

5. DEMOGRAPHICS, SOCIOECONOMIC, AND LAND USE DATA

Information on demographics, socioeconomics, and land use was important in building the foundation for the 2015-2040 LRTP. Understanding the users of the transportation system and their mobility needs can help inform public policy as it relates to the delivery of transportation projects and services.

Oklahoma’s communities are dynamic places, constantly changing and evolving to meet the needs of our 21st century economy. This chapter

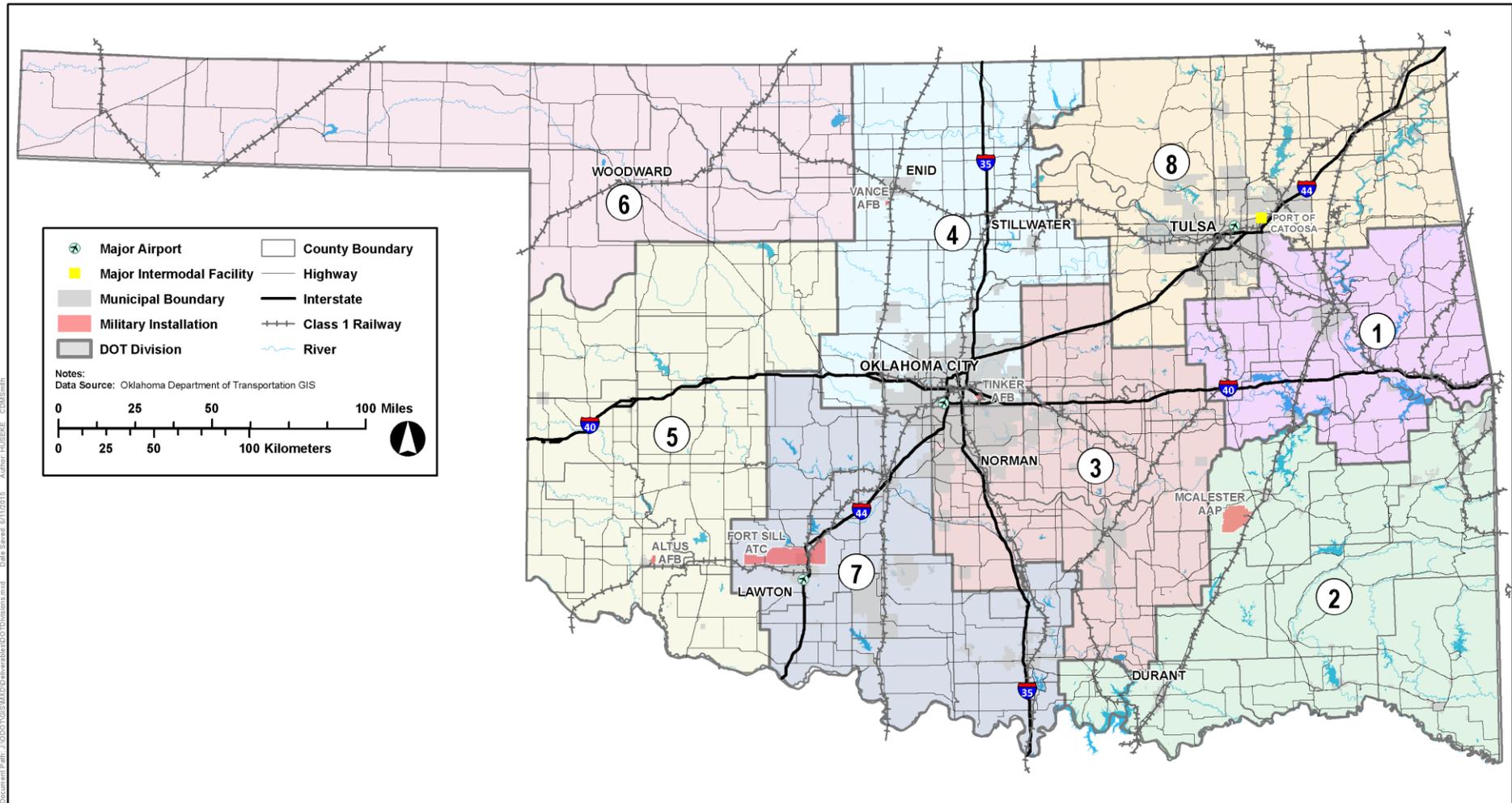
identifies and examines demographic, socioeconomic, and land use trends and implications to inform the transportation planning process.

