such as interstates, some U.S. and state highways, strategic arterials (STRAHNET),[2] and intermodal connectors. Oklahoma's turnpikes are also part of the NHS. **Figure 6-1** depicts the NHS throughout Oklahoma.

In addition to the roads and highways under the jurisdiction of the State, approximately another 110,000 miles of public roads exist within the

State. These are the responsibility of local city and county governments.

Existing Oklahoma Highway System Description

Within this system, there are seven interstates, 26 routes designated as U.S. Highways, over 200 state numbered routes (or state highways, eight of which are a part of the NHS), and 10 turnpikes (also part of the NHS).

Interstates

Table 6-1 includes the seven Interstate highways in Oklahoma. Four of the seven Interstates are spurs or connectors to other regional Interstate routes. One of these spur/connector Interstates, I-444, is an unsigned auxiliary route, which offers an alternative from a route of the same number (I-244 in Tulsa).

U.S. Highways

Oklahoma has 26 designated U.S. highway routes. **Table 6-2** presents their beginning and end points, as well as their mileage within Oklahoma.

State Highways

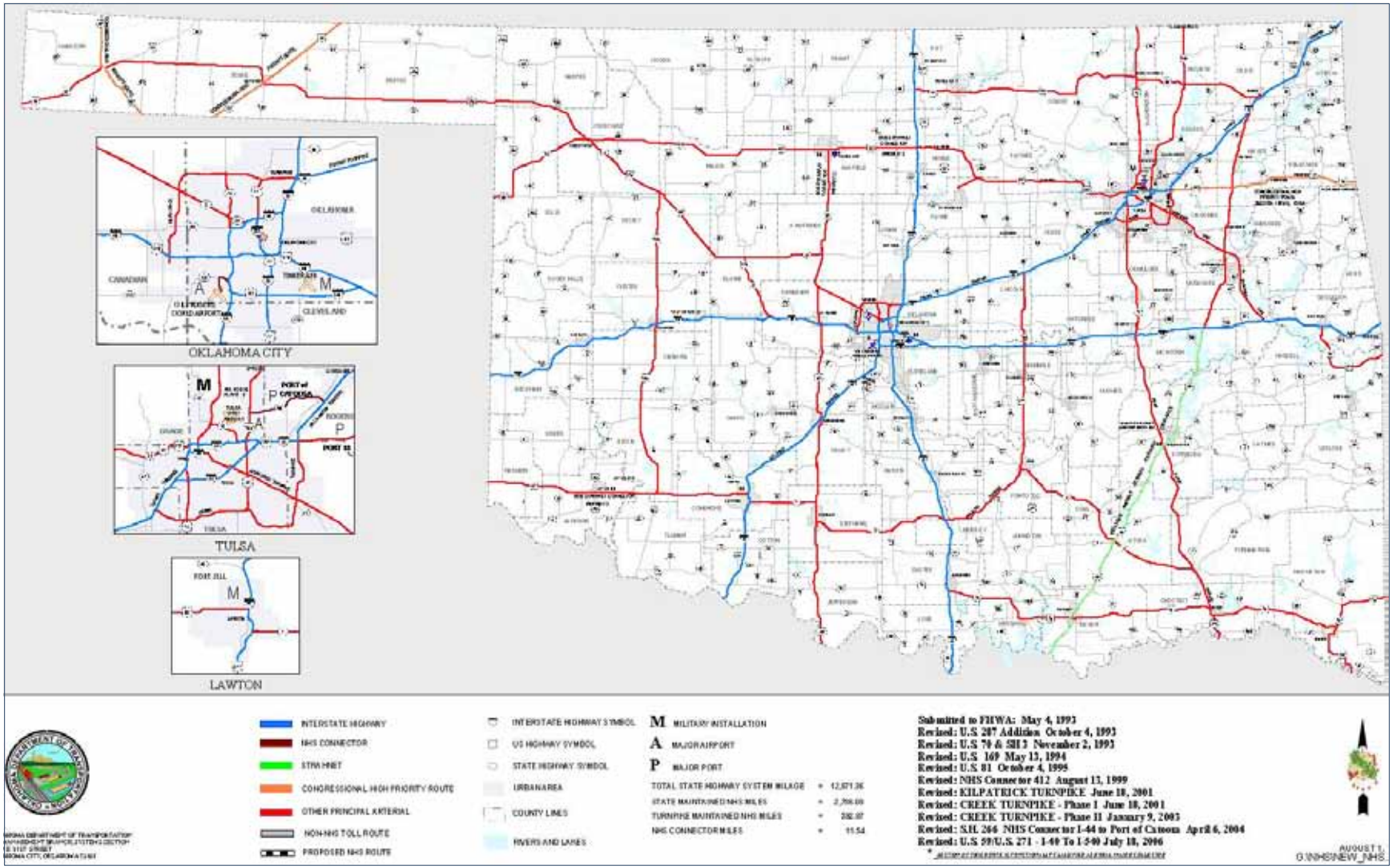
Over 200 state highways fall within Oklahoma. The six state highway routes in Oklahoma listed on the NHS are shown in **Table 6-3.**

Turnpikes

The roadways in **Table 6-4** are designated turnpikes within Oklahoma and are also part of the NHS. The OTA operates and maintains all the State's turnpikes. Each allows for payment by cash or by electronic debit account established by the vehicle owner. Electronic toll users are frequently given separate lanes to travel at high speed through toll plazas. Toll accounts are administered by OTA under the PikePass program.

Existing Oklahoma Highway System Use and Performance

Automobiles are the dominant means of transportation in Oklahoma. Trends and usage of the State's highways and roads can be understood, in part, through looking at VMT.[3] This section discusses the entire Oklahoma highway system and related traffic volumes and performance characteristics by looking at general VMT for the State as a whole and trends on the State's highways over the past few years. **Table 6-5** presents miles of roadway and VMT within Oklahoma between 2003 and 2007. During this four-year period, VMT increased by 0.21 percent,[4] although fluctuations for various intervening years occurred.



Source: ODOT, http://www.okladot.state.ok.us/hqdiv/p-r-div/maps/nhs/2006nhs.pdf, retrieved September 8, 2010.

Figure 6-1. Oklahoma's National Highway System

Table 6-1. Summary of Interstates within Oklahoma

Interstate Highway	Boundaries	Mileage in Oklahoma
I-35	Regional trunk Interstate that connects Laredo, Texas, with Duluth, Minnesota, and runs north-south through the middle of Oklahoma. Within Oklahoma, I-35 connects the cities Thackerville, Ardmore, Pauls Valley, Purcell, Norman, Moore, Oklahoma City, Guthrie, Perry, and Blackwell.	235 miles
I-235	A north-south spur of I-35 that connects I-35 and I-40 in downtown Oklahoma City to I-44 north of downtown. Also called the Centennial Expressway.	5 miles (spur)
I-40	Regional trunk Interstate that connects Barstow, California, with Wilmington, North Carolina, and runs east-west across the middle of Oklahoma. Within Oklahoma, it connects the cities Erick, Sayre, Elk City, Clinton, Weatherford, El Reno, Oklahoma City, Midwest City, Shawnee, Henryetta, and Sallisaw.	331 miles
I-240	A circumferential connector that runs between I-44 and I-40 in Oklahoma City. The entire length of I-240 overlaps a portion of SH-3, the longest state highway in Oklahoma.[5]	16 miles (connector)
I-44	Regional trunk Interstate that connects Wichita Falls, Texas, with St. Louis, Missouri, and runs diagonally northeast-southwest across Oklahoma. I-44 connects the cities of Lawton, Oklahoma City, Tulsa, and a number of smaller communities. The sections of this Interstate within Oklahoma comprise three turnpikes/ tolled segments: the H.E. Bailey Turnpike, the Turner Turnpike, and the Will Rogers Turnpike (these are separately discussed further in the report).	329 miles
I-244	Connects with I-44 to form the northern and western legs of the "Inner Dispersal Loop or IDL" in Tulsa (the loop around Tulsa). This interstate is also known as the Martin Luther King Jr. Memorial Expressway and the Red Fork Expressway.	15 miles (connector)
I-444	An unsigned, auxiliary route of the Interstate System, with both ends joining I-244 in downtown Tulsa. I-444 creates the eastern and southern sections of the IDL.	2.5 miles

Source: ODOT.

Table 6-2. Summary of U.S. Highways in Oklahoma

Highway	Southern/Western Terminus	Northern/Eastern Terminus	Mileage in Oklahoma
US-54	El Paso, TX	Pittsfield, IL	56.1
US-56	Springer, NM	Kansas City, MO	71.0
US-59*	Laredo, TX	Lancaster, MN	218.3
US-60	Brenda, AZ	Virginia Beach, VA	352.8
US-62	El Paso, TX	Niagara Falls, NY	406.0
US-64	Teec Nos Pos, AZ	Whalebone Jct., NC	588.7
US-69	Port Arthur, TX	Albert Lea, MN	263.4
US-70	Globe, AZ	Atlantic, NC	294.6
US-75	Dallas, TX	Noyes, MN	251.4
US-77	Brownsville, TX	Sioux City, IA	268.3
US-81	Fort Worth, TX	Pembina, ND	230.6
US-83*	Brownsville, TX	Westhope, ND	36.5
US-169	Tulsa, OK	Virginia, MN	75.1
US-177*	Madill, OK	South Haven, KS	229.4
US-183	Refugio, TX	Presho, SD	219.8
US-259	Nacogdoches, TX	Page, OK	98.8
US-266*	Henryetta, OK	Warner, OK	43.4
US-270	Liberal, KS	Pine Bluff, AR	477.4
US-271	Tyler, TX	Fort Smith, AR	159.6
US-277*	Carrizo Springs, TX	Newcastle, OK	124.1
US-281	Brownsville, TX	Dunseith, ND	256.6
US-283	Brady, TX	Lexington, NE	203.7
US-287	Port Arthur, TX	Choteau, MT	41.3
US-377	Del Rio, TX	Stroud, OK	140.1
US-385*	Big Bend National Park, TX	Deadwood, SD	36.0
US-412	Springer, NM	Columbia, TN	502.6

Source: ODOT.

*denotes U.S. Highways that are not a part of the NHS.

Table 6-3. State Highways comprising the National Highway System within Oklahoma

State Highway	Boundaries	Mileage in Oklahoma
SH-3	The longest state highway in Oklahoma, traveling diagonally through Oklahoma from the Panhandle to the far southeastern corner of the state. Only certain portions of SH-3 are on the NHS in Oklahoma.	616.5
SH-7	Located in the southern-central portion of the State, running from I-44 in Lawton to US-69/US-75 in Atoka.	150.0
SH-11	Runs across the north-central portion of the State from US-281 north of Alva to I-244/US-412 in Tulsa. Only a small section of SH-11 around Tulsa is on the NHS map.	208.0
SH-15	Two, once-connected, state highways. The western portion is located on the western end of the State starting at the Texas border until it goes through the city of Woodward. The central portion is located between US-64/US-412 and SH-18 north of Pawnee. The highway section connecting the two sections is now US-412.	Western: 47.1 Central: 62.4
SH-266	Designated as an intermodal connector by the NHS and starts at an interchange with US-169 (Tulsa), curves northeast, and ends at I-44.	11.5 miles
SH-412/US-412	Boundaries and route are the same as US-412.	502.6 miles

Source: ODOT.

Table 6-4. Turnpikes Located within Oklahoma

Turnpike	Boundaries	Route Mileage
Cherokee Turnpike	Extends east from US-412 at Locust Grove to US-412 west of West Siloam Springs.	32.8
Chickasaw Turnpike	Extends southward from SH-3 near Ada to SH-7 immediately west of Sulphur.	17.3
Cimarron Turnpike	Extends from I-35 and US-64 east of Enid to Tulsa. There is additionally an 8.5-mile spur which connects to Stillwater and Oklahoma State University.	67.5
Creek Turnpike	Connects the Turner Turnpike to the Will Rogers Turnpike.	33.2
H.E. Bailey Turnpike	Connects Oklahoma City to Randlett just north of the Texas state line.	94.6
Indian Nation Turnpike	Connects Henryetta to US-70 near Hugo.	105.2
John Kilpatrick Turnpike	Extends from the interchange of the Turner Turnpike and I-35 in Oklahoma City to I-40.	25.3
Muskogee Turnpike	Connects Webbers Falls to Tulsa.	53.1
Turner Turnpike	Connects Oklahoma City with Tulsa.	86.0
Will Rogers Turnpike	Extends from Tulsa to the Missouri state line.	88.5

Source: ODOT.

Table 6-5. Travel Characteristics for Oklahoma

Year	Miles of Road	Vehicle Miles Traveled (in thousands)
2003	112,576	45,725,000
2004	112,713	46,443,000
2005	112,938	45,922,000
2006	113,085	47,510,000
2007	112,922	45,819,700

Source: FHWA.

System Condition

Every two years, ODOT publishes a *Needs Study and Sufficiency Rating Report* (Needs Study) that describes the physical and operating condition of the state highway system (SHS). The 2009 Needs Study identifies nearly 3,000 miles of highways (including 79 miles on interstates) and 1,464 bridges that are currently inadequate[6] to handle the demands placed upon them. As noted earlier, there are over 12,000 miles included in the SHS, so this means that roughly one-quarter of the system's roads are not in adequate condition.

The Needs Study also documents that 1,464 bridges (or about 20 percent of the State's 7,600) are inadequate, as a result of being functionally obsolete or structurally deficient. The Department projects capital improvement needs will outpace its expected budget by more than a 2:1 ratio.[7] The Department has been able to make progress in addressing the system's needs as a result of increased State funding from approximately $200 million to $400 million per year between 2000 and 2009.

Traffic Congestion

Level of service (LOS) is a common measure used by the transportation profession to measure traffic congestion. It describes the operating conditions within a traffic stream based on service measures, such as speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. The measures range from LOS A, the best condition, to LOS F, the worst traffic condition.

- LOS A represents free flow operations at the highest posted speeds where there is ample freedom to maneuver and localized incidents can occur without affecting traffic flows.
- LOS B implies that free flow speeds are maintained with slight restrictions.
- LOS C provides for free flow speed, but freedom to maneuver within the traffic stream is noticeably restricted. More driver care is required and queues begin to occur.
- At LOS D, speeds begin to decline, driver comfort levels deteriorate, freedom to maneuver is noticeably limited, and minor incidents create queues.
- LOS E describes the condition when the roadway capacity has been reached, volatile operational events occur, maneuverability is extremely limited, and incidents create breakdown in traffic flow.
- LOS F represents complete breakdown in traffic flows with large queues, and the capacity of a facility can be temporarily reduced by the in-flow of traffic.

The Department's goal is to maintain LOS C or D on the SHS.

ODOT analyzed projected future LOS in the development of the 2035 Statewide Transportation Plan to reassess the highways previously identified as necessary to meet future capacity needs. (In the previous *2030 Statewide Transportation Plan,* 17 Transportation Improvement Corridors [solely within the State of Oklahoma] and 4 National High Priority Corridors were described as facilities that would address anticipated future highway traffic volumes.) As a result of this evaluation, the list of Transportation Corridors and High Priority Corridors has been updated to reflect progress in improving the corridors over the past five years and to illustrate remaining improvement needs. This information is contained in Chapter 7.

High Priority Corridors

Beginning with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Federal transportation legislation designated certain highways as High Priority Corridors.[8] These corridors are eligible for special

discretionary funding from the National Corridor Planning and Development (NCPD) program. To receive a high priority designation, the corridor must be on the 160,000-mile NHS and the route designated by Congress. Thus, most High Priority Corridors are part of the interstate, U.S. highway, or SHS. High Priority Corridors are congressionally designated and are of national significance as they are evaluated and improved according to their economic importance to the region and nation.

There are 87 High Priority Corridors across the nation, 4 of which are in Oklahoma. These 4 corridors are essential to economic productivity of people and goods movement. **Figure 6-2** depicts the location of these priority corridors. They include the following:

- US-287 in Cimarron County is nationally known as the Ports-to-Plains Corridor and runs between Texas and Colorado in the Oklahoma panhandle.
- US-54 in Texas County is nationally known as the SPIRIT Corridor and runs between Texas and Kansas in the Oklahoma panhandle.
- I-35 Corridor from Texas to Kansas.
- US-412 East-West Corridor from Tulsa, Oklahoma, to Memphis, Tennessee.

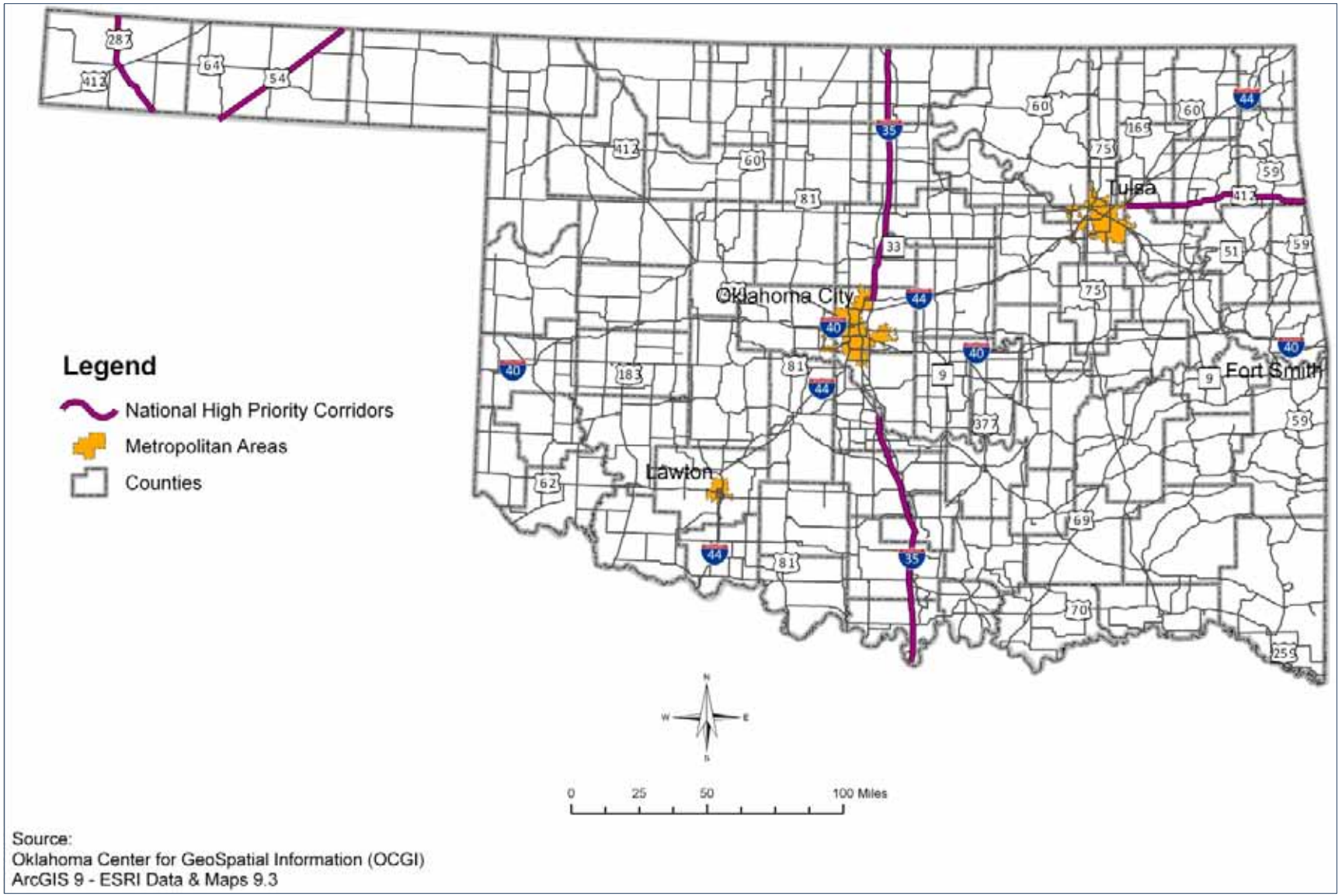
Public Transportation

This section discusses the ridership and service characteristics of Oklahoma's public transit agencies. It summarizes the 4 urban[9] public transportation systems, 19 rural[10] transit systems operating in 67 counties throughout Oklahoma, and various tribal transit operations. The type of public transportation service that each agency provides varies—fixed-route transit, demand response, and paratransit.[11] Some agencies may include one or a combination of these services. A description of these services follows:

- ***Fixed-route transit*** offers services on a fixed schedule, on a specific route (same origin/destination consistently), with vehicles stopping at specific locations along the route. The four urban public transportation agencies in Oklahoma use bus fixed-route services.
- ***Demand response transit*** is a service provided on an as-needed (or demand response) basis, where the user (or agent) calls the transit operator to dispatch and pick up the passenger. Multiple passengers can be picked up for one trip and taken to different destinations. Small buses, vans, or cars may be used to transport passengers. Demand response services are provided by a variety of urban and rural transit agencies throughout Oklahoma.
- ***Paratransit*** is a flexible means of passenger transportation with wheelchair-accessible vehicles that can include demand response, shared-ride taxis, and carpooling or vanpooling.

Urban Public Transportation

Urban public transportation systems serve communities with populations of 50,000 or more.[12] There are four urban public transportation agencies in Oklahoma, including Oklahoma City METRO Transit (OKC METRO Transit), a part of the Central Oklahoma Transportation and Parking Authority;[13] Cleveland (County) Area Rapid Transit (CART) for the Norman area; the Metropolitan Tulsa Transit Authority (Tulsa Transit); and the Lawton Area Transit System (LATS). All four of the transportation agencies offer bus transportation for the general public and specialized services for the elderly and disabled.



Source: Oklahoma Center for GeoSpatial Information (OCGI); ArcGIS 9–ESRI Data & Maps 9.3.

Figure 6-2. National High Priority Corridors in Oklahoma

OKC METRO Transit operates 23 interconnecting routes, including 2 express routes, within a 485-square-mile area of the Oklahoma City metropolitan area. OKC METRO Transit offers three downtown trolley lines (blue, red, and orange), Metrolift (special services for the elderly and persons with disabilities), and a trolley service in Edmond. OKC METRO Transit has 49 fixed-route buses in direct operation and 17 demand response vehicles. Transit services are available weekdays from 5:30 a.m. to 7:00 p.m., Saturdays from 6:00 a.m. to 6:30 p.m., and Sunday trolley service is from 11:00 a.m. to 9:00 p.m. Fixed route buses do not operate on holidays.

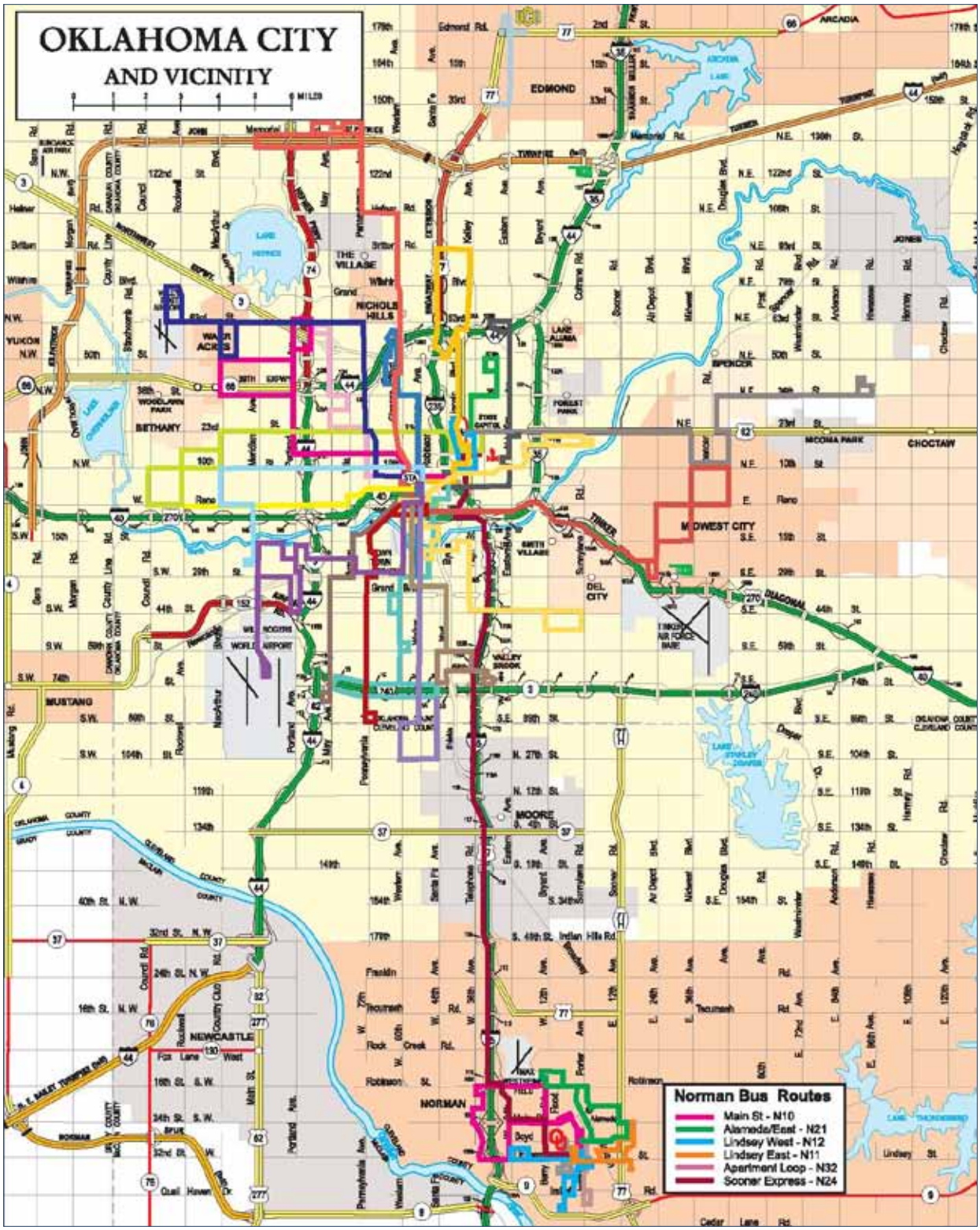
Figure 6-3 shows the Oklahoma City and vicinity's public transportation routes. This includes the routes from CART for Norman. Average daily fixed-route ridership is approximately 9,646 passengers, and average daily demand-response ridership is approximately 153 passengers.

Tulsa Transit is the public transportation provider for the city of Tulsa and outlying areas with a service area of over 261 square miles.[14] Tulsa Transit operates 25 fixed-route bus routes serving Tulsa, Broken Arrow, and areas of Jenks and Sand Springs. There are 62 fixed-route buses, including one 135-foot hybrid bus in circulation. Operational hours are Monday through Friday, 5:00 a.m. to 7:30 p.m., and Saturday from 6:00 a.m. to 7:00 p.m. Tulsa Transit also provides paratransit services for elderly and disabled transit riders. There are 40 mini buses, vans, and sedans to accommodate paratransit passengers. On average, there are approximately 10,000 fixed-route passengers per day and around 900 to 1,000 paratransit riders per day. In spring 2010, Tulsa Transit anticipated coordinating transit services with Pelivan Transit (a rural transit agency in Northeastern Oklahoma). The coordination between Tulsa Transit and Pelivan Transit will address the portion of service overlap in northeast Oklahoma and offer patrons enhanced services through the partnered provider. **Figure 6-4** shows the transit routes within the Tulsa vicinity.

LATS serves over a 42-square-mile service area for the Lawton-Fort Sill community. LATS has five fixed-route transit routes, with counter-routes for each of the five transit routes. Four of the five routes have a clockwise and then a counterclockwise route, and the fifth route has an east and a west route. Fixed-route service runs Monday through Friday from 6:00 a.m. to 7:00 p.m. and Saturday from 9:00 a.m. to 9:00 p.m. There are a total of ten fixed-route vehicles in service. LATS offers two vans and one 15-passenger van for paratransit service for the elderly and disabled. There are approximately 1,150 daily passengers, including 30 paratransit users. **Figure 6-5** shows the transit routes for the Lawton-Fort Sill area.

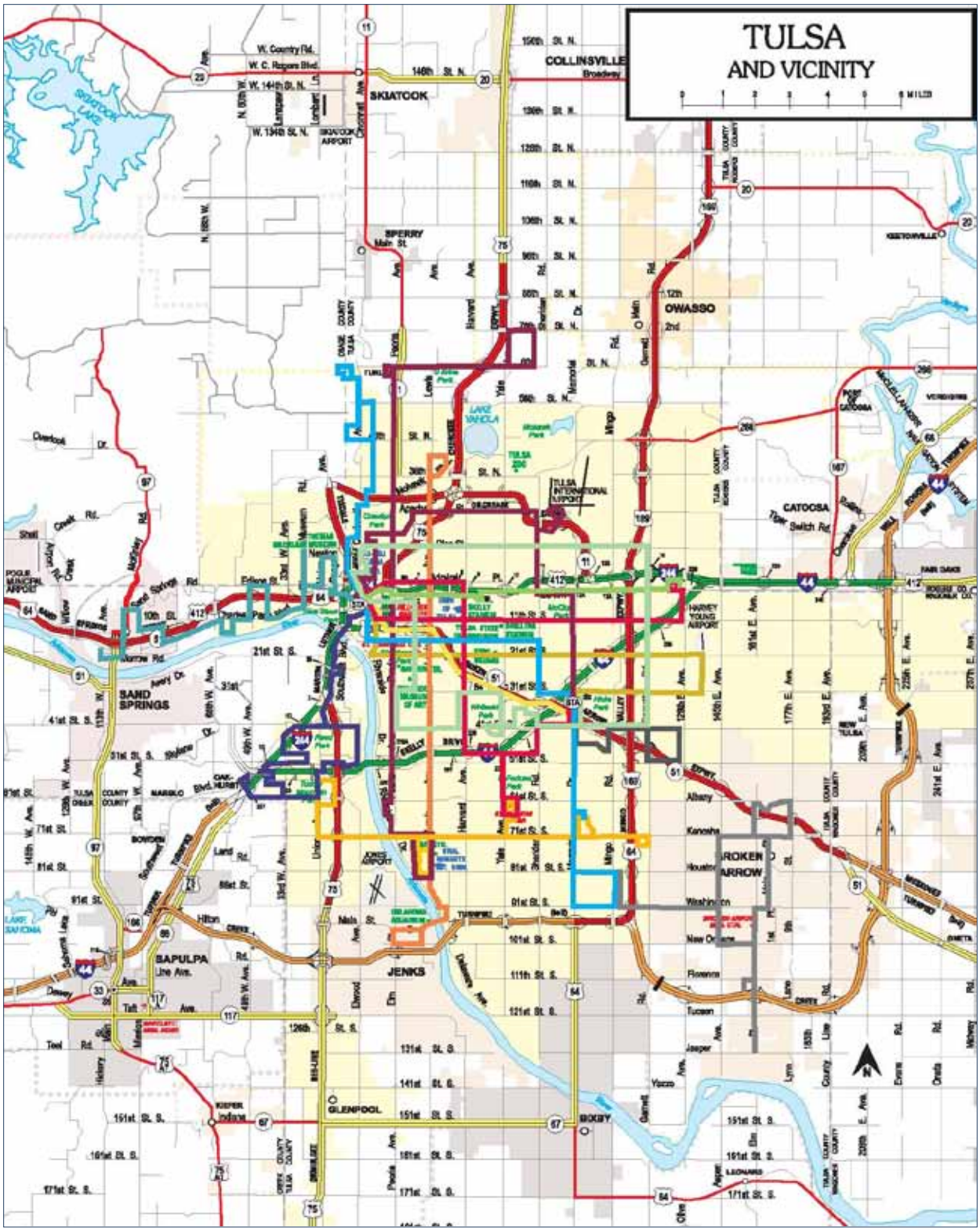
CART operates five city routes and two shuttle routes using buses, replica trolley buses, and paratransit vans. The service area includes the Norman City Limits (192 square miles) and limited service to Lexington, Noble, Moore, and Oklahoma City (via an express route). Metro Lift provides curb-to-curb service for persons with disabilities. CART also provides transit services to the University of Oklahoma Norman campus during the academic year.

CART service runs from Monday through Friday, 7:00 a.m. to 9:30 p.m., and Saturday from 10:00 a.m. to 9:00 p.m. CART operates 28 vehicles and daily transports approximately 126 demand response riders and 4,312 bus riders. Figure 6-3 shows the CART transit area as it connects with OKC METRO.



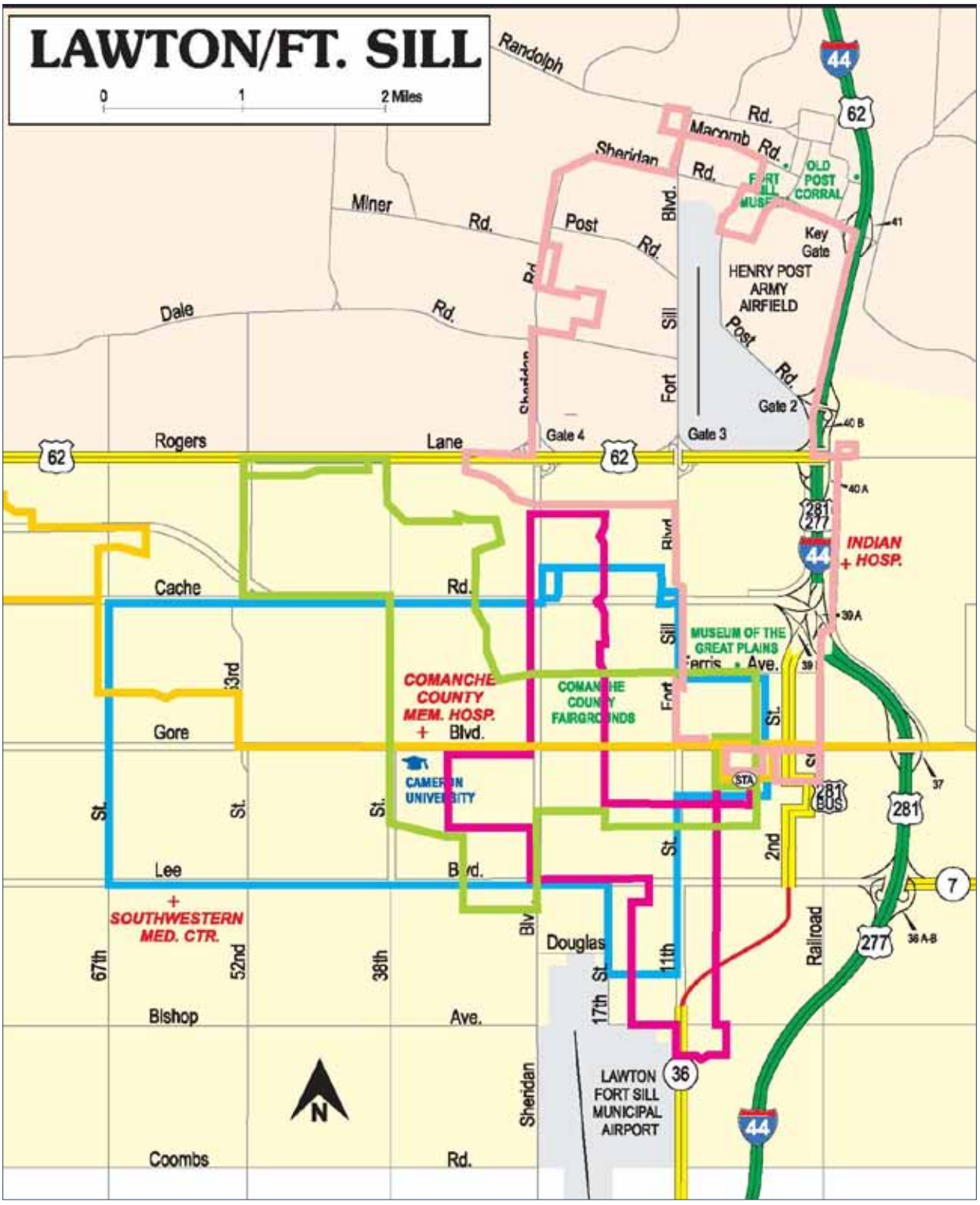
Source: ODOT.

Figure 6-3. Transit Service Area for OKC METRO Transit and CART



Source: ODOT.

Figure 6-4. Services Provided by Tulsa Transit



Source: ODOT.

Figure 6-5. Transit Services in Lawton-Fort Sill

Table 6-6 summarizes service and ridership statistics between 2003 and 2007 for the four discussed urban transit agencies. Data for 2003–2004 do not show information for CART separately from OKC METRO Transit.

Overall, the Oklahoma transit agencies have experienced a 9 percent increase in revenue miles since 2003. This increase is largely attributable to increased revenue miles for Tulsa Transit, with incremental increases from the other three agencies. While passenger miles decreased between 2003 and 2004, they have shown continued growth since then. Between 2003 and 2007, total passenger miles decreased by nearly 10 percent, and passenger trips decreased by nearly 4 percent. These three measurements, combined with information from the service provider agencies stating that services have been cut back since 2003 because of budget constraints, may suggest that fewer trips are being taken.

Table 6-6. Urban Transit Information, Statistics, and Trends[1]

Transit System	Calendar Year	Revenue Miles	Passenger Miles	Total Passenger Trips
OKC METRO Transit and CART	2003	4,449,554	21,417,847	4,121,656
Tulsa Transit		4,242,608	15,969,788	3,047,825
LATS		N/A	N/A	N/A
CART[2]		N/A	N/A	N/A
Subtotal		8,692,162	37,387,635	7,169,481
OKC METRO Transit and CART	2004	4,564,017	14,047,797	3,978,366
Tulsa Transit		3,625,788	16,026,860	3,058,672
LATS		595,540	N/A	225,932
CART[2]		N/A	N/A	N/A
Subtotal		8,785,345	30,074,657	7,262,970
OKC METRO Transit	2005	3,749,854	13,838,138	2,672,509
Tulsa Transit		3,991,352	13,961,309	2,482,071
LATS		586,266	1,428,465	263,686
CART		439,467	2,180,124	964,107
Subtotal		8,766,939	31,408,036	6,382,373
OKC METRO Transit	2006	3,656,363	14,993,773	2,903,844
Tulsa Transit		4,230,443	14,929,794	2,661,245
LATS		589,814	1,681,675	310,200
CART		495,237	2,197,446	968,433
Subtotal		8,971,857	33,802,688	6,843,722
OKC METRO Transit	2007	3,624,663	14,982,611	2,839,806
Tulsa Transit		4,722,540	14,238,301	2,563,571
LATS		596,105	1,903,389	352,337
CART		529,582	2,593,609	1,140,913
Subtotal		9,472,890	33,717,910	6,896,627

Source: National Transit Database, 2009.