Oklahoma is organized into 77 counties (**Figure 5-1**) and eight ODOT field divisions (**Figure 5-2**). Demographic and socioeconomic characteristics, trends, and analysis are organized into these geographic units.

Figure 5-1. Oklahoma Counties by ODOT Division

Division 1	•Adair, Cherokee, Haskell, McIntosh, Muskogee, Okmulgee, Sequoyah, Wagoner
Division 2	•Atoka, Bryan, Choctaw, Latimer, Le Flore, McCurtain, Marshall, Pittsburgh, Pushmataha
Division 3	•Cleveland, Coal, Garvin, Hughes, Johnston, Lincoln, McClain, Okfuskee, Pontotoc, Pottawatomie, Seminole
Division 4	•Canadian, Garfield, Grant, Kay, Kingfisher, Logan, Noble, Oklahoma, Payne
Division 5	•Beckham, Blaine, Custer, Dewey, Greer, Harmon, Jackson, Kiowa, Roger Mills, Tillman, Washita
Division 6	•Alfalfa, Beaver, Cimarron, Ellis, Harper, Major, Texas, Woods, Woodward
Division 7	•Caddo, Carter, Comanche, Cotton, Grady, Jefferson, Love, Murray, Stephens
Division 8	•Craig, Creek, Delaware, Mayes, Nowata, Osage, Ottawa, Pawnee, Rogers, Tulsa, Washington

Figure 5-2. ODOT Divisions



Source: CDM Smith Inc. and Oklahoma Department of Transportation

5.1. DEMOGRAPHICS

This section summarizes trends in Oklahoma’s population, as well as specific demographic trends that directly affect travel demand.

5.1.1. Population Trends

According to the 2010 Census, Oklahoma had just over 3.7 million residents. Annual estimates from the Census indicate that the state’s total population is continuing to grow, to a 2015 total of over 3.9 million.

Table 5-1 depicts estimates of Oklahoma’s resident population for several years since the 2010 decennial census. The state has experienced moderate growth each year, with an increase averaging over 33,000 annually. Oklahoma is the 28th most populous state in the nation, a ranking it has maintained since the 1990 decennial census. **Figure 5-3** illustrates the population change by county between the 2000 and 2010 decennial census. Rogers and Wagoner Counties located to the east of Tulsa have grown the fastest in Oklahoma with a population change of greater than 10,000 people. Payne, Logan, McClain, Grady, and Comanche Counties, which surround Oklahoma City, have experienced a population increase between 5,000 and 10,000 people. This is related to shifts of population from rural to urban counties.

Data from the long-term county economic and demographic projections firm of Woods and Poole Inc. (2014) projects the state’s future

population as reaching 4.5 million persons in 2040. This represents an increase of 813,482 (21.7 percent) from the 2010 Census. A 2012 study conducted by the Oklahoma Department of Commerce indicated that the state’s total population is expected to exceed 5 million by the time the state celebrates its 150th year of statehood in 2057.

Figure 5-4 illustrates historical population from 1990 and projections through 2040.