[1]According to the National Transit Database, passenger miles are the miles that transit vehicles are scheduled to or actually travel while in revenue service, plus deadhead miles (miles a vehicle travels when out of revenue service). Revenue Miles are the miles that transit vehicles are scheduled to or actually travel while in revenue service. Revenue miles exclude deadhead, operator training, vehicle maintenance, and charter service miles.

[2]CART was not separate from OKC METRO Transit (COTPA) until after 2003. National Transit Database data was not provided until 2005 for CART.

Rural Transportation

ODOT's Transit Programs Division is responsible for administering the Federal Transit Administration's (FTA) Non-urbanized Area Formula Grant Program (Section 5311). The Section 5311 Program is designed to provide financial assistance to eligible local public transportation providers in rural areas and communities with a population of less than 50,000. Eligible local recipients of Section 5311 Program funds include local public agencies, nonprofit organizations, and Native American tribes. Presently, 19 community public transportation providers operate in Oklahoma. Following are brief descriptions of each rural agency. **Figure 6-6** shows rural transit services in Oklahoma.

Beaver City Transit has provided demand response transportation services to communities in Beaver County since 1989. The program serves the towns of Beaver, Balko, Gate/ Knowles, and Turpin, providing transportation for the elderly to nutrition centers and nursing homes and giving rides to children to and from school. The program operates two vehicles, one of which is accessible for the disabled. Service is provided during weekdays from 7:45 a.m. to 4:00 p.m. and during weekends for special events and holidays. This program serves approximately 2,500 citizens in Beaver County.

Call-A-Ride began operating in 1974 as a transportation service for senior citizens in Ada. In 1983 the program opened its service to the disabled and general public and expanded again in 1998 to include all of Pontotoc County. Call-A-Ride prioritizes serving the minority population, adolescents, and low-income families. Discounted fares are available to senior citizens aged 55 or older, persons with disabilities, and East Central University students. Primary service is demand response within Pontotoc County and the system transports users to major bus lines and Amtrak depots in surrounding counties. The program operates 20 vehicles, 15 of which are accessible to the disabled. Service is provided weekdays from 8:00 a.m. to 5:00 p.m. and commuting to work service is provided on weekends and holidays.

The ***Central Oklahoma Transit System*** offers demand response services to those within the city limits of Shawnee. The program operates seven vehicles, all of which are accessible to the disabled, and service is available weekdays and Saturday from 8:00 a.m. to 5:00 p.m.

Cherokee Strip Transit (CST), which began operating in 1995, is a demand response transportation system open to the public. The service area includes the towns of Garber, Covington, Billings, Fairmont, Breckenridge, Perry, Waukomis, Tonkawa, Ponca City, Blackwell, Kingfisher, Watonga, and Hunter. Incidental trips to nearby communities, Oklahoma City, and Tulsa are also provided, as needed. The program operates 31 vehicles, 11 of which are accessible to the disabled. Service is provided Monday through Friday from 8:30 a.m. to 5:00 p.m.

Cimarron Public Transit System (CPTS) has been providing public transportation to communities in Creek, Kay, Pawnee, and Osage counties since 1999. Demand response service is available in Bartlesville, Bristow, Pawhuska, Ponca City, and Sapulpa. The program operates 43 vehicles, 31 of which are accessible to the disabled. Operations are Monday through Friday from 8:00 a.m. to 4:00 p.m. (in some cases 5:00 p.m.).

Source: ODOT.

Figure 6-6. Oklahoma Rural Transit Services

Delta Public Transit operates demand response services and a deviated fixed-route[15] service in Garvin, McClain, and Cleveland counties. Specific towns include Lindsay, Maysville, Pauls Valley, Blanchard, Newcastle, Washington, Dibble, Purcell, Byars, Rosedale, Wayne, and Lexington. The program operates nine vehicles, six of which are accessible to the disabled. Service is provided Monday through Friday from 8:00 a.m. to 5:00 p.m.

Enid Transit began operating in 1984 and provides fixed-route and paratransit services within the cities of Enid and North Enid. The system also offers intercity services to Oklahoma City transit facilities and Tulsa transit facilities, including the major bus station, train station, and airport, which in turn enables patrons to gain access to the greater OKC METRO Transit and Tulsa Transit services. There are 16 buses in operation, and all are accessible to the disabled. Service is provided Monday through Saturday from 6:00 a.m. to 10:00 p.m., with approximately 250 to 325 daily passengers.

First Capital Trolley provides demand response and deviated fixed-route scheduled service in Logan, Lincoln, and Payne Counties, including the city of Guthrie. Daily bus service is also provided to Langston University and Stillwater. The program operates 31 vehicles, most of which are accessible to the disabled. Service is provided Monday through Friday from 6:00 a.m. to 12:00 a.m., Saturday from 6:00 a.m. to 12:00 a.m., and Sunday from 6:00 a.m. to 2:00 p.m. On average, there are approximately 300 daily passengers.

JAMM Transit System provides demand response public transportation services in Johnston, Atoka, Murray, and Marshall Counties. The program operates 42 vehicles, most of which are accessible to the disabled. Service is provided Monday through Friday from 7:00 a.m. to 5:00 p.m., Saturday from 9:00 a.m. to 5:00 p.m., and Sunday on an as-needed basis. On average, there are 100 to 200 daily passengers using JAMM Transit.

The ***KiBois Area Transit System*** was established in 1983 to provide demand response service and was established to help meet the transportation needs of poor communities in Adair, Okmulgee, Cherokee, Haskell, Latimer, LeFlore, McIntosh, Sequoyah, Pittsburg, and Okfuskee counties. KiBois Area Transit routinely modifies its demand response services to meet the specific needs of its ridership. The program operates 156 vehicles, most of which are accessible to the disabled. Service is provided Monday through Friday (varying hours) and for dialysis treatments on Saturday. On average, there are about 560 daily passengers that ride KiBois Area Transit.

Little Dixie Transit began operating demand response transit services in 1983 for McCurtain, Choctaw, and Pushmataha counties and includes the communities of Hugo, Idabel, Antlers, Broken Bow, and Clayton. In 1999, the agency began offering non-emergency medical transportation services to eligible clients of SoonerRide. Two intercity routes to Oklahoma City and Dallas are available with advance reservations. The service to Dallas operates seven days a week and takes riders to Dallas-Fort Worth Airport, Dallas Love Field Airport, or Dallas Amtrak Station. Weekday operation runs from 6:00 a.m. to 6:00 p.m. The program operates 82 vehicles, 21 of which are accessible to the disabled.

Muskogee County Transit began operating in 1986 and serves communities in Muskogee County, including Muskogee, Haskell, Boynton, Taft, Fort Gibson, Warner, Porum, and Webber Falls. The agency operates demand response service, and a flexible-route service.[16] It is

available during the week in Muskogee. The program operates 29 vehicles, 10 of which are accessible to the disabled. Service is available Monday through Friday from 6:00 a.m. to 6:00 p.m. and Saturday from 10:00 a.m. to 6:00 p.m. Muskogee County Transit runs approximately 12,000 trips per month.

Oklahoma State University (OSU)–Stillwater Community Transit System began serving OSU and the city of Stillwater in 2003. The system offers seven fixed-route services: two on campus between student housing and class-rooms and five off-campus routes radiating from a central starting point on campus. Door-to-door paratransit service is also available. The program operates 17 vehicles, all of which are accessible to the disabled, and has an average of 4,000 users per day. Service is available from 6:30 a.m. to 10:30 p.m., Monday through Friday.

Pelivan Transit began operating in 1985 and serves northeastern Oklahoma, including the cities and surrounding areas of Claremore, Rogers County, Grove, Delaware County; Miami, Ottawa County; Owasso, Northern Tulsa County; Pryor, Mayes County; and Vinita, Craig County. Pelivan Transit provides transportation for the general public, tribal members, senior citizens, and disabled individuals. The Pelivan Transit fleet includes 67 vehicles in operation, including 7 leased vehicles from local tribes for tribal transit, and approximately 41 vehicles are accessible to the disabled. There are currently 42 routes in the service area that include city operations, trolley loop, intercity connects, employment routes, and variable distance routes for medical and other rider needs. Services in cities of Grove, Miami, Pryor, Owasso, Vinita, and Claremore run Monday through Saturday from 8:00 a.m. to 4:00 p.m. Services dispatched from Claremore run Monday through Saturday from 8:00 a.m. to 4:30 p.m. On average, there are 400 daily passengers using Pelivan Transit.

Pelivan Transit recently received federal funding through the Tribal Transit Program, Section 5311(c), to support area tribes in northeast Oklahoma that join the Pelivan Transit system. There will be a fully integrated tribal transit system through Pelivan Transit by June 2010. In spring 2010, Pelivan Transit coordinated with Tulsa Transit on services provided in northeast Oklahoma in areas where transit services may overlap. This enables Pelivan Transit patrons to travel between Tulsa and more rural locations within northeastern Oklahoma.

The ***Red River Public Transportation Service*** began operating fixed-route services in 1984 and serves selected cities within the counties of Roger Mills, Beckham, Custer, Washita, Kiowa, Tillman, Cotton, Jefferson, and Stephens. Demand response and contractual services are also available. The program operates 91 vehicles, 38 of which are accessible to the disabled. Service is available Monday through Friday from 8:00 a.m. to 4:00 p.m.

The ***Southern Oklahoma Rural Transportation System*** began operating in 1985. The agency offers demand response transit services in Bryan, Carter, Coal, and Love counties and offers limited demand response services in Johnston, Murray, Marshall, and Garvin Counties. The program operates 44 vehicles, 16 of which are accessible to the disabled. Service is available Monday through Friday from 7:30 a.m. to 4:30 p.m.

Southwest Transit began operating in 1983 and serves Greer, Harmon, and Jackson counties. Demand response service is primarily focused on the cities of Altus, Eldorado, Hollis, Granite, and Mangum. Service between Altus and Lawton is provided three times a week and is

available between Altus and Eldorado five times a week. Services are provided Monday through Friday from 8:00 a.m. to 5:00 p.m. and weekends from 2:00 p.m. to 6:00 p.m. The program operates 19 vehicles, 6 of which are accessible to the disabled.

The Ride was established in the city of Guymon in 1999 to provide demand response transit within the city limits. The program operates eight vehicles, all of which are accessible to the disabled. Service is provided Monday through Friday from 5:00 a.m. to 7:00 p.m. and Saturday from 8:00 a.m. to 6:00 p.m. There are approximately 275 daily passengers using The Ride.

Washita Valley Transit System began operating in 1997 and serves communities in Grady County. The program provides a daily demand response service in Chickasha. Bi-weekly demand response services are alternated between the towns of Rush Springs, Alex, Bradley, and Ninnekah on Monday and Wednesday and Minco, Tuttle, Amber, Pocasset, and Verden on Tuesday and Thursday. The program operates 12 vehicles, 7 of which are accessible to the disabled.

Table 6-7 provides summary data for rural transit ridership over a five-year period. **Table 6-8** provides ridership data for the individual rural transit systems. Overall, rural transit in Oklahoma has experienced growth in revenue miles and passenger miles since 2003. In particular, passenger miles have increased by 65 percent between 2003 and 2008. Since 2003, passenger trips have increased by 56 percent. Between 2006 and 2007, elderly trips, disabled trips, and elderly and disabled trips had a very slight decrease, but overall, rural transit statistics for Oklahoma showed an increase in numbers between 2006 and 2007. Elderly and disabled trips appeared to fluctuate during the five-year period (possibly resulting from changes in eligibility requirements over this time), while the increase in "other" reflects improved service for the general population.

Table 6-7. Rural Transit Information, Statistics, and Trends

Fiscal Year	Revenue Miles	Passenger Miles	All Passenger Trips	Elderly Trips[1]	Disabled Trips[2]	Elderly and Disabled Trips[3]	Other[4]
2003	10,411,000	18,194,621	1,983,854	350,948	236,681	126,323	1,269,902
2004	10,816,238	18,111,865	2,182,222	358,286	266,037	125,782	1,432,117
2005	12,407,985	21,053,792	2,618,931	369,014	276,553	136,824	1,836,540
2006	13,582,154	22,031,773	2,843,067	369,172	267,166	140,714	2,066,015
2007	14,424,574	22,199,032	2,891,260	333,254	264,791	136,085	2,157,130
2008	15,556,263	30,059,708	3,125,884	342,962	278,468	150,673	2,353,781

Source: ODOT.

[1]Elderly Trips are trips for passengers who are 55 or older

[2]Disabled Trips are trips for passengers who are disabled

[3]Elderly and Disabled Trips are trips for passengers who are both elderly and disabled

[4]Other trips are all passenger trips not including elderly, disabled, and elderly and disabled trips

Table 6-8. 2006 Summary of Rural Transit Ridership by Agency

Transit System	Revenue Miles	Passenger Miles	Total Ridership	Elderly Trips[1]	Disabled Trips[2]	Elderly and Disabled Trips[3]	Other[4]
Beaver City Transit	9,899	107,914	32,464	6,774	1,161	N/A	24,529
Call-A-Ride	437,456	598,854	103,653	12,295	20,791	3,744	66,823
Central Oklahoma Transit System	100,947	141,022	20,625	7,026	4,789	3,884	4,926
Cherokee Strip Transit	672,108	600,508	45,664	22,213	1,306	1,753	20,392
Cimarron Public Transit System	684,448	840,031	130,368	20,998	13,464	4,391	91,515
Delta Public Transit	105,921	166,500	49,631	19,255	10,171	2,553	17,652
Enid Transit	347,399	476,470	109,404	17,215	28,979	3,892	59,318
First Capital Trolley	881,521	772,659	73,462	5,539	1,763	4,018	62,142
JAMM Transit System	567,924	1,172,380	111,434	31,055	10,738	4,706	64,935
KiBois Area Transit System	3,615,583	5,455,342	528,724	77,624	45,299	19,604	386,197
Little Dixie Transit	1,676,367	2,353,599	197,747	15,383	21,360	19,806	141,198
Muskogee County Transit	651,930	770,464	107,356	16,490	8,951	16,781	65,134
OSU–Stillwater Transit	N/A[5]	N/A	560,252	N/A	N/A	N/A	N/A
Pelivan Transit	529,045	1,337,030	131,231	57,648	8,842	12,476	52,265
Red River Public Transportation Service	1,503,571	2,479,789	23,780	24,270	26,512	11,346	-38,348
Southern Oklahoma Rural Transportation System	819,586	1,896,570	184,991	24,924	38,400	122,254	-587
Southwest Transit	464,781	643,710	87,589	14,993	4,795	3,152	64,649
The Ride	109,134	156,378	62,844	5,066	10,996	5,059	41,723
Washita Valley Transit System	191,178	350,936	47,603	11,117	9,248	3,155	24,083

Source: ODOT.

[1]Elderly Trips are trips for passengers who are 55 or older

[2]Disabled Trips are trips for passengers who are disabled

[3]Elderly and Disabled Trips are trips for passengers who are both elderly and disabled

[4]Other trips are all passenger trips not including elderly, disabled, and elderly and disabled trips

[5] N/A is stated where data are not available.

In 2006, the OSU–Stillwater Community Transit System provided the highest total ridership while KiBois Area Transit System showed the greatest number of elderly and disabled served and highest number of revenue and passenger miles. Little Dixie Transit had the highest ridership of trips for passengers who were both elderly and disabled.

Tribal Transit

Several tribal transit services since 2006 using funds from the FTA's Tribal Transit Program, Section 5311(c), which helps promote public transportation on Indian reservations. These transit agencies include FasTrans, Cherokee Nation Health Department, Choctaw Nation of Oklahoma, Comanche Nation Transit, Mosque Creek Nation Transit, and Wichita and Affiliated Tribes. The following descriptions of each tribal transit agency may not represent the complete information on supply of services but, at this time, no formal mechanism exists for reporting service use.

FasTrans–Kiowa Transit was established in 1986 by the Kiowa Indian Tribe. The program serves approximately 84,696 residents in sections of Kiowa, Caddo, and Comanche Counties and offers fixed-route and demand response services within the cities Anadarko, Apache, and Carnegie. It also provides transportation between these cities and Lawton. FasTrans serves Meals on Wheels to homebound Kiowa Indian tribe members. The number of vehicles and daily ridership is not available.

Cherokee Nation Health Department operates demand response transit service in 14 counties in northeastern Oklahoma. Transit services are operated Monday through Friday for medical appointments. Daily ridership is estimated to be four to six persons, and service is available Monday through Friday from 8:00 a.m. to 5:00 p.m. The number of vehicles is not available.

Choctaw Nation of Oklahoma operates demand response and deviated fixed-route services for an area of 11,000 square miles in southeastern Oklahoma. This transit service operates nine vehicles Monday through Friday from 8:00 a.m. to 4:30 p.m., with approximately 45 passengers daily.

Comanche Nation Transit uses nine vehicles to provide fixed route and demand response services in rural and partial urbanized cities and towns of Lawton, Apache, Elgin, Cyril, Fletcher, Geronimo, Pumpkin Center, and Cache. This transit service operates Monday through Saturday and provides transportation to approximately 200 passengers daily.

Muscogee (Creek) Nation Transit provides demand response and deviated fixed-route transit services for the area within Creek Nation jurisdictional boundaries, which encompasses 11 counties. This transit service operates nine vehicles Monday through Friday from 5:00 a.m. to 5:00 p.m. Typical trip purposes include meals, medical, education, employment, and shopping. The number of vehicles and daily ridership is not available.

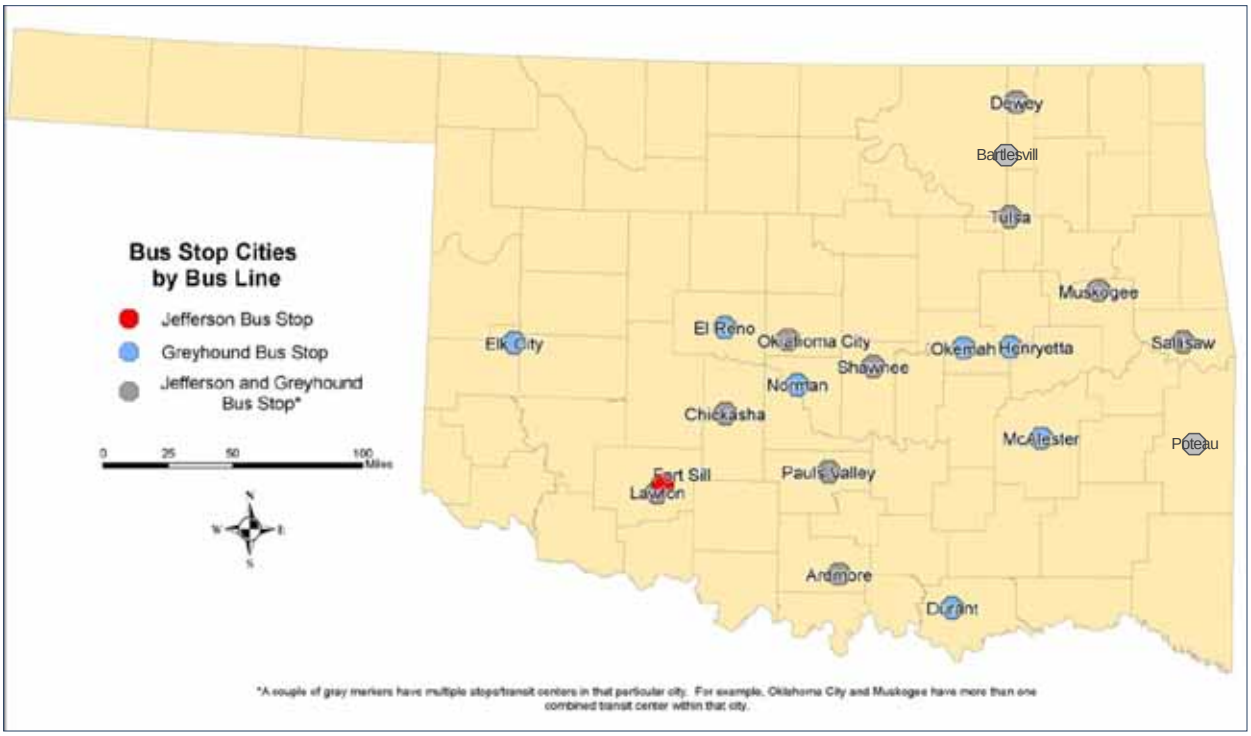
Wichita and Affiliated Tribes provide demand response and fixed-route transit service for all of Caddo County and a small area within the city of Chickasha. Daily ridership is estimated at 10 to 15 passengers for the one vehicle in operation. Service is available Monday through Friday from 11:00 a.m. to 4:00 p.m.

Intercity Transit

Private Bus Company Service

Oklahoma is served by two intercity bus companies—Greyhound Lines and Jefferson Bus Lines. **Figure 6-7** shows bus stops by city for these bus lines. Some bus stops are shared by both providers. A description of the bus companies follows:

Greyhound Lines provides inter- and intrastate travel throughout the United States and Canada. Bus routes serve communities along interstates and major highways. During 2008, the Greyhound fleet traveled approximately 5.8 billion passenger miles and carried almost 25 million people. In 1996, Greyhound entered into an extended cooperative agreement with Amtrak to provide train-to-bus service. Known as “Amtrak Thruway,” Amtrak passengers are able to purchase a Greyhound bus ticket in conjunction with their train ticket to reach cities not served by rail. Greyhound Lines presently serves the following communities in Oklahoma: Ardmore, Bartlesville, Dewey, Chickasha, Durant, El Reno, Elk City, Henryetta, Lawton, Mcalester, Muskogee, Norman, Okemah, Oklahoma City, Pauls Valley, Sallisaw, Shawnee, and Tulsa.



Source: Oklahoma Center for GeoSpatial Information (OCGI); ArcGIS 9–ESRI Data & Maps 9.3.

Figure 6-7. Oklahoma Intercity Bus Stops

Jefferson Bus Lines is a Minneapolis-based company which offers scheduled daily bus service throughout the central portion of the country. The company serves the following Oklahoma communities: Ardmore, Bartlesville, Chickasha, Fort Sill, Henryetta, Lawton, Muskogee, Norman, Okemah, Oklahoma City, Pauls Valley, Poteau, Sallisaw, Shawnee, and Tulsa. Greyhound is Jefferson's agent in Tulsa and Oklahoma City. Jefferson also shares the bus depots with Greyhound in Norman and Ardmore.

Passenger Rail

Amtrak, the national passenger rail company, operates the Heartland Flyer, which is a daily passenger rail service that follows a 206-mile route between Oklahoma City's Santa Fe train station and Fort Worth, Texas. Oklahoma communities served along the way include Norman, Purcell, Pauls Valley, and Ardmore. The train cars are accessible to the disabled. Currently, bicycle racks are not provided. The Amtrak fiscal year *2008 Fact Sheet* noted that ridership aboard Heartland Flyer trains increased nearly 18.5 percent in fiscal year 2008 to 80,892 passengers carried. Table 6-9 shows Heartland Flyer annual ridership for 2002 through 2008.

Table 6-9. Heartland Flyer Ridership, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008
Total Number of Passengers	52,584	46,592	54,223	66,968	64,078	68,245	80,892

Source: ODOT Rail Program Division, 2009.

Table 6-10 presents annual boarding and alighting data for the five Oklahoma stations served by the Heartland Flyer. Passenger boarding increased in both Oklahoma City and Norman between 2007 and 2008 and decreased in the three smaller communities. The increased activity in Norman and Oklahoma City overshadowed the decreased station activity elsewhere for a net gain in station usage of 16 percent.

Table 6-10 Heartland Flyer Station Activity

City	Boardings and Alightings		
	2007	2008	Percent Change*
Ardmore	9,642	8,607	-10.7%
Norman	11,033	13,414	21.6%
Oklahoma City	43,293	55,015	27.1%
Pauls Valley	6,357	5,942	-6.5%
Purcell	2,801	2,086	-25.5%
Total Station Usage	73,126	85,064	16.3%

Source: Amtrak.
*Totals may not sum to 100 percent due to rounding.

Figure 6-8 shows the Heartland Flyer Route through Oklahoma and into North Texas as it exists today. The Amtrak fiscal year *2008 Fact Sheet* stated that ODOT had requested a feasibility study for establishing passenger rail service between Oklahoma City and Tulsa. The study has not yet been released.[17] Additionally in 2008, the Kansas Department of Transportation (KDOT) requested that Amtrak perform a feasibility study for establishing passenger rail service along all or part of a corridor between Kansas City, Missouri, and Oklahoma City, via several Kansas and Oklahoma communities. Amtrak completed the study in March 2010. The next step involves selecting one or more of the four alternative routes and incorporating the study's data into a Service Development Plan. KDOT has received a $250,000 American Recovery and Reinvestment Act grant to create the Service Development Plan, a comprehensive business and operations plan for implementing expanded rail service. KDOT and ODOT are splitting equally the required local share of $250,000 for further planning work to occur on two of the alternatives.

The Heartland Flyer Route is designated as a part of USDOT's "Vision for High Speed Rail (HSR) in America."[18] There are 11 HSR Corridors nationwide, and the Tulsa to Oklahoma City and Oklahoma City to Fort Worth corridors are a part of the greater South Central Corridor seen in **Figure 6-9** (designated in 2000). HSR Corridors are designated based on ridership, public benefits, and cooperation between states, localities, and freight railroads. Since 2000, the South Central Corridor has been allocated $2.558 million from the FHWA and FRA to improve grade crossings along the corridor.

Aviation

Commercial Aviation

Two major international or world airports lie within Oklahoma—the Will Rogers World Airport and the Tulsa International Airport. Numerous regional, municipal, and private airports exist throughout the state, as shown in **Figure 6-10.**

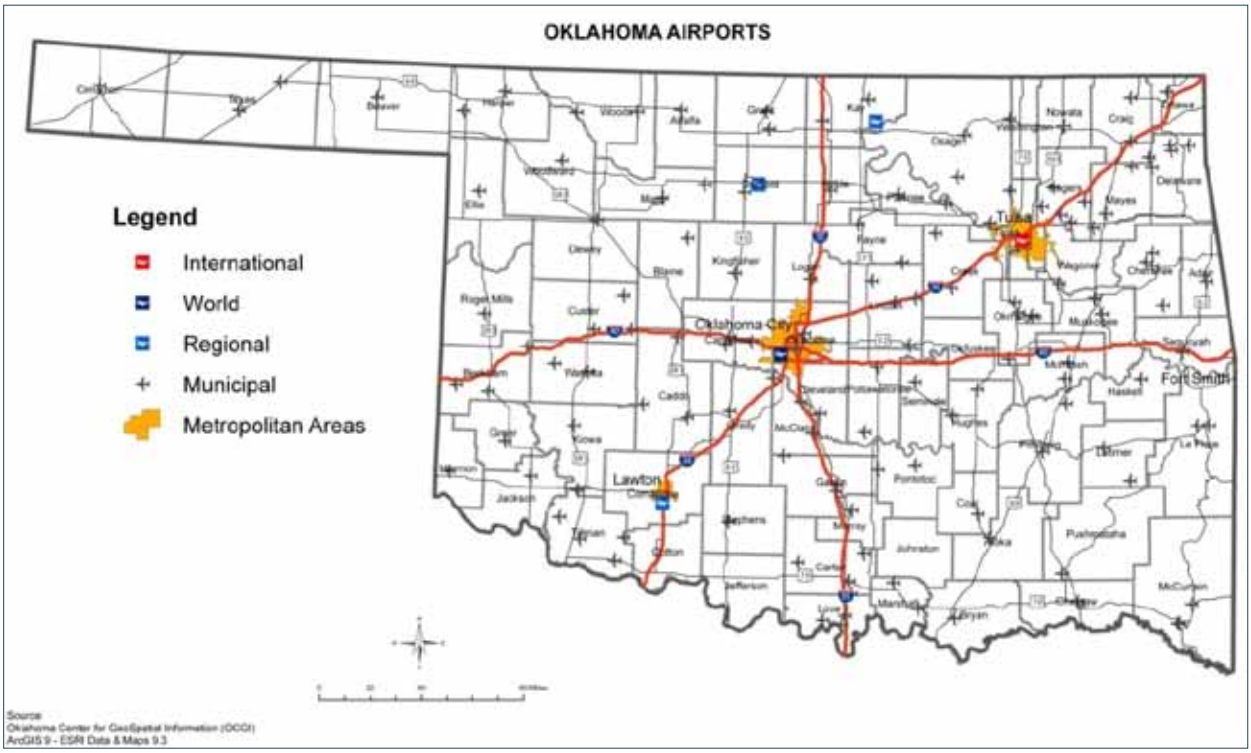
Will Rogers World Airport lies in southwest Oklahoma City and is the State's principal commercial airport. It hosts over 85 daily scheduled departures with non-stop service to 23 U.S. cities. The terminal has 17 gates and, in 2007, over 3.74 million passengers passed through the airport. Airlines currently serving Will Rogers World Airport include American, Continental, Delta, Frontier, Southwest, and United. The airport also supports cargo, general aviation, and Air National Guard services.

Source: ODOT.

Figure 6-8. Heartland Flyer Route

Source: Federal Railroad Administration.

Figure 6-9. High-Speed Rail Corridor: South Central Corridor



Source: Oklahoma Center for GeoSpatial Information (OCGI); ArcGIS 9–ESRI Data & Maps 9.3.

Figure 6-10. Oklahoma Airports

Over the past decade, Will Rogers World Airport has undergone extensive renovations. The original terminal building, constructed during the 1960s, was demolished. It was replaced with a larger, modern terminal with integrated concourses, improved security, and high ceilings. Current and near-future upgrades include constructing a new parking facility to increase parking capacity by 40 percent, constructing a new eight-gate concourse, and expanding retail, restaurant, and baggage areas.

Tulsa International Airport lies in northeast Tulsa. It hosts over 25 daily scheduled departures with non-stop service to 15 US cities. The terminal has 19 gates and in 2007, over three million passengers passed through the airport. Airlines currently serving Tulsa International Airport include American, Continental, Delta, Southwest, and United. The airport also supports cargo, general aviation, and Air National Guard services. The Tulsa International Airport is the global maintenance headquarters for American Airlines.

Over the past four years more than $34 million was spent on terminal construction that included new passenger and baggage checkpoint security systems in the center terminal, and new restaurants and retail shops. In January 2009, the Tulsa Airports Improvement Trustees approved the third phase of the passenger terminal expansion and rehabilitation project. Expected to be completed within the next three years, rehabilitation activities include replacing the inbound baggage conveyor system; raising the roof; electrical upgrades; and installing skylights, new sprinkler systems, new heating and air conditioning systems, and new lighting in the east and west concourses. Exterior construction plans include terminal roadway and signage improvements, and expanding the parking garage by 750 spaces.

Regional Airports

The ***Lawton-Fort Sill Regional Airport*** lies south of Lawton in Comanche County. It is served by American Airlines and used for commercial purposes; it also provides for military aviation from nearby Fort Sill and Sheppard Air Force Base. Enplanements at Lawton-Fort Sill Regional Airport were approximately 50,000 in 2007. The US Army reported 59 missions through the airport in 2007 and 46 missions in the first three months of 2008. The US Army also predicts a significant increase in military personnel through the airport as troops are returned and redeployed over the following years. In 2007 a master plan was developed to extend the airport runway by 1,400 feet to accommodate Air Force heavy transport aircraft.

Woodring Regional Airport is located in Enid, approximately 80 miles north of Oklahoma City. Scheduled passenger flights on Great Lakes Airlines to Denver and Liberal were discontinued in 2006 and the airport is now primarily used by military personnel from nearby Vance Air Force Base.

Ponca City Regional Airport lies in Ponca City, approximately 100 miles north of Oklahoma City. Scheduled passenger flights on Great Lakes Airlines to Denver and Dodge City were discontinued in 2006 and the airport is now primarily used for general aviation.

Table 6-11 summarizes airport activity between 2003 and 2008 for the previously described five airports. Overall, total enplanement and deplanement activities at Will Rogers World Airport increased by 14 percent between 2003 and 2008, although there was a slight decrease between 2007 and 2008. Deplanement activity at Will Rogers World Airport follows the same trend with an overall increase between 2003 and 2008 of 14.3 percent, and a decrease of 0.6 percent between 2007 and 2008. This slight

decrease may be due to changes in security measures or a change in services provided.

Passenger activity increased at Tulsa International Airport by a 16.2 percent between 2003 and 2008. Enplanements increased by 16.7 percent during this same period. However, while the percentage increase in enplanements remained positive for the years 2003 to 2007, the increase was at a smaller rate each year. Between 2003 and 2004 the increase was 7.2 percent, and by 2007 the annual increase was 0.5 percent over the previous year. Between 2007 and 2008, enplanements at Tulsa International Airport decreased by 1.1 percent.

Passenger enplanements at Lawton-Fort Sill Regional Airport increased by 22.5 percent between 2003 and 2007. This figure also hides a temporary decrease between 2005 and 2006, when enplanements decreased by 2.4 percent. However, both 2004 to 2005, and 2006 to 2007 enplanement activity increases were in the double digits, with 10.3 percent and 10 percent, respectively.

Enplanement activity at Woodring Regional Airport has fluctuated over the past four years. In 2003 to 2004 and 2004 to 2005, enplanements increased by 4.1 percent and 11.9 percent, respectively. The 2005 to 2006 year saw a decrease of 50 percent which was followed by no activity when Great Lakes Airlines suspended its service from the airport. Similarly, enplanement activity at Ponca City Regional Airport has consistently decreased every year to no activity when Great Lakes Airlines suspended passenger service in 2006.

General Aviation

Oklahoma has an extensive network of small airports. In 2008, 97 general aviation airports and 37 other public use airports were registered with the Federal Aviation Administration. While these airports potentially offer opportunities for aviation passenger connectivity in Oklahoma, they are mostly used for private corporate and recreational uses.

Table 6-11. Passenger Volumes for Selected Airports

		Will Rogers World	Tulsa International	Lawton-Fort Sill Regional	Woodring Regional	Ponca City Regional
2003	Enplaned	1,626,994	1,363,682	44,673	1,816	1,743
	Deplaned	1,633,120	1,373,260	38,250	1,080	1,923
2004	Enplaned	1,694,857	1,462,799	46,211	1,891	1,499
	Deplaned	1,685,026	1,432,964	41,046	1,427	1,686
2005	Enplaned	1,785,205	1,563,622	50,968	2,116	863
	Deplaned	1,790,459	*	*	*	*
2006	Enplaned	1,802,486	1,599,853	49,734	1,066	813
	Deplaned	1,810,403	*	*	*	*
2007	Enplaned	1,859,935	1,608,583	54,728	none	none
	Deplaned	1,877,200	1,609,962	*	none	none
2008	Enplaned	1,849,436	1,591,703	*	*	*
	Deplaned	1,866,157	1,589,062	*	*	*

Source: FAA.
*Data unavailable

Military Aviation

Oklahoma is home to a number of military bases. They include Altus Air Force Base in Altus; Kegelman Air Force Auxiliary Field in Cherokee; Vance Air Force Base in Enid; Fort Sill (in Comanche County); Muldrow Army Heliport in Lexington; Tinker Air Force Base in Oklahoma County; Sheppard Air Force Base near Lawton; and the Oklahoma Air National Guard in Oklahoma City and Tulsa.

Most of Oklahoma's commercial and general airports are minimally affected by military aviation activity. Only Lawton-Fort Sill Regional Airport, as described previously, maintains significance usage by military personnel.

Bicycle and Pedestrian

Bicycle and pedestrian facilities throughout Oklahoma consist of multi-use trails, bicycle routes, and sidewalks. Planning and implementation is usually done at the local government level, and/or through an MPO. However, statewide initiatives are important to supporting these efforts.

Statewide Initiatives

Statewide initiatives for bicycle and pedestrian facilities in Oklahoma have been implemented through Transportation Enhancement (TE) funds.[19] TE Funds offer communities the opportunity to expand transportation options including bike and pedestrian facilities. Federal funds under the TE program may be used for a maximum of 80 percent of the eligible project cost, and 20 percent must be provided by the organization or entity applying for the funds. The TE Funds have been used and available since 1993, and have helped fund nearly 200 trail and streetscape projects to facilitate bicycle and pedestrian activities. Since 2000, nearly $24 million of federal TE funds have been allocated for streetscape projects within Oklahoma. Since 2000, over $29 million of federal TE funds have been allocated to the State's trails projects.

Oklahoma Department of Transportation participates in the federally funded reimbursement program, Safe Routes to School (SRTS) that encourages students (kindergarten through 8th grade) and their parents to make biking or walking to school a routine activity instead of driving. Bicycling or walking to school relieves traffic congestion, preserves the air quality around schools, as well as promotes a healthier lifestyle for children. This program is made possible through federal funds at $1 million a year for five federal fiscal years 2005 to 2009. Oklahoma's 2009 to 2011 application cycle is now open for projects to receive funding. Money goes towards providing infrastructure and non-infrastructure-related activities, such as building sidewalks, paths, safer crosswalks, as well as educating the public on SRTS efforts and evaluating these programs' success.

A number of cycling organizations exist within Oklahoma that promote all aspects of bicycling within the state, such as developing bike paths and bike lanes, and educating the public about bicycle safety. They include, but are not limited to, the Oklahoma Earthbike Fellowship, the Oklahoma Bicycle Society, and the Oklahoma Bicycle Coalition.

Local government bicycle and pedestrian facilities

As indicated in the introductory remarks to this section, city and county governments and metropolitan planning organizations are also active in planning and maintaining bicycle and pedestrian facilities. Descriptions of these follow.

Fort Smith Metropolitan area

A regional pedestrian plan for the Fort Smith (AK) BiState MPO Area is not feasible because

of its geography. Major cities in the area are separated from one another by long stretches of undeveloped land, or highway corridors. In turn, these corridors do not have sufficient population or activity to generate the need for pedestrian or bicycle improvements.

The *Fort Smith Trails and Greenways Plan* was completed in 2004. This Plan shows 22 individual corridors that have been identified as potential pedestrian and/or multiuse trails. A total of nearly 88 miles of trails are proposed in the plan with a three-phased implementation schedule. The Plan will be the backbone for the development of other trails plans within the Bi-State MPO Area.