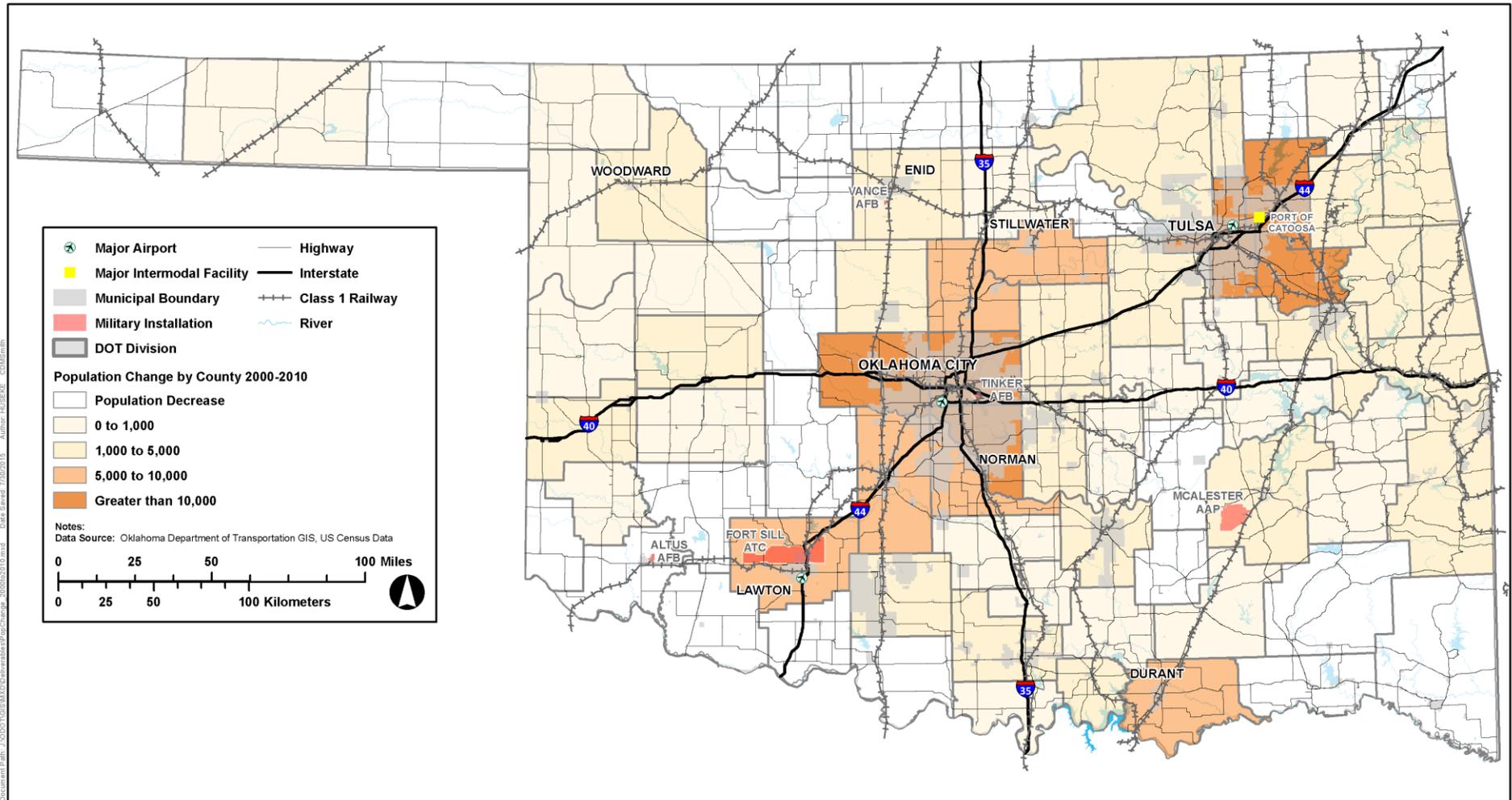
Population trends were also compared for each ODOT Division. Total population varies widely across the state and by ODOT Division. Over half of the state’s population resides in Divisions 4 and 8, which include the two heavily populated Metropolitan Statistical Areas (MSAs), Oklahoma City and Tulsa, respectively. However, the fastest-growing ODOT Divisions include Division 1 (east central Oklahoma) and Division 4 (north central Oklahoma). Division 6 (northwest Oklahoma) is expected to exhibit slow growth, while Division 5 (west central Oklahoma) is the only ODOT division expected to lose population through the plan horizon year. The major reason for population loss in the area that has been documented is the 2010 closure of a private correctional facility with a capacity of 2,000 inmates.¹ **Table 5-2** and **Figure 5-5** provide additional ODOT Division population change information.

Table 5-1. Oklahoma Population Count, 2010 and Population Estimates, 2011-2015

	Census 2010	July 1 Estimates		
		2011	2012	2015
Oklahoma	3,751,351	3,785,534	3,815,780	3,906,010

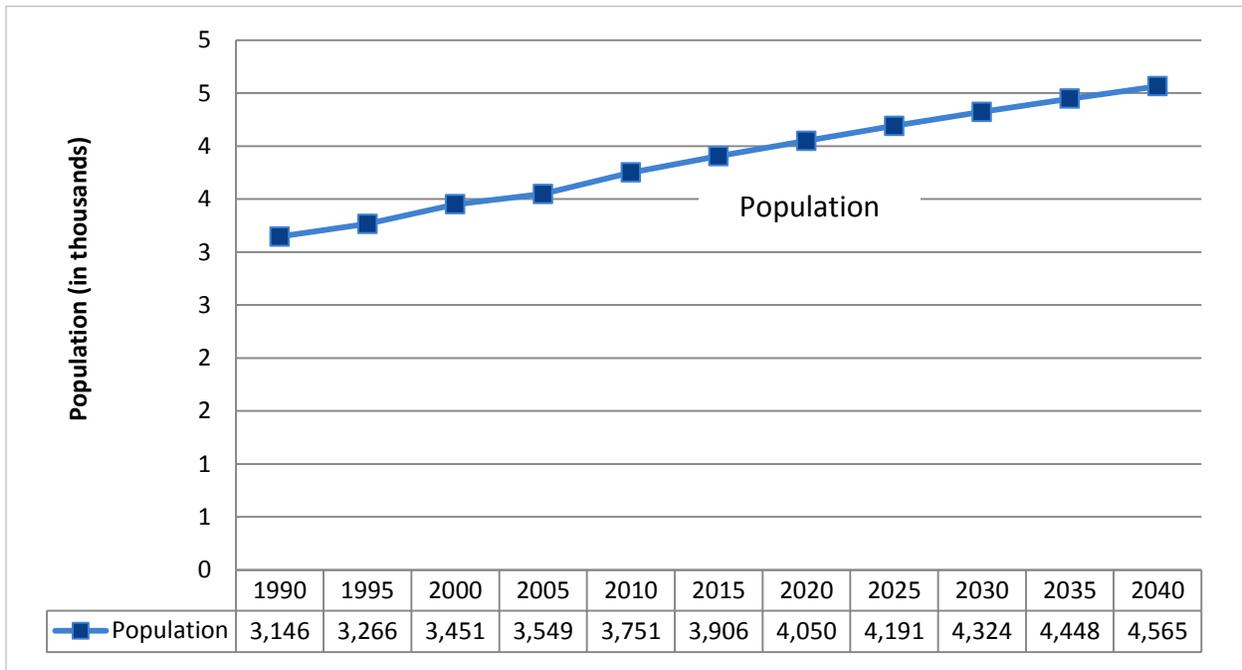
Source: U.S. Census Bureau

Figure 5-3. Population Change by County, 2000 to 2010



Source: U.S. Census Bureau

Figure 5-4. Historic and Projected Oklahoma Population, 1990 to 2040



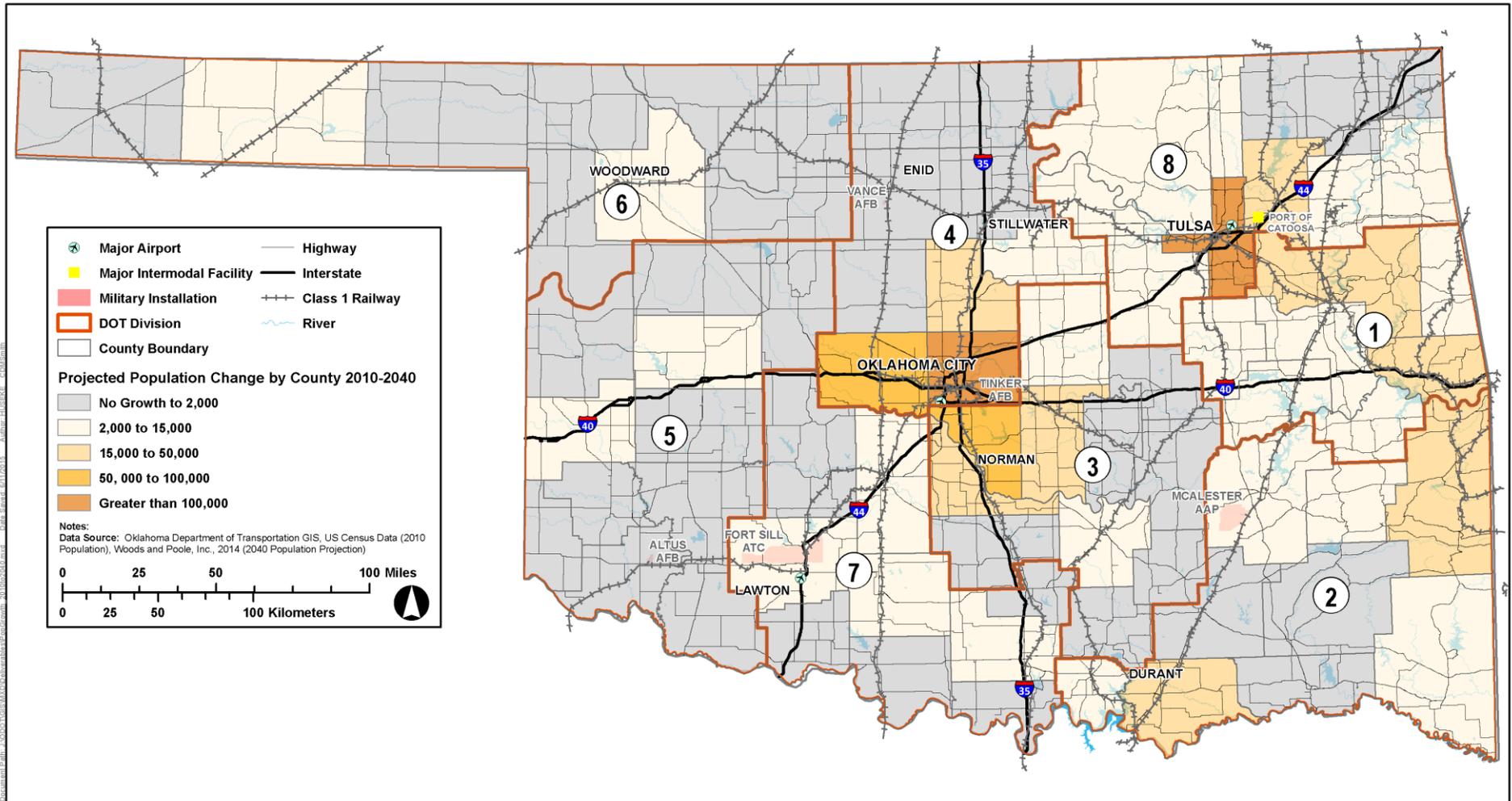
Source: Year 1990 – 2010, Census counts or estimates, U.S. Census Bureau; Year 2015-2040 projections, Woods and Poole Inc., 2014

Table 5-2. Historic and Projected Population by ODOT Division, 2000 to 2040

ODOT Division	Total Population					Change, 2010-2040
	2000	2010	2012	2015	2040	
Division 1	300,406	329,226	330,318	342,830	415,071	26.1%
Division 2	227,762	239,741	238,966	247,780	287,611	20.0%
Division 3	463,116	527,602	539,943	555,090	678,669	22.3%
Division 4	986,633	1,091,636	1,125,127	1,147,960	1,372,273	25.7%
Division 5	134,901	134,662	134,038	133,340	131,467	(2.4%)
Division 6	77,974	78,715	80,174	80,330	83,950	6.7%
Division 7	314,351	334,310	337,939	343,170	368,444	10.2%
Division 8	945,511	1,015,459	1,029,275	1,055,510	1,227,348	20.9%
State	3,450,654	3,751,351	3,815,780	3,906,010	4,564,833	21.7%

Source: Year 2000, 2010, 2012 historic counts or estimates, U.S. Census Bureau; Year 2015-2040 projections, Woods and Poole, Inc., 2014

Figure 5-5. Forecasted Population Change by County/ODOT Division, 2010-2040



Source: U.S. Census Bureau and Woods and Poole Inc., 2014

5.1.2. Race and Ethnicity

Oklahoma remains largely a homogeneous state, with 72.2 percent of its total population registered as White. It has been diversifying in recent years, as minority populations are growing as a share of total population. For example, since the turn of the century, Oklahoma's total Hispanic population has soared, increasing by 85 percent to 332,007 persons. This growth increased Hispanics' state population share from 5.2 percent in 2000 to 8.9 percent in 2010. American Indian is the state's third-largest demographic group, at 8.6 percent, followed closely by African Americans, at 7.4 percent.

Environmental Justice is an important part of the state's planning program in ensuring that the benefits and burdens of proposed transportation projects are equally distributed.² While the 2015-2040 L RTP identifies environmental justice populations at a programmatic level, it acknowledges that the transportation needs of all population groups must be considered on a project-by-project basis.