In 1998, the Ft. Smith BiState MPO, with the assistance of the Fort Smith Parks Commission, prepared a Bikeway Plan for the city of Fort Smith. This plan was adopted and became a part of the City's Master Street Plan to correspond with street planning activities that are enforced through the City's Subdivision Regulations. The city of Fort Smith's Bikeway Plan has adopted national bikeway standards and specifications as a part of their Plan.

Lawton metropolitan area

The city of Lawton adopted a Bicycle and Pedestrian Plan in 2008. However, the 2030 is in the process of developing the Lawton Metropolitan Area Bicycle and Pedestrian Plan. At present, the Lawton Metropolitan Area does not have designated walking or bicycle trails; the metropolitan planning organization continues to work with the city of Lawton and other stakeholders on implementation of the bicycle and pedestrian plan.

Oklahoma City metropolitan area

Bicycle and pedestrian transportation is an important part of the *Oklahoma City Area Regional Transportation (OCARTS) Plan.* Bicycle facilities are located in various urban, suburban, and recreational areas across Central Oklahoma. Within the OCARTS area, 17 local government entities have existing bicycle or multi-use trail facilities. In 2009, there were approximately 290 miles of existing and 725 miles of planned bicycle facilities in the OCARTS area.

Sidewalks and pedestrian facilities through the Oklahoma City metropolitan area are typically planned and built as required by municipal code and funded through local revenues or by private developers. However, many communities in the region do not require sidewalks to be constructed as part of the building permit or land development process; therefore pedestrian facilities are somewhat sporadic, hindering pedestrian connectivity within and between local entities.

Tulsa metropolitan area

Bicycle and pedestrian opportunities within the Tulsa Metropolitan Area are primarily through the Tulsa Area Trails System. The system is comprised of over 80 miles of interconnected bicycle and pedestrian trails. The *Tulsa Metropolitan Area Comprehensive Plan–Vision 2000,* which was completed in 1987, recommends a pedestrian pathway system that connects schools, shopping and key activity areas. The plan also recommends improving facilities to encourage walking as the principal travel mode downtown.

In 1999, the Indian Nations Council of Governments (INCOG) completed the *Tulsa Transportation Management Area Trails Master Plan.* This document provides recommendations for improving community access to outdoor resources by building a network of off-road multi-purpose paved trails. The plan identifies 44 corridors throughout the metro area that would comprise a 283-mile network of off-road multipurpose trails and a

207-mile system of on-road bikeways. The bicycle and pedestrian component of *Destination 2030, the Long Range Transportation Plan* for the Tulsa metropolitan area which was completed by INCOG in 2005, revisits the *Trails Master Plan* and calls for it to be implemented in its entirety.

Further information is available through the Oklahoma City, Tulsa, and Lawton MPO Plans or through the local city comprehensive plan and trails plan documents. Chapter One provides contact information for the MPOs.

Ridesharing and Telecommuting

Additional initiatives for commuting are occurring in Oklahoma through programs created by the MPO's, INCOG and ACOG in the Tulsa and Oklahoma City metropolitan areas, respectively. Both have programs to promote ridesharing and other forms of commute solutions. The Fort Smith Arkansas (Bi-State) and Lawton MPOs do not operate rideshare commuting programs.

INCOG has a website called the *Green Traveler* that encourages and facilitates users to choose "green" commuter routes including carpool matching, transit route guides, bike route guides, etc. The *Green Traveler* helps INCOG area residents choose better ways to commute, and provides a calendar tool to log daily carpooling trips, transit trips, bike trips, and walk and run trips to and from places with the use of a free account. The trips logged on the calendar calculate how many gallons of fuel were saved, how much the participant helped reduce air emissions, how much money was saved by choosing an alternative commute, etc. *Green Traveler's* newest feature matches transit routes to a user's location and destination through the *Green Traveler* website.

ACOG is has launched a rideshare program in mid-April 2009 called "Get Around OK". The program offers an online-based software called *GreenRide* that will allow users to enter their commuting preferences, start address, and customize their commute or carpool experience. All personal information is hidden for user protection and safety. This online system matches the users with other registrants to find a carpool with the same commuting pattern. There is an option to match within the user's company if that program is available, but it can also match outside of the employee's firm. Available transit options are also listed, as well as some park-and-ride lots, pedestrian routes, and bike routes. ACOG is currently working with approximately nine major corporations in the OCARTS area to become active stakeholders in this carpooling program.

Oklahoma residents can use one of the leading carpool websites in the nation called *eRideshare.com*, which is not affiliated with a particular city or area within the state. Users post their state, destination city with street, origination city with street, days available, contact and member identification, and any comments about the rideshare request. This site is active and has users in many of Oklahoma's cities including Oklahoma City, Tulsa, Lawton, Stillwater, Ponca City, Muskogee, Moore, Duncan, Durant, Edmond, Broken Arrow, Bartlesville, and a few other locations. Other carpooling/ridesharing websites that are available to Oklahoma carpoolers include *www.carpoolworld.com and www.zimride.com,* which is another free web-based system for users to seek out people in their area to find a carpool.

Freight Transportation Facilities

The trucking industry is the State's predominant mode used for freight movement. Although

trucks are the primary link in the intermodal chain, goods are moved via rail, air, and barge as well. Oklahoma's major freight transportation facilities emphasized in this section include[20] trucking, rail freight, intermodal, ports and waterways, and air cargo.

Freight movement patterns are typically designated as inbound, outbound, through, and intrastate (or within). **Figure 6-11** illustrates these freight movement patterns. Existing freight movements for Oklahoma exhibit the following characteristics:

- In 2007, total freight flows moving inbound, outbound, intrastate, and through Oklahoma totaled 945 million tons.
- In 2007, over 115 million tons of goods were shipped from Oklahoma (*outbound*) to states and countries outside of Oklahoma. Three percent of all tons exported from Oklahoma account for international trade.
- In 2007, over 126 million tons of goods were imported (*inbound*) into Oklahoma from other states and countries. Oklahoma's largest tonnage import volumes originated in the states of Texas (27 percent of total 2007 imports) and Kansas (10 percent).
- The majority of goods (399 million tons) produced within Oklahoma are shipped *intrastate* (or to local destinations within the state) for final consumption or use in other industries.
- Total *through* freight traffic accounted for 304 million tons of total state flows in 2007.

Figure 6-12 shows freight tonnages by mode of transportation (excluding pipeline) for 2010 and projected for 2035.

Trucking

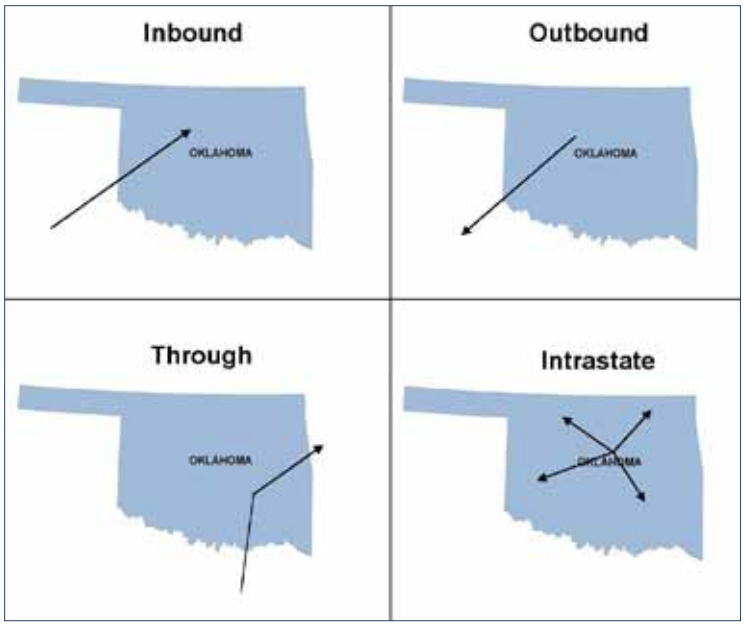
Trucks are the primary mode of transporting freight throughout Oklahoma compared to all other modes, moving 51 percent of total freight tonnage in 2007. In 2007, 55 million tons of freight was exported by trucks, and 43 million tons of freight was imported by trucks.

On a tonnage basis, the highest intrastate freight movement for Oklahoma occurs by truck with over 293 million tons of freight in 2007.

Truck Freight Movement

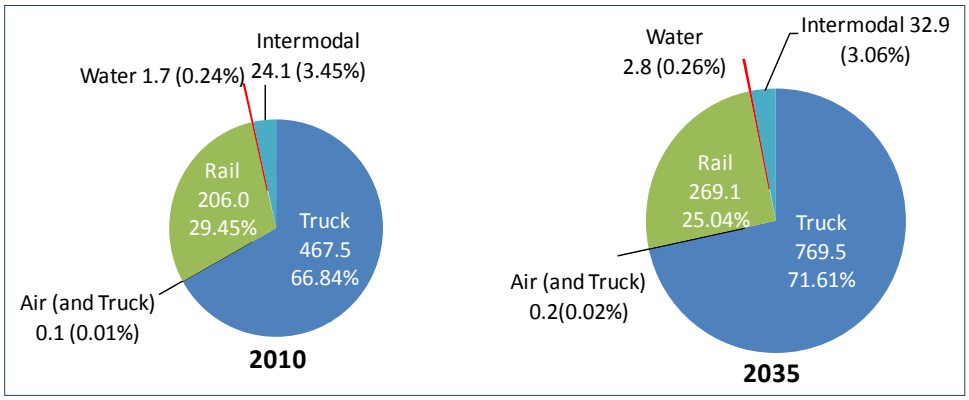
Since 2001, Oklahoma has seen a downward trend in outbound truck traffic as many manufacturers have closed or moved to other states. There are more inbound or intrastate haulers than outbound. **Table 6-12** shows through volumes for truck movements (that represent the high volume transport groups) through Oklahoma, including the origin and destination regions.[21]

Figure 6-13 shows designated Oklahoma highways for conventional commercial vehicles. **Figure 6-14** shows the percentage of average annual daily traffic for trucks in selected corridors.



Source: Oklahoma Center for GeoSpatial Information (OCGI); ArcGIS 9–ESRI Data & Maps 9.3.

Figure 6-11. Freight Movement



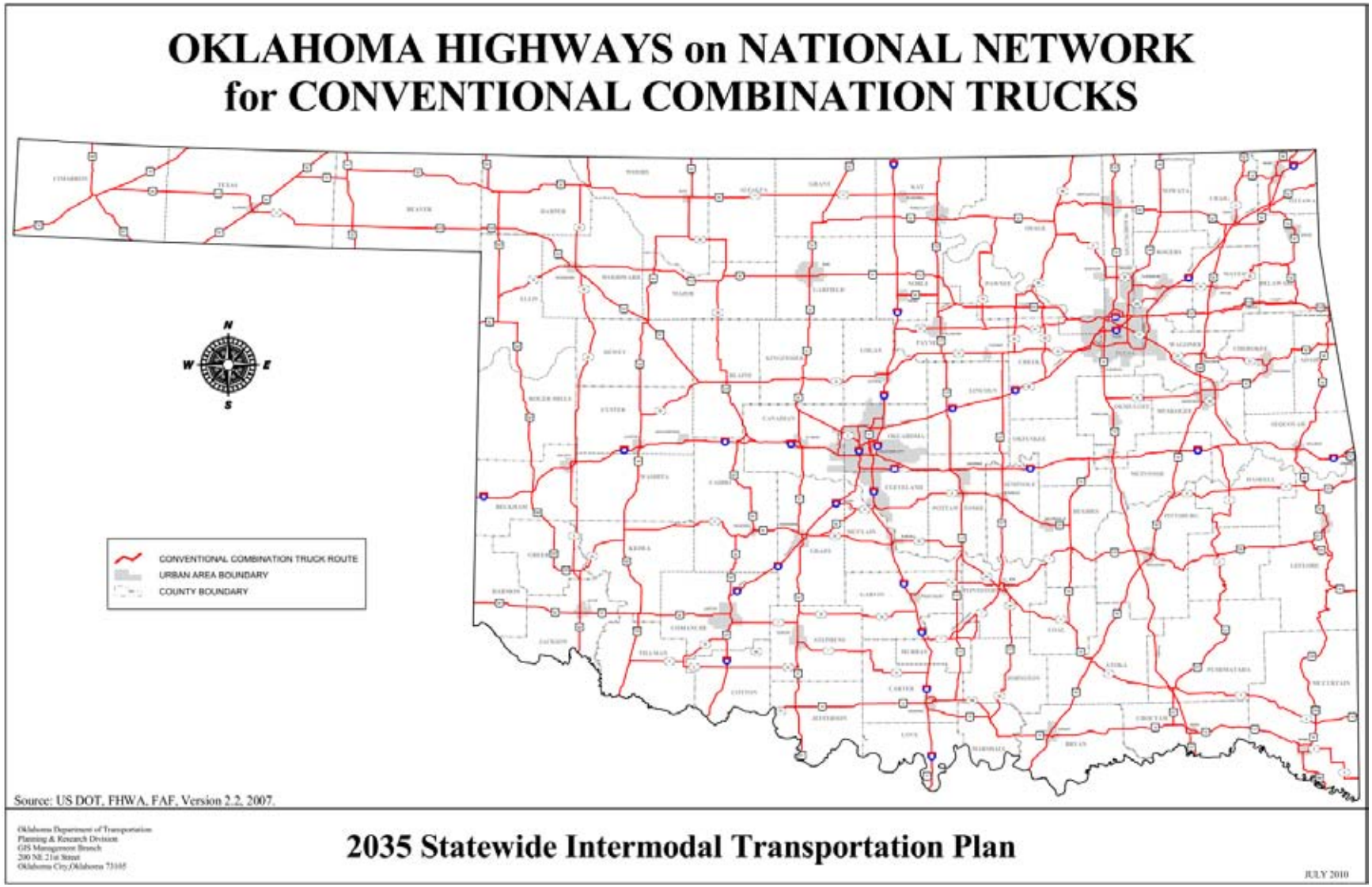
Source: Federal Highway Administration, HIS Global Insight, and PB Analysis.

Figure 6-12. Millions of Tons of Freight Transported in Oklahoma: Product moved to, from, within and through the State

Table 6-12. Top Truck Through Volumes by Origin and Destination Region

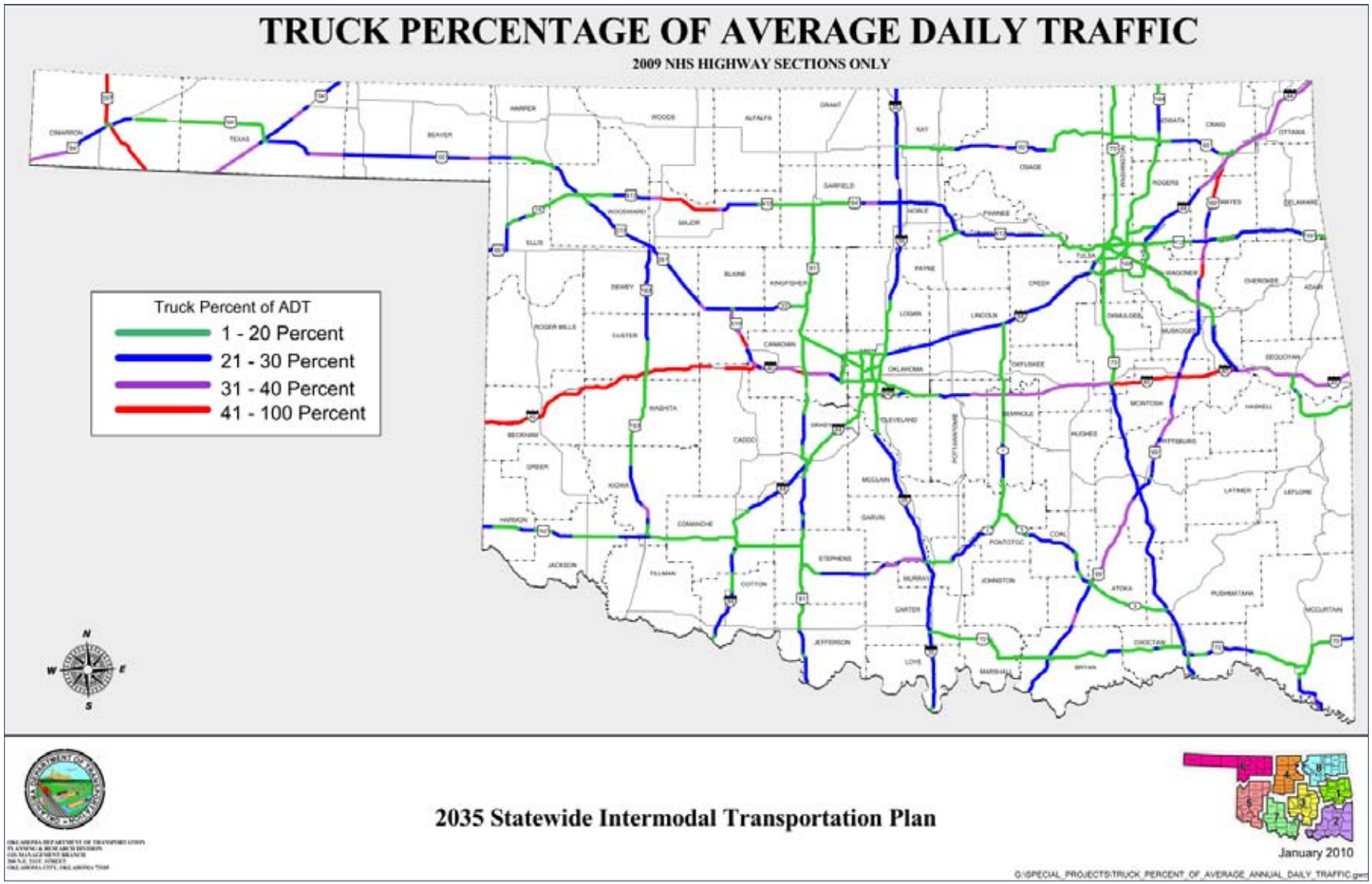
Origin Region	Destination Region	2007
Southeast	Southwest	13.5
Midwest	Southwest	8.7
Northeast	Southwest	6.5
Southwest	Midwest	5.7
Southwest	Northeast	4.8
Southwest	Southeast	4.6
Dallas-Ft. Worth, TX	Kansas	3.4
Kansas	Rest of Texas	2.9
Dallas-Ft. Worth, TX	Southwest	2.4
Rest of Texas	Kansas	2.4
TOTAL		54.9

Source: Federal Highway Administration, IHS Global Insight (million tons).



Source: ODOT.

Figure 6-13. Highways on National Network for Conventional Combination Trucks



Source: ODOT.

Figure 6-14. Truck Average Daily Traffic

Because of the economic downturn, truck traffic and goods movement has slightly decreased. To accommodate any truck movement growth, and to improve the safety and commercial vehicle regulation enforcement, there are current plans for eight new state-of-the-art commercial vehicle inspection stations (also called Ports of Entry) that will be discussed in the ITS Section of this chapter.

Table 6-13 and **Table 6-14** show Oklahoma's originating and terminating commodities shipped by truck for the years 2002 and 2007.