5.1.3. Age Distribution

Even as Oklahoma continues to grow and add to its total population, the composition of its population is also changing. This has significant implications for the delivery of transportation services. According to estimates from Woods and Poole Inc., the state's senior population (those aged 65+) is expected to increase by 266,000 persons – or just over 52 percent – from 2010 to 2040. This demographic change will affect the state's transportation system, as seniors rarely perform the basic home-to-work travel patterns and often have mobility restrictions that make travel more complicated. Some of the more common restrictions seniors encounter that affect their mobility include increased reaction time, loss of visual and hearing abilities, and decreased cognitive function.

The state's share of senior population is expected to grow from 13.5 percent currently, to approximately 17 percent in 2040. In 2010, the first of the baby boomer generation turned 65. While age 65 is an accepted marker for more physiological changes affecting vision, hearing, reaction times, and other functions critical to driving ability, for some people the decline of important functions can begin at an even earlier age as noted in a number of recent studies.

With more than one in six Oklahomans forecasted to be over the age of 65 by 2040, the state needs to begin preparing now for providing a transportation system that is more responsive to the needs of this growing demographic group. Such changes will require a transportation system that is more user-friendly, intuitive, and safe. Transportation improvements that benefit the state's senior population will benefit all users of the system. Transportation is the link between home and community. It connects people of all ages and socioeconomic status to the places where they can work, go to school, shop, or get medical attention -- their most basic needs.

The share of the state's "dependent population" (i.e., those age 18 or less, and those over age 65) is 38.2 percent. This demographic group is expected to increase to 42.2 percent of the state's total population by 2040. These individuals, for example, are more dependent on forms of transportation, such as bicycling, walking, and public transit.

5.2. EMPLOYMENT, INCOME, AND COMMUTING

This subsection documents the historic and projected employment trends for Oklahoma as a whole as well as by ODOT Division. Statewide employment has been trending upward at a steady rate. Employment is projected to reach over 2.2 million jobs in 2015, an increase of 12 percent (or 245,000 jobs) over the last ten years. In 2013, Oklahoma’s jobless rate was the 11th lowest in the nation. This section also documents additional socioeconomic factors such as income and commuting trends.

5.2.1. Historic and Projected Statewide Employment

Figure 5-6 illustrates the historic and projected employment from 2000 to 2040. Overall employment in Oklahoma in 2010 was approximately 2.1 million. From 2000 to 2010, the state saw a total increase in jobs of 6.6

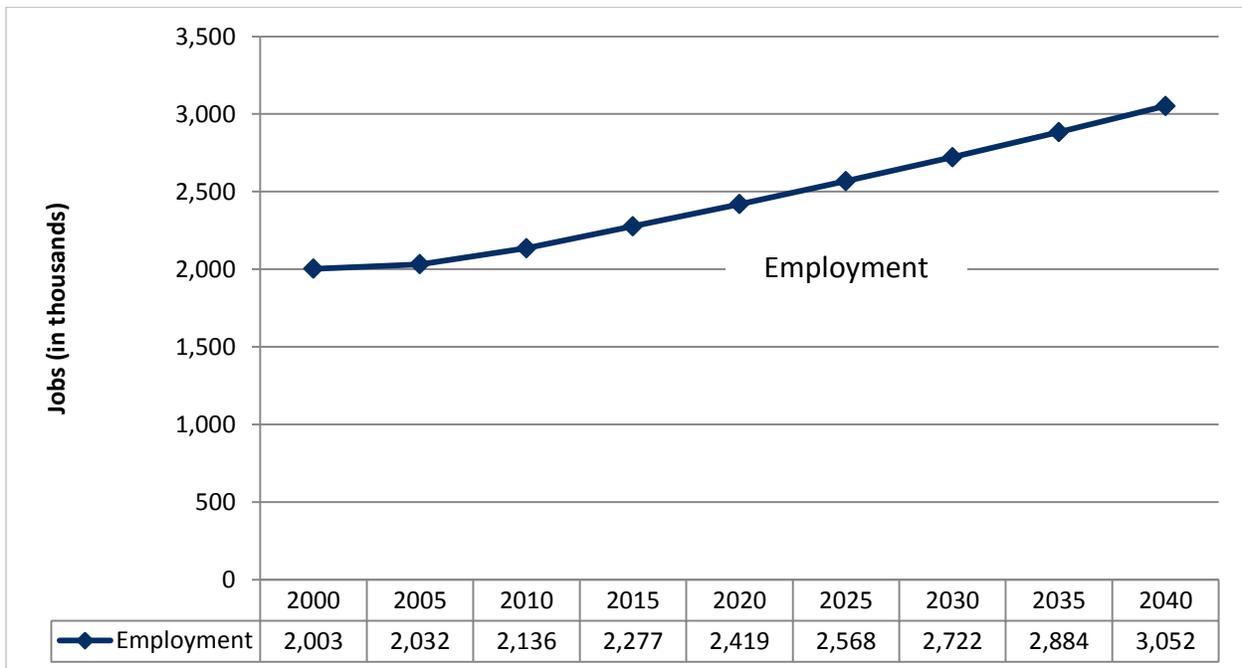
percent, or approximately 0.6 percent growth annually. By 2040, employment is projected to be over 3 million, which is 42.8 percent higher than 2010.

Total employment varies widely across the state and by ODOT Division. Over half of the state’s employment is located in Divisions 4 and 8, which include the largest two metropolitan areas, Oklahoma City and Tulsa, respectively.

By 2040, the fastest-growing employment by ODOT Division is projected to be Division 4 at 48.3 percent. Projections for the second and third fastest-growing employment by ODOT Division are Division 2 (southeast Oklahoma) at 43.1 percent and Division 8 at 42.5 percent.

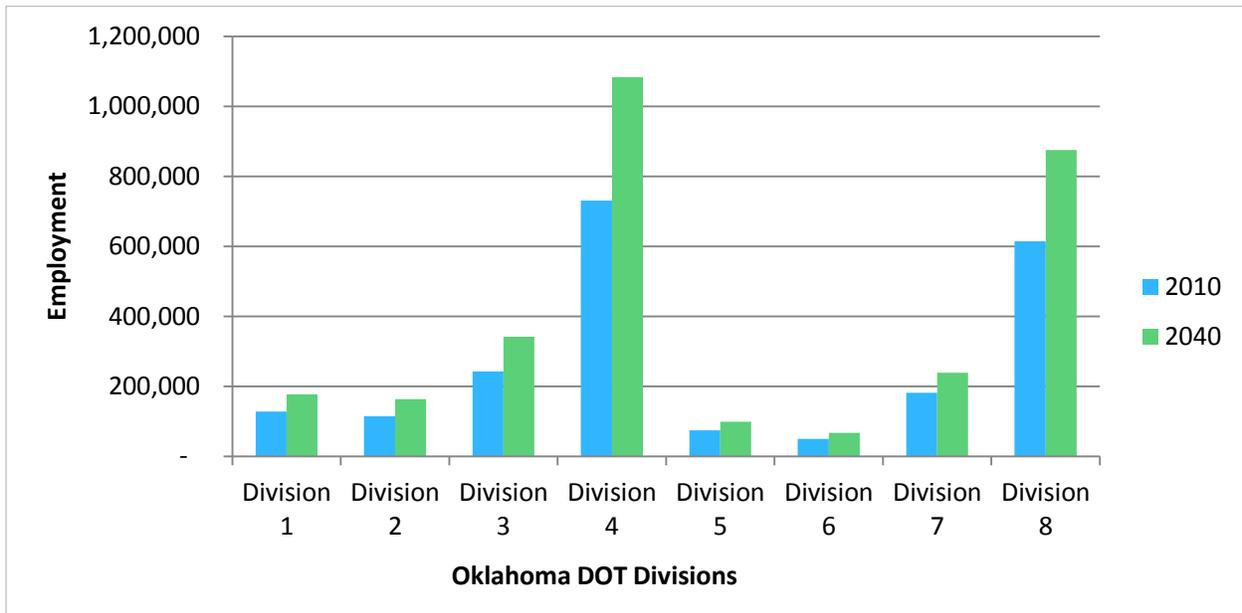
Figure 5-7 illustrates the projected employment change by ODOT Division. Areas with higher employment provide an indicator of where transportation improvements may be most needed in the future.

Figure 5-6. Historic and Projected Employment in Oklahoma, 2000 to 2040



Year 2000, 2005, 2010 historic employment; Year 2015-2040 projected employment
 Source: Woods and Poole Inc., 2014

Figure 5-7. Change in Employment by Oklahoma DOT Division, 2010 and 2040



Source: Woods and Poole Inc., 2014

5.2.2. Unemployment Rate

The unemployment rate measures the percentage of people who are without work and is calculated by dividing the estimated number of unemployed people by the civilian labor force. The result expresses unemployment as a percentage of the labor force.