Truck Size and Weight Limitations

Table 6-15 shows the current truck size and weight limitations for Oklahoma. Trucks are regulated by their size and weight for both safety reasons and to help maintain the quality of the highways.[22]

Table 6-13. Statewide Truck Freight Trends: Tonnage Originating by Commodity: 2002 and 2007

Originating	2002	2007
Grains	7,141	10,024
Minerals	6,519	7,344
Agricultural Products	4,487	4,861
Chemicals & Products	3,943	4,201
Nondurable Goods	3,060	3,269
Metals & Products	2,887	3,167
Coal	2,693	3,007
Wood Products	2,664	2,998
Durable Goods	2,466	2,753
Gravel	1,882	3,099
Meat/Seafood	817	864
Live Animals/Fish	598	920
Petroleum Products	478	1,040
Vehicles	231	299
Crude Petroleum	0	4
Unknown/Other	6,835	7,506
Total Originating	46,701	55,356

Source: Federal Highway Administration (thousand tons).

Table 6-14. Statewide Truck Freight Trends: Tonnage Terminating by Commodity: 2002 and 2007

Terminating	2002	2007
Minerals	5,674	6,315
Agricultural Products	5,335	5,622
Grains	5,071	5,456
Metals & Products	3,363	3,573
Nondurable Goods	2,785	2,908
Durable Goods	2,056	2,297
Wood Products	2,041	2,300
Chemicals & Products	1,922	2,156
Gravel	1,564	2,457
Petroleum Products	1,264	1,667
Meat/Seafood	962	993
Vehicles	933	960
Coal	261	476
Live Animals/Fish	141	164
Unknown/Other	4,793	5,255
Total Terminating	38,165	42,599

Source: Federal Highway Administration (thousand tons).

The State specifies varying weights and sizes, depending upon the equipment. Single axle weight should not exceed 20,000 pounds (dual wheel). Two axle tandem should not exceed 34,000 pounds. Five axles should not exceed 80,000 pounds on Federal Highways, and six axles should not exceed 90,000 pounds on State Highways.

Overweight loads are only permitted to move during daylight hours, between one-half hour before sunrise and one-half hour after sunset. These vehicles are not permitted to move on six holidays of the year including New Year's Day, Memorial Day, the Fourth of July, Labor Day, Thanksgiving Day, and Christmas Day.

Table 6-15. Truck Size and Weight Limitations

Dimension	Feet	Inches	Variations/Special Application
Width	8	6	Pins used for safety precaution not to extend beyond overall width of 9 feet, or round baled hay at 11 feet
Height	13	6	
Length	45	0	Single truck or bus
	53	0	Semi-trailer operating in a truck tractor/semitrailer combination
	80	0	Road tractor trailer (including towbars, excluding road tractor; 28 feet, 6 inches maximum per trailer; 19 feet, 0 inch maximum towbar)
	80	0	Straight truck-trailer
	81	6	Semi-trailer (45 feet, 0 inch maximum per trailer; second unit may not exceed first unit by more than 3,000 pounds)

Source: Oklahoma Department of Safety, 2008; Oklahoma Statute Title 47.

As of July 1, 2006, Oklahoma entered into reciprocal contracts and agreements with Colorado, Florida, North Carolina, Utah, Virginia and Washington to require the same standards for truck escorts and pilot cars. All truck escort and pilot car operators must have proof of insurance of "not less than One Million Dollars ($1,000,000.00) combined single limit coverage for bodily injury and/or property damage as a result of the operation of the escort vehicle, the escorted vehicle, or both causing the bodily injury and/or property damage." If an operator chooses only to drive an escort vehicle or pilot car in Oklahoma, there is a restricted certification that can be received.

Rail Freight

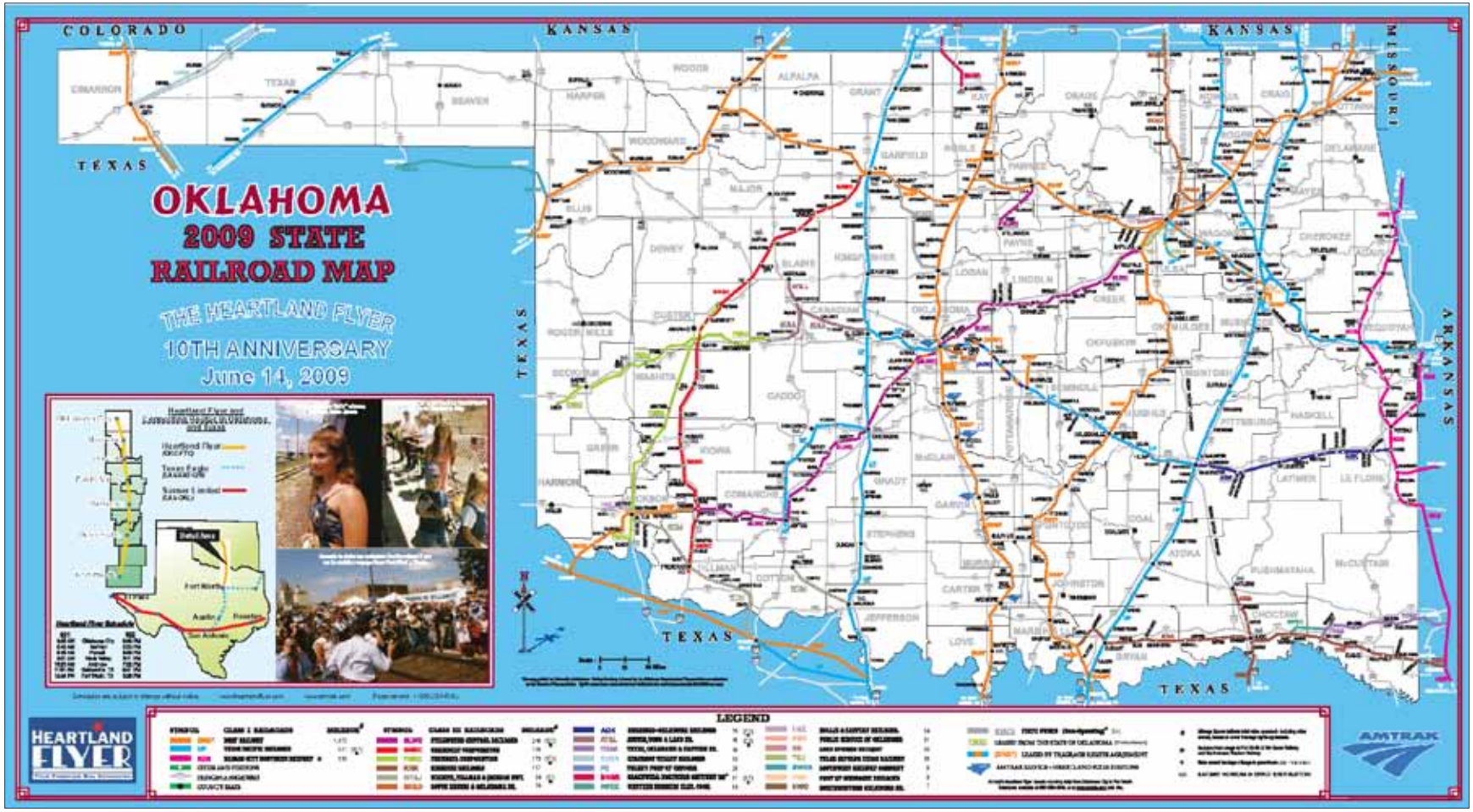
Oklahoma has 22 railroad companies operating throughout the state with approximately 3,746 miles of track. In 2007, Oklahoma ranked 17th in the nation for total rail mileage. There are three Class I railroads and 19 Class III railroads. Class I railroads are defined as those railroad companies with operating revenue of over $401.4 million after adjusting for inflation (based on the Bureau of Labor Statistics), and provide the majority of freight rail movement throughout the nation.[23] Class III railroads are rail carriers with annual gross revenues of less than $20 million, and make up most of the local and regional lines and switching and terminal lines.

The State of Oklahoma currently owns approximately 869 total miles of track. The state-owned tracks are leased by privately operated railroads, which may be Class I or Class III operations. **Table 6-16** shows Oklahoma's freight rail characteristics for 2002 and 2007. **Figure 6-15** shows the railroads within Oklahoma.

Table 6-16. Oklahoma Freight Rail Characteristics, 2002 and 2007

Characteristic	2002	2007
Number of Freight Railroads	20	22
Miles Operated	3,234	3,746
Class I	2,041	2,535
Class III	1,193	1,211
-Regional	78	78
-Local, Switching & Terminal (Other)	1,115	1,133
Total Carloads (thousands)	4,851	5,635
Total Tons (thousands)	222,551	284,177

Source: American Association of Railroads; ODOT Rail Division.



Source: Oklahoma Department of Transportation http://www.okladot.state.ok.us/hqdiv/p-r-div/maps/railroad/index.htm.

Figure 6-15. Oklahoma Centennial State Railroad Map

Class I Railroads

The Class I railroads include: Burlington Northern Santa Fe Railway (BNSF) with 1,475 miles of track (including trackage rights), Union Pacific Railroad (UPRR) with 921 miles of track (including trackage rights), and Kansas City Southern Railway Co. (KCS) with 139 miles of track (including trackage rights).

BNSF

BNSF Railway had 1,475 miles of track in 2007 in Oklahoma that includes trackage rights. **Figure 6-16** shows BNSF systems with various rail operating divisions throughout the State. Oklahoma has four operating divisions moving through the state including a small portion of the Powder River Division, the Kansas Division, the Texas Division and the Springfield Division. The Powder River Division brings coal from Wyoming's Powder River Basin through Colorado and across Oklahoma's panhandle to Texas' electric utility companies. The Kansas Division comes into northwestern Oklahoma from south central and southwest Kansas linking Kansas City to Amarillo, Texas, as a part of the BNSF's "Transcon" Chicago to Los Angeles corridor. The Texas Division connects Dallas-Fort Worth area with Kansas City through two north-south main lines through Oklahoma City and Tulsa. The Springfield Division connects Tulsa, Perry, Enid, and Avard through the northeastern part of the state to Kansas City and St. Louis.

UPRR

UPRR had 921 miles of track in Oklahoma in 2007. UPRR operations in Oklahoma (shown in **Figure 6-17**) primarily consist of a north-south corridors between the Midwest and the Gulf Coast. Grains are the main product moved through the state and sent to the ports for export.

Coal is also moved through the state to provide fuel for electric power generation facilities in the southern states. Wheat, cement and aggregate are a few important commodities originating in Oklahoma that are shipped by UPRR. The majority of UPRR's inbound north-south traffic from mid-western states culminates in northeast Oklahoma, where Wagoner and other cities and towns import coal for power plants.

The north-south lines to the west connect the Kansas wheat region to Texas ports. There are switching yards and other UPRR rail facilities in Muskogee, Tulsa, Enid, McAlester, Oklahoma City, and Chickasha.

KCS

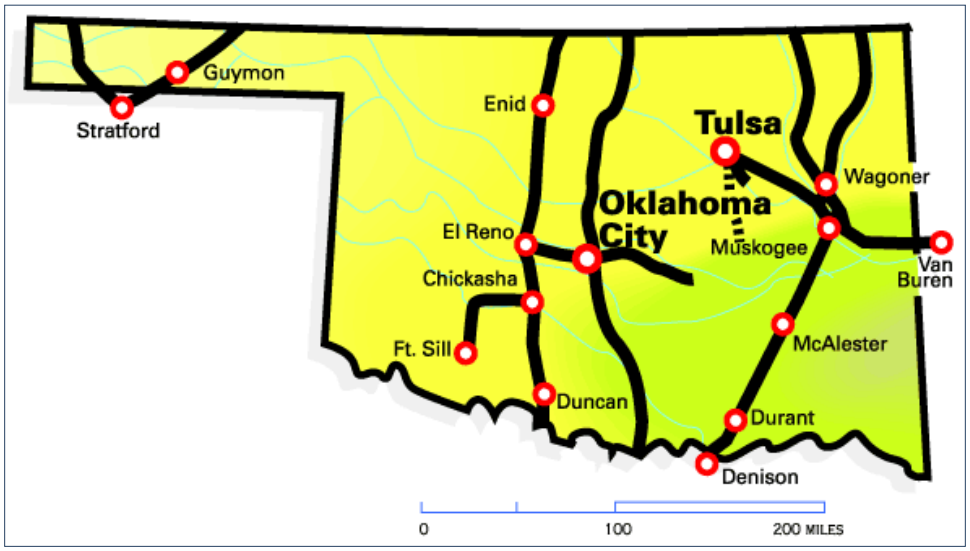
KCS owns 139 miles of track in eastern Oklahoma. It serves the central and southern United States, and has the shortest route between Kansas City and the Gulf of Mexico. KCS also has the second largest rail hub in the country in Kansas City. **Figure 6-18** shows the KCS system in eastern Oklahoma and neighboring states.

Class III Railroads

The Class III railroads provide important regional, local, switching, and terminal rail service across the state. The 19 Class III railroads in the Oklahoma provide critical rail service within the state. These railroads own and operate over 1,000 miles of rail line in Oklahoma and have trackage rights on and operate over many miles of Class I railroads. The pick-up, delivery, and customer service capability of these railroads are critical to the overall movement of Oklahoma's products and commodities that are moved by rail. Class III freight rail characteristics can be seen in Figure 6-15.

Source: BNSF Railway http://www.bnsf.com/tools/reference/division_maps/.

Figure 6-16. BNSF Division Map



Source: Union Pacific Railroad, http://www.uprr.com/aboutup/usguide/ok.shtml, 2009.

Figure 6-17. Union Pacific in Oklahoma

Source: Kansas City Southern Railroad, 2009.

Figure 6-18. Kansas City Southern Railway Company System

Railroad Imports and Exports

Railroads are the second most-used mode overall, for transporting freight throughout Oklahoma, with 22 percent of total freight tonnage in 2007. On a tonnage basis, the highest through freight movement for Oklahoma occurs by rail, (meaning, it does not stop within the state). In 2007, 17 million tons of freight were exported by railroads, and 22 million tons of freight were imported. Railroads handle imports and exports into and out of Oklahoma, including exporting 4.6 million tons of coal, and importing 16.6 million tons of coal in 2007. Railroads bring in the majority of coal used throughout the state. The railroads carry many other goods and commodities such as nonmetallic minerals, farm products, chemical shipments, petroleum products, lumber and wood products, and other goods and commodities. Chapter 5 provides additional details on the State's economy and goods movement. In 2007, 17,408,000 rail tons originated in Oklahoma with gravel, chemicals and products, and coal making up the top three commodities shipped. In the same year, 22,323,000 rail tons terminated by Oklahoma with coal, wood products, and minerals making up the top three commodities imported. **Table 6-17** shows commodities originating in Oklahoma that were shipped by rail for years 2002 and 2007. **Table 6-18** shows commodities terminating in Oklahoma that were shipped by rail for years 2002 and 2007.

Table 6-17. Statewide Rail Freight Trends: Tonnage Originating by Commodity: 2002 and 2007

Originating	2002	2007
Gravel	7,365	6,719
Chemicals & Products	2,751	2,940
Coal	2,261	3,988
Nondurable Goods	1,188	1,157
Vehicles	887	831
Minerals	645	532
Grains	382	703
Metals & Products	241	252
Wood Products	167	145
Agricultural Products	83	85
Petroleum Products	3	6
Durable Goods	0	49
Unknown/Other	61	1
Total Originating	16,034	17,408

Source: Federal Highway Administration (thousand tons).

Table 6-18. Statewide Rail Freight Trends: Tonnage Terminating, by Commodity: 2002 and 2007

Terminating	2002	2007
Coal	14,867	16,005
Wood Products	1,592	1,240
Minerals	1,050	928
Grains	898	1,142
Agricultural Products	770	887
Nondurable Goods	676	675
Gravel	455	415
Chemicals & Products	280	303
Metals & Products	220	280
Vehicles	149	104
Petroleum Products	142	144
Durable Goods	0	1
Unknown/Other	173	199
Total Terminating	21,272	22,323

Source: Federal Highway Administration (thousand tons).

Railroad Funding and Finance Issues

A Railroad Maintenance Revolving Fund was established through the passage of the "Railroad Rehabilitation Act" during the 1978 Oklahoma legislative session under Senate Bill 1534. The source of funding for the Revolving Fund comes from an Oklahoma Freight Car Tax that imposes a tax equivalent to four percent of the gross earnings of a freight car operating within the State.

Other funding sources come from lease agreements with operators and from a lease purchase agreement with UPRR for the purchase of a portion of rail infrastructure previously purchased by the state from another railroad. The lease purchase agreement with UPRR brings in the majority of funding for the Railroad Maintenance Revolving Fund, at $1.8 million annually, until 2011 when this lease purchase agreement has been satisfied. Approximately $761,000 is expected to be generated from the freight car tax on an annual basis. Portions of the Revolving Fund are allocated to state-owned railroad capital expenditures including acquisition, construction and reconstruction, repair, maintenance, operation of railroad and trackage, rail planning, and railroad assistance projects. As of 2002, the Revolving Fund allows ODOT to create loans to qualified railroad entities for financing the rehabilitation of railroads within the state. This loan program has not been used to date.[24]

Intermodal Freight

Intermodal freight connectors are the roads that connect major intermodal terminals to the highway network. Public roads leading to major intermodal terminals are designated NHS connectors by the U.S. Department of Transportation, in cooperation with state departments of transportation.

Oklahoma has multiple intermodal freight facilities including the Tulsa International Airport, the Will Rogers World Airport, the Port of Catoosa, the Johnston's Port 33 (Verdigris River near Muskogee), Ardmore Industrial Park and Airpark (discussed in the Air Cargo section), and Williams Pipeline Station. All these intermodal facilities transfer goods to multiple transportation modes, including barge, pipeline,

train, airplane, and truck via NHS Intermodal Connectors. These intermodal connectors are roadways that provide access between major intermodal facilities and the NHS. BNSF Railway previously had a truck/rail intermodal facility in Oklahoma City, but it was closed on May 1, 2005, because of declining demand. **Table 6-19** shows the intermodal connector facilities in Oklahoma, the type, the number of connectors, the connector description, and the length of the connector.

Oklahoma has four foreign trade zones (FTZ), which can be an important factor in considering needs and opportunities for developing intermodal transfer capabilities. The trade zones include FTZ No. 164 in Muskogee, FTZ No. 53 in Rogers County at the Port of Catoosa, FTZ No. 106 in Oklahoma City, and FTZ No. 227 in Durant. **Figure 6-19** shows the approximate locations of the four foreign trade zones.

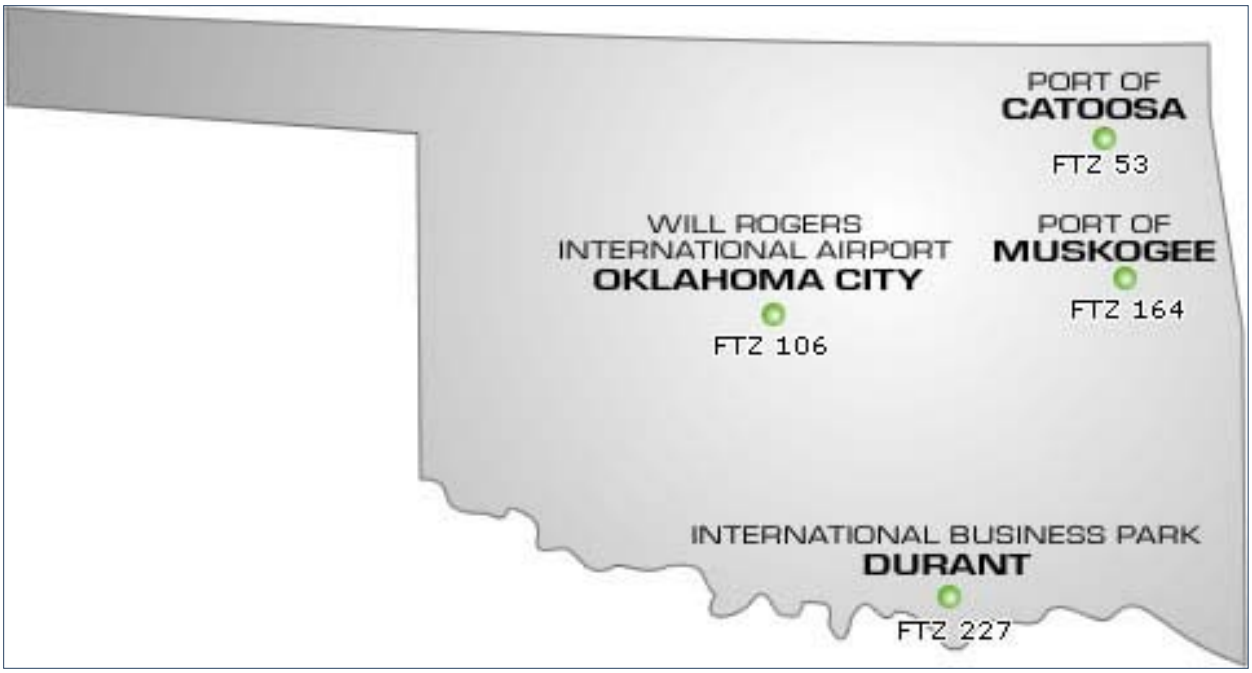
Brief descriptions of each foreign trade zone follows:

- ***Port of Muskogee Zone (FTZ 164)*** This zone lies on the McClellan Kerr Arkansas River system and the site includes several industrial facilities. The Port of Muskogee provides barge, rail and truck services to the one-million-square-foot Dal tile plant that receives several thousand tons of raw materials by barge each year.
- ***Tulsa Port of Catoosa Zone (FTZ 53)*** The zone is home to four industrial parks, including the Stillwater Industrial Park, Bartlesville Industrial Park, Mid America Industrial Park at Pryor Creek, and Tulsa International Airport. Also located on the McClellan Kerr Arkansas River Navigation System, the port provides rail, barge and truck transportation services from Oklahoma to ports around the world.
- ***Port Authority of the Greater Oklahoma City Area, at Will Rogers International Airport (FTZ 106)*** Over the past decade, this 90-mile radius service area has expanded beyond its original locations of Will Rogers World Airport and Biagi Warehouse to include eleven new sites, with more slated to come on line in the future. Also sponsored by this zone are several subzones for specific manufacturers.

Table 6-19. Oklahoma National Highway System Intermodal Connector Listing

Facility	Type	Connector No.	Connector Description	Connector Length
Johnston's Port 33 (Verdigris River near Muskogee)	Port Terminal	1	From US 412/NS 414, South 0.25, east 1 mile to Terminal	1.25
Port of Catoosa	Port Terminal	1	SR 266 (Port to US 169)	5.10
Port of Catoosa	Port Terminal	2	SR 266 (Port to I-44)	0.00
Tulsa International Airport	Airport	1	Served by Existing NHS Route	0.00
Will Rogers World Airport, OKC	Airport	1	Meridian Ave (Airport Rd to Terminal), Airport Rd (I-44 to Meridian Rd)	4.10
Williams Pipeline Station, Tulsa	Truck/Pipeline Terminal	1	21st St (33rd W Ave to Burlington Northern RR at 23rd St)	1.00

Source: Federal Highway Administration, http://www.fhwa.dot.gov/planning/nhs/intermodalconnectors/oklahoma.html (retrieved March 2, 2009).



Source: Oklahoma Department of Commerce, http://www.okcommerce.gov/index.php?option=com_content&task=view&id=244&Itemid=702, 2009.

Figure 6-19. Foreign Trade Zones in Oklahoma

- ***International Business Park in Durant (FTZ 227)*** This zone is located on the 320-acre industrial park in Durant, serving the southern and southeastern consumer markets. It lies adjacent to US-69/75 and is one hour away from the Dallas/Fort Worth Metroplex, eight hours from Laredo, Texas, and five hours from San Antonio and Houston, Texas. The I-35 corridor lies 45 miles west of the zone. FTZ 227 includes Subzone FTZ 227-A located in Ardmore. A recent boundary expansion of the zone now also serves Ardmore Industrial Park and Westport Industrial Park, both located in Ardmore. These locations have easy access off and on I-35, and are strategically situated between the Oklahoma City and the Dallas/Fort Worth metropolitan areas. This location has air freight capacity (including two runways), manufacturing facilities, many acres of developable land, and areas for intermodal docking (air, truck, and rail).[25]

Ports and Waterways

The McClellan-Kerr Arkansas River Navigation System (MKARNS) is a 445 mile-long waterway that runs between eastern Oklahoma and most of Arkansas that eventually flows into the Mississippi River. This channel currently has a depth of at least nine feet. There are plans underway to deepen the channel from nine feet to 12 feet to allow the barges 30 percent more loading capacity from the Port of Catoosa all the way through to the Mississippi River using the same amount of power as before. There are 13 locks and dams in Arkansas and five locks and dams in Oklahoma to help assist vessels climb up the MKARNS from the Mississippi River. Each lock chamber is 110 feet wide by 600 feet long. There are two major Oklahoma public port facilities on the MKARNS including the Port of Muskogee and the Tulsa Port of Catoosa.

According to Corps of Engineers data, in 2008 over 1.9 million tons of freight was exported compared to 2.6 million tons in 2005 by waterway, and over 1.8 million tons of freight was imported compared to 1.9 million tons in 2005.

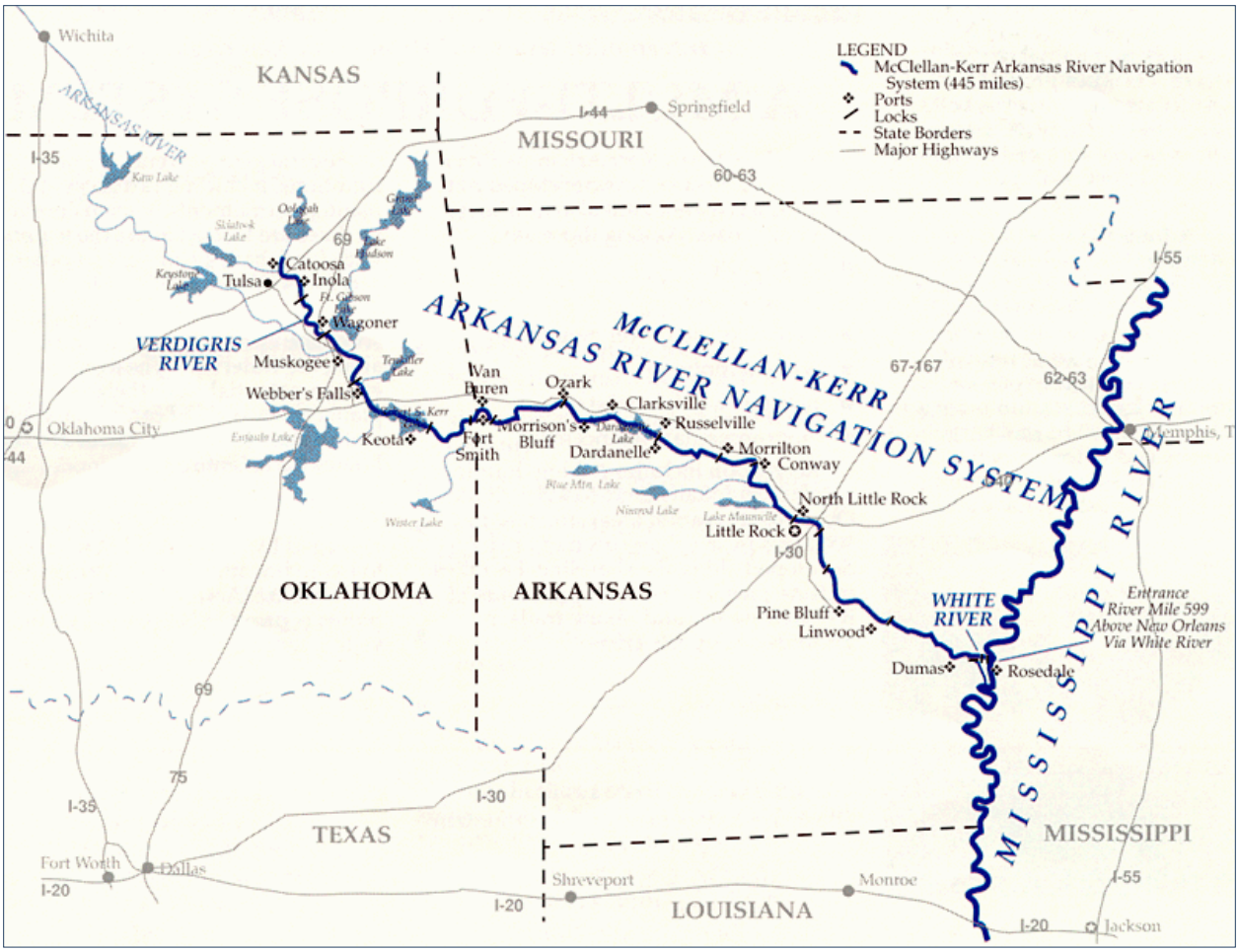
The trend from 2005 to 2008 shows a decrease in tonnage over the years. According to ODOT,[26] there are several factors that contributed to the short-term decline in goods moved via waterway. In the aftermath of Hurricane Katrina in 2005, numerous employees from the Port of New Orleans lost their homes. The Port Authority had to find suitable housing for their port employees, which took some time. The mouth of the Mississippi River in the Port of New Orleans is crucial for waterway freight movement, and because of the hurricane, many barges were delayed as they waited to be filled or emptied. Another explanation for the downward trend was due to record floods that took place in 2007 along the Mississippi River. The flooding caused navigation of this river to halt for a few weeks. Additionally during 2007, there was a lock that needed to be fixed on the MKARNS, causing another standstill in production. The Port of Catoosa had over 100 barges in their stilling basin and fleeting area. Some companies sent workers home during this time since production was stopped because of the maintenance.

Because of these closures, some industries switched to other means of transporting freight (rail or truck). One more reason for a declining trend in waterway shipments through the MKARNS is that some commodities have had poor growing seasons, including wheat and other grains.

The MKARNS is synonymous with the Arkansas River in Oklahoma from the Port of Muskogee downstream to the Arkansas border. Upstream of the Port of Muskogee, the MKARNS leaves the Arkansas River and joins the Verdigris River as it heads up to the Tulsa Port of Catoosa. There are 31 terminal facilities along the MKARNS within Oklahoma; however, most facilities are clustered along the Ports of Catoosa and Muskogee. Commodities shipped via the MKARNS include sand, gravel, and rock; miscellaneous minerals and building materials; petroleum products; coke and coal; iron, steel, and metal products; agricultural products; and chemicals and fertilizers. **Figure 6-20** shows the MKARNS as it comes from the Mississippi River, into Arkansas, and into Oklahoma. The various port facilities and locks and dams are marked on the map.

Port of Muskogee

The Port of Muskogee lies in the city of Muskogee and provides industrial park facilities with access to multiple modes of transportation. There is the Port Industrial Park with 144 acres of industrial park land, and the Port of Muskogee/John T. Griffin Industrial Park with 117 acres. Industrial roads connect the Port to the Muskogee Turnpike and SH-165. The Turnpike and SH-165 provides access to US-69, which provides access to I-40 and I-44. Commercial trucking companies that serve this Port include J.B. Hunt, Yellow Freight, Dalworth Trucking, Arrow Trucking, and a few others. There is a rail marshalling yard and an internal track system within the Muskogee switching limits of the UP Railroad. Overhead and mobile cranes are available for transloading shipments among barge, trail, and truck. Davis Field Airport lies nine miles south of the Port, and Tulsa International Airport is 45 air miles north of the Port. The Port of Muskogee has 94,000 square feet of dockside warehouse.



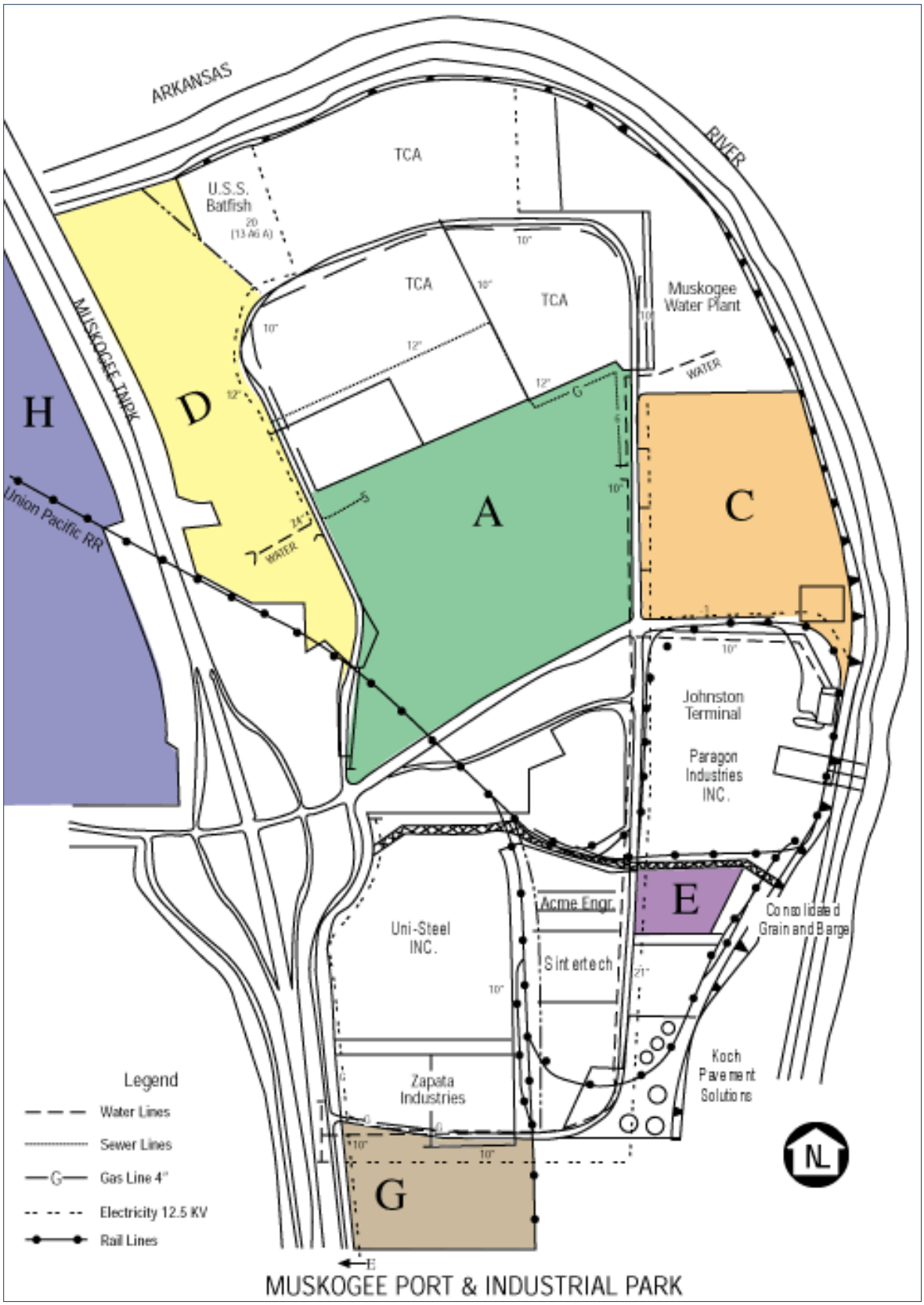
Source: Port of Muskogee, http://www.muskogeeport.com/7_maps/content/maps_regional.html, 2009.

Figure 6-20. The McClellan-Kerr Arkansas River Navigation System

According to the Corps of Engineers, total tonnage transported through the Port of Muskogee has increased from 500 million tons in 2000 to approximately 700 million tons in 2008. **Figure 6-21** shows the layout of the Port of Muskogee Terminal.

Tulsa Port of Catoosa

The Tulsa Port of Catoosa is one of the nation's largest inland river-ports, located at the head of the MKARNS. It is owned by the city of Tulsa-Rogers County Port Authority in Catoosa, with approximately 2,000 acres of industrial park space with multi-modal access. Industrial facilities located within the Port of Catoosa include manufacturing, distribution, and processing of goods. The Port has five public terminals including a general dry cargo dock, roll-on/roll-off low water wharf, dry bulk terminal, grain terminals, and the bulk liquids terminals are all privately owned and operated. Barges, trains, and trucks serve the Port of Catoosa. The Port owns two locomotives for its 12-mile short-line railroad system that serves the terminals and private industries. The Port also owns two switch-boats that move barges between docks.



Source: Port of Muskogee http://www.muskogeeport.com/7_maps/content/maps_sites.html, 2009.

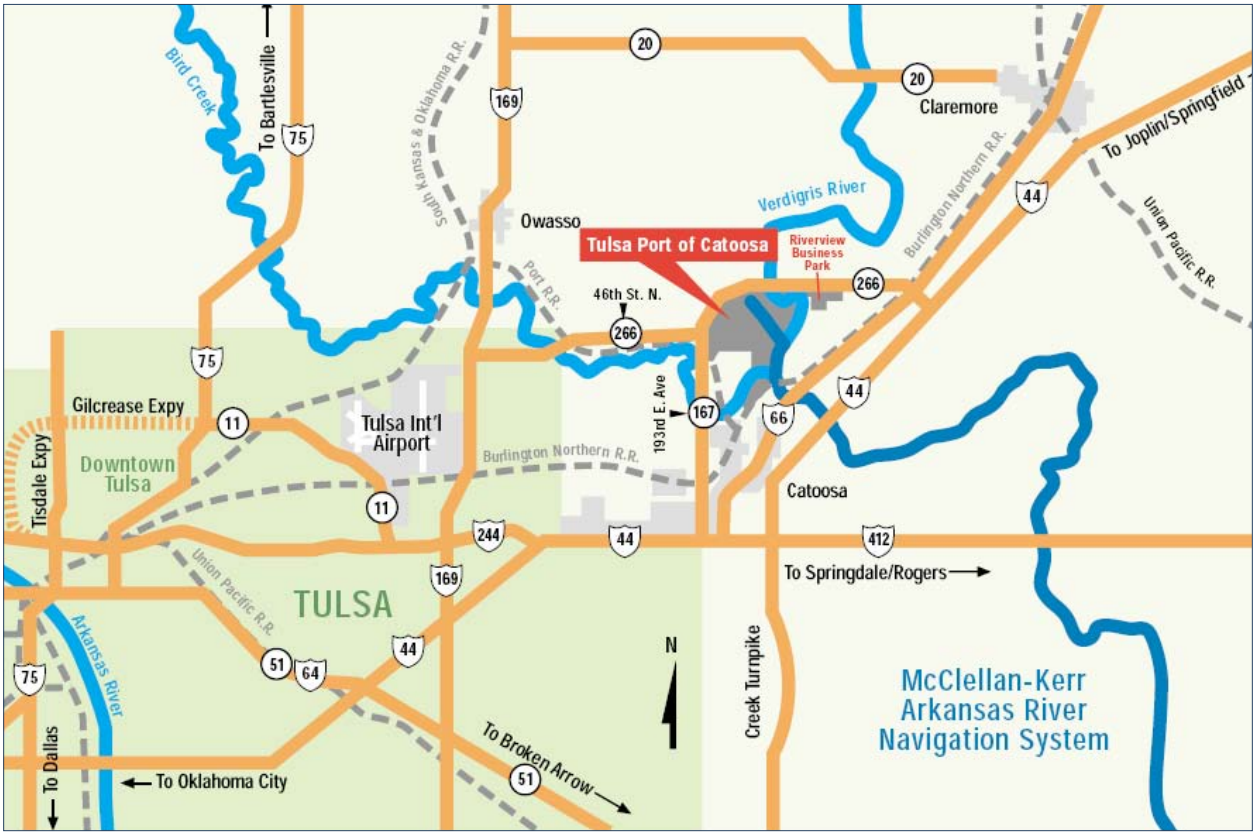
Figure 6-21. Port of Muskogee Industrial Park

The Port of Catoosa is served by various nationwide trucking shippers, and averages over 450 trucks per day. There is easy access on and off of I-44 and SH-169. Class I railroads serve the Port including BNSF directly, and UPRR through a short-line switch on the South Kansas and Oklahoma Railroad. The Tulsa International Airport is seven miles from the Port, and provides freight cargo shipping. **Figure 6-22** shows the location of the Tulsa Port of Catoosa and its relative location to various highways, airports, and railroads.

According to the Tulsa Port of Catoosa, reported shipping levels were strong at the beginning of 2009, with combined inbound and outbound of more than 236,000 tons in January and 254,900 tons in February. This is a number that has not been seen in years past. There is a slow-down in certain materials being shipped such as steel, pipe, and other dry bulk materials because of the economy. From 2000 to 2008, total tonnage decreased approximately seven percent.

Air Cargo

There are five total commercial service airports in the state including the Will Rogers World Airport in Oklahoma City, the Tulsa International Airport in Tulsa, the Lawton-Ft. Sill Regional Airport, Enid Woodring Regional Airport, and Ponca City Regional Airport. The Will Rogers World Airport and the Tulsa International Airport are the State's main air cargo facilities. The other three facilities are regional airports, and provide mostly commercial passenger links to larger airport facilities (see Figure 6-10 earlier in this chapter).



Source: Tulsa Port of Catoosa, http://www.tulsaport.com/PDFs/tulsa_proxmap.pdf, 2010.

Figure 6-22. Tulsa Port of Catoosa

Additionally, an industrial airpark lies in Ardmore that will soon provide air cargo facilities. In 2007, 18,000 tons of freight were exported by air, and 28,000 tons of freight were imported.

All airports in Oklahoma consist of commercial service airports, regional business airports, district airports and community airports. Figure 6-10 shows these airports' locations.

The Will Rogers World Airport in Oklahoma City is the larger of the two main air cargo facilities. This international airport lies on the southwest side of Oklahoma City with access to I-44, I-35, and I-40. This Interstate access makes it convenient for truck freight transport. The airport has approximately 7,800 acres of land with three operating runways, two 9,800-foot parallel runways and one 7,800-foot crosswind runway, and is in a Foreign Trade Zone. A diagram of the Will Rogers World Airport can be found in Appendix A.

The following companies have cargo operations at the Will Rogers World Airport:

- UPS
- FedEx
- Airborne Express
- Air 1st
- Ameriflight
- Martinaire
- Empire
- Mountain Air Cargo, Inc.

The Tulsa International Airport is a 4,388-acre complex that services over five million passengers and visitors each year. It is located approximately five miles northeast of Tulsa's center, with direct access to I-244 via SH-11, a NHS Intermodal Connector. US-169 and I-44 also provide access to the airport for freight movement. The airport has three paved runways: two main runways at 7,376 feet and 10,000 feet, and one crosswind runway at 6,101 feet.

Tulsa International Airport averages 353 aircraft operations a day, based on 2007 yearly statistics. The airport provides convenient access to highways and two major railroads for freight operations. The Tulsa International Airport is designated as a Foreign Trade Zone and is located approximately ten minutes from the nation's largest inland sea port, the Tulsa Port of Catoosa. American also operates a large aircraft maintenance center at Tulsa International.

The following companies have cargo operations at the Tulsa International Airport:

- American Airlines Cargo
- Continental Airlines Cargo
- FedEx
- Southwest Airlines
- UPS
- United States Postal Service

As introduced in the Intermodal Freight Section, the Ardmore Industrial Park offers intermodal freight facilities, including the Ardmore Industrial Airpark. This airpark is not yet in service, but has 2,955 acres including 1,677 acres of undeveloped land. Airpark facilities are equipped for air cargo operations including two runways at 5,000 and 9,000 feet. The airpark is currently recruiting cargo operators. The location of this facility is directly east of I-35 in the city of Ardmore.

Table 6-20 shows Will Rogers World Airport and Tulsa International Airport air cargo statistics from 2000, and from the past four years starting in 2005. The cargo trends are difficult to explain consistently because there are special products that get shipped via air cargo that skew the numbers over time. An example of this would be oil that may be shipped by plane. Oil sometimes flies out one time per year, and

Table 6-20. Cargo at Oklahoma Commercial Airports, 2005 to 2008[27]

Airport	2000	2005	2006	2007	2008
Will Rogers World	49,369	34,943	35,728	35,808	36,024
Tulsa International	52,367	53,576	56,027	59,907	65,167
Total	101,736	88,519	91,755	95,715	101,191

Source: Will Rogers World Airport and Tulsa International Airport, 2009 (tons).

then does not fly out some years. This inconsistency can distort the air cargo trend picture. As for mail trends, from 2005 to 2008 the numbers have significantly declined. This is largely due to the way the United States Postal Service reports mail. When the post office chooses FedEx to ship, the items are boxed up and given to FedEx which treats the goods as cargo instead of mail. When the items are reported, it goes to the cargo designation instead of mail. In 2009 and thereafter, cargo data will be reported as a combined number with mail cargo data for all airports in Oklahoma. There appears to be a significant decrease in cargo activity between 2000 and 2005 for Will Rogers Word Airport. In the 2005 report for ODOT's Statewide Intermodal Transportation Plan, the cargo data after 2001 begin to decrease, mostly attributed to the terrorist attacks on September 11, 2001 that affected the country's economy. The decrease in cargo shipments for the Will Rogers World Airport can be attributed to the changes in the aircrafts being used by the airlines. Numerous commercial airlines flying into Will Rogers have shifted to more "regional" size aircrafts, and do not have capacity for cargo except for the passengers' cargo. Additionally, since the increased security in 2001, passenger aircrafts are not allowed to carry additional cargo.

Given Oklahoma's level geography and navigable waterways, it is ideal to transport cargo by trucks, trains, or barge more so than by air. There are efforts to include more air cargo development into intermodal hubs near the airports in Oklahoma City, Tulsa, and Ardmore over the next 10-15 years.[28] Nevertheless, growth in air freight transport is expected in the next 25 years, as this mode fills a special niche for shipping high value, time-sensitive products.

Intelligent Transportation System (ITS)

ITS involves the use of electronics, computers, and communications equipment to collect information, process it, and take appropriate actions. ITS technology is used to help improve safety, mobility, enhance security and to increase agency efficiency. ITS infrastructure includes dynamic message signs, cameras, weather sensors, detectors, and weigh in motion (WIM) sensors.

Existing Intelligent Transportation Systems

Various ITS components have been deployed in Oklahoma including dynamic message signs, closed circuit television cameras, web cameras, vehicle detectors, Road Weather Information System (RWIS), fiber optics, traffic and weather websites, and work zone tools. Oklahoma has utilized public-private partnerships to install fiber optic cables, placing approximately 940 linear miles of fiber optics around the State. This technology supports the RWIS, cameras, signs, etc. This is unique to Oklahoma, as many other states have not gone through this process yet.

Another ITS element is the Smart Work Zones program where signs dynamically calculate and

display the time delay that traffic can expect as a result of construction. There are currently seven Smart Work Zones in Oklahoma. By providing information, the Smart Work Zones program system enhances safety of both the road users and the workers.

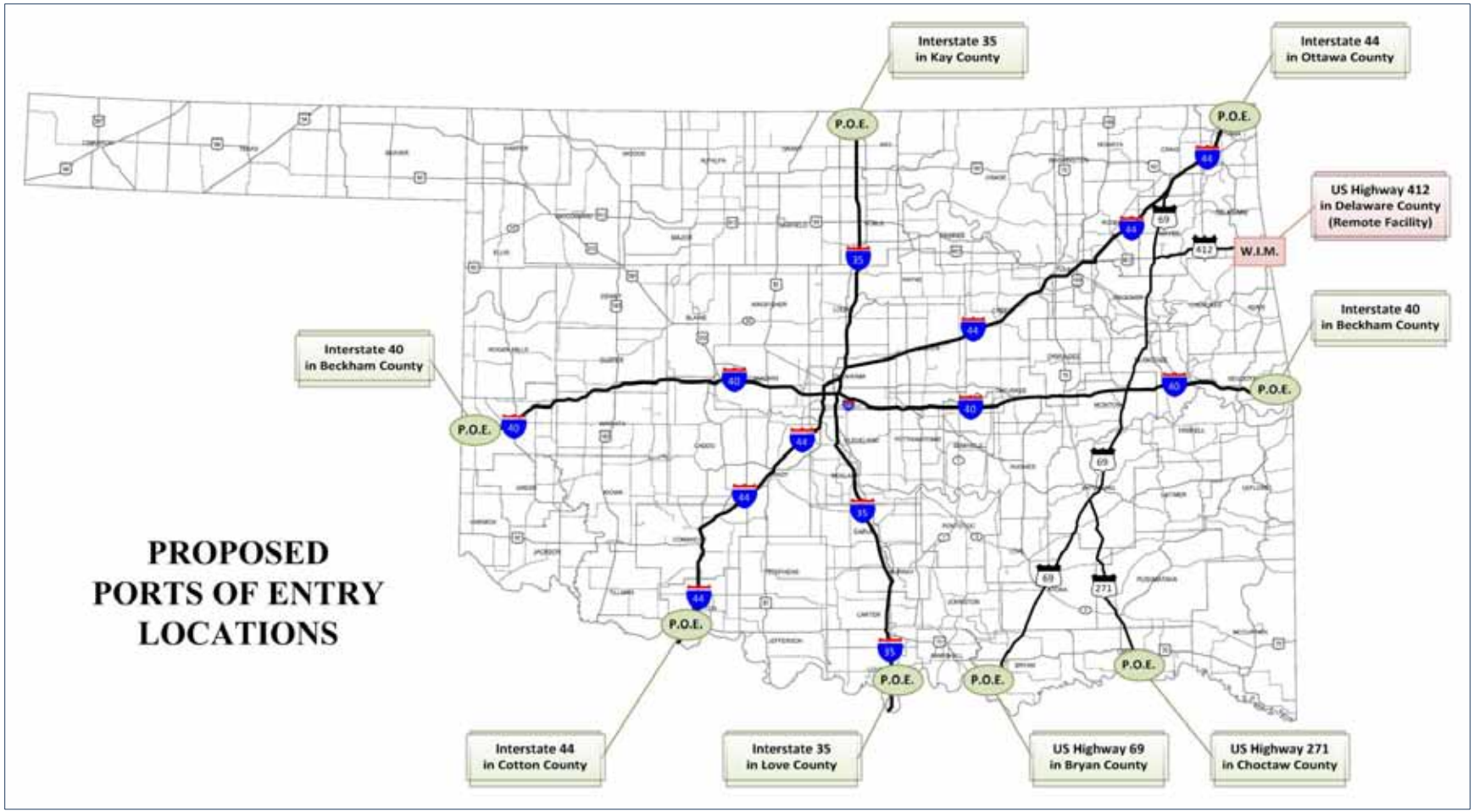
ITS applications are also used for commercial vehicles at commercial vehicle inspection stations to make inspection checks to ensure safety and compliance throughout the State. Currently, seven commercial vehicle weigh stations operate throughout Oklahoma. These seven stations were originally built in the 1960s, and operated using the latest telephone technology available at the time. A considerable number of improvements have been made to the roadways, trucks, and technology since then. Within the past few years, Oklahoma implemented the use of CVIEW (Commercial Vehicle Information Exchange Window), where Oklahoma-based carriers' credentials, status, and screening information can be available in all states; and where information on carriers based in other states is available in Oklahoma. Plans are underway for new state-of-the-art weigh stations (**Figure 6-23**) discussed in the following section.

Proposed Intelligent Transportation Systems

The ITS projects that are proposed for the State include installing more dynamic message signs in both the Oklahoma City and Tulsa areas. There are eight signs proposed for Oklahoma City and 12 more for Tulsa.

Plans to modernize the commercial vehicle inspection system are underway by constructing eight new weigh and screening stations. These stations, also referred to as Ports of Entry, will be virtual or fixed WIM stations to be placed at major entry and exit points on the highways in and out of the State including at both east and west borders on I-40, as well as locations on I-35, I-44, US 271 near Hugo, and US 69 near Colbert. The remote station will be placed on US-412 near the Arkansas border. Funding is available for this $58 million project.

Three stations are in the design phase and construction is scheduled to commence by early 2011. After these are built, feedback from the users (commercial vehicle operators) and enforcement officers will be recorded to improve the next phases of development. The new facilities will have some main lane WIM stations and some ramp WIM stations as well. The weigh stations will also have enclosed inspection bays, allowing for a greater number of safety inspections to take place, in a safe location. The new plan's objective is to leverage enforcement and safety of commercial vehicles with best available technology.



Source: ODOT, Project Management Division.

Figure 6-23. Proposed Ports of Entry Locations: Commercial Vehicle Weigh and Screening Stations

Chapter 6 Endnotes

[1] "Oklahoma's highway system" or the "state highway system" refers to Interstate, U.S. and Oklahoma (State) highways within the State of Oklahoma; it also includes several turnpikes.

[2] STRAHNET Routes stand for the Strategic Highway Network, which are important to the Nation's defense purposes.

[3] VMT is the number of miles traveled by vehicle, in a specific area and time, or total trip distance by vehicle.

[4] Percent increase was found by calculating the percent change between 2003 and 2007.

[5] SH-3 is approximately 616.5 miles.

[6] Adequacy of a roadway or bridge is determined by considering and evaluating a number of factors, including but not limited to: surface width and type, shoulders, drainage, foundation, traffic volumes and congestion levels.

[7] According to the 2009 Needs Study, roads and bridges under ODOT jurisdiction are projected to accumulate capital improvements needs of $27.5 billion over the next 20 years. Estimated revenue that can be applied to highway capital improvement projects over the same period will total $10.6 billion. Over the Study timeframe, total projected revenues amount to 39% of needs, resulting in a shortfall of $16.9 billion.

[8] High Priority Routes (or corridors) are designated by the Department of Transportation, due to their national importance for economy, defense, and overall mobility. Federal funding helps states allocate money for projects and maintenance on these specific corridors.

[9] Urban public transportation serves communities with a population of 50,000 or greater.

[10] Rural systems serve areas with populations less than 50,000.

[11] Transit service definitions were obtained from the National Transit Database glossary: http://www.ntdprogram.gov/ntdprogram/Glossary.htm#F

[12] The urban public transportation systems described below are a part of the Metropolitan Planning Organization areas for Oklahoma City (OKC METRO Transit and CART), Tulsa (Tulsa Transit), and Lawton (LATS) respectively. An overview of the services is described here. Further information is available from the respective MPO Long Range Transportation Plans which will be inserted in, and made a part of this Statewide Long Range Plan.

[13] The Central Oklahoma Transportation and Parking Authority (COPTA) is the governing body over OKC METRO Transit.

[14] National Transit Database (NTD), 2007, based on 2000 Census data.

[15] Deviated fixed-route service operates a bus or van along a fixed-route and keeps to a timetable, but the bus or van can deviate from the route to go to a specific location, such as a house, child care center or employment site. Once the stop is made, the vehicle goes back to the place along the route that it left.

[16] A flexible route has one defined stop, such as a connection point to a standard fixed-route bus, with flexible-route service traveling anywhere within its defined service area to drop off and pick up at any address.

[17] ODOT is conducting an internal review of the study.

[18] Section 1010 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) created a program to fund safety improvements at highway-rail grade crossings at "designated" intercity high speed rail intersections, or High Speed Rail Corridors.

[19] TE Funds include 12 community-focused activities (including bicycle and pedestrian), and is backed by SAFETEA-LU legislation.

[20] Pipeline is considered a mode of transporting freight, as seen in Chapter 5 of the 2035 Long Range Plan, however this mode will not be highlighted in this chapter.

[21] The rest of Texas region includes all regions of the state, excluding the Dallas-Ft. Worth and Houston metropolitan areas. The Southwest region includes Arizona, California, Colorado, New Mexico, Nevada, and Utah. The Southeast region includes Alabama, Mississippi, Louisiana, Florida, Georgia, Louisville, Kentucky, Tennessee, North Carolina, South Carolina, and Virginia. The Northeast region includes Washington, DC, Maryland, Pennsylvania, Delaware, New Jersey, New York, Connecticut, Massachusetts, New Hampshire, Rhode Island, Vermont, and Maine. The Midwest includes Indiana, Illinois, St. Louis, Missouri, the remainder of Kentucky, Detroit, Michigan, Ohio, West Virginia, and Wisconsin. The grain belt includes Minnesota, Iowa, North Dakota, South Dakota, Nebraska, and the remainder of Michigan. The Pacific Northwest includes Wyoming, Montana, Idaho, Oregon, and Washington. International regions include Canada, Southwest Asia, Northeast Asia, Central and South America, Europe, and the rest of the world. Definitions based on PB analysis.

[22] 23 U.S.C. 127(a), as implemented in 23 CFR 658.21, "Procedures for reduction of funds." Reduction of state funding could occur if size/weight limitations are not followed and enforced.

[23] The Association of American Railroads, September 10, 2009.

[24] Source: ODOT Rail Division, January 12, 2010.

[25] Source: http://www.okcommerce.gov/index.php?option=content&task=view&id=3046&Itemid=668 http://www.ardmoredevelopment.com/page.php?page=1040

[26] ODOT Waterways Branch provided insight on the declining tonnage trends.

[27] Includes cargo shipped by all cargo carriers such as FedEx, UPS, and Airborne Express, which are not included in the FAF data presented in Chapter 5. Therefore, the airport statistics are higher than those presented for 2007 in Chapter 5.

[28] According to the Governor's Council for Workforce and Economic Development in the Oklahoma's Aerospace Industry Workforce: 2007 Report; http://www.ok.gov/OAC/documents/ODOC-0126%20Aerospace%20Report%204.pdf