Oklahoma’s annual average unemployment rate decreased to 4.5 percent in 2014. This rate tied with Kansas for the 11th-lowest employment rate among all states. Oklahoma’s jobless rate declined in December 2014 to the lowest level since the onset of the state’s last recession in 2008-2009.

Figure 5-8 illustrates the U.S. unemployment rate compared to that of Oklahoma from January 2005 to January 2015. Throughout this 10-year period, Oklahoma’s rate has been lower than the U.S. rate.

5.2.3. Industry Employment Projections, 2012 to 2022

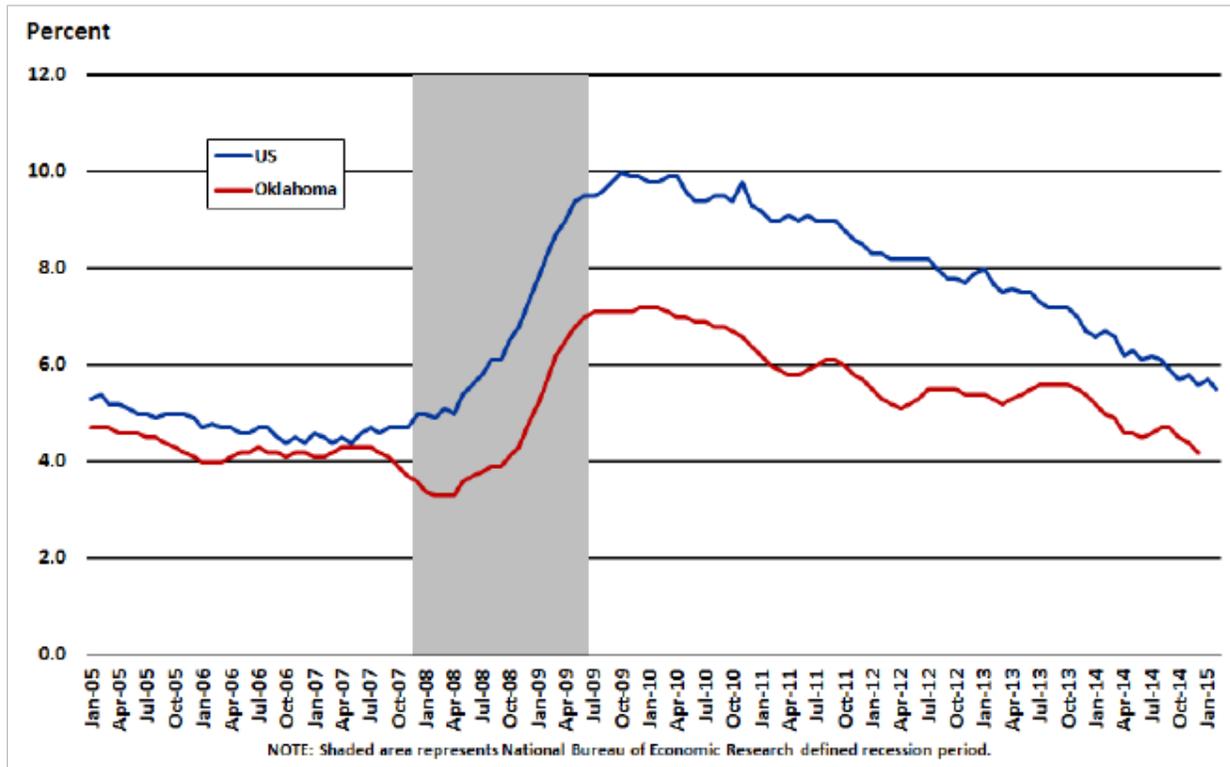
Industry employment projections are produced by the Oklahoma Employment Security

Commission every other year. Long-term industry employment projections help transportation decision-makers understand the types of industry that are depending on the transportation system, and how those industry needs may impact future transportation demand. Figure 5-9 illustrates forecasted industry employment projections from 2012 to 2022.

According to the Oklahoma Economics Indicator report, employment in Oklahoma is expected to grow by 10 percent by 2022 and add 175,070 jobs to the state's economy. All but one of Oklahoma's major industry sectors (information) are projected to grow by 2022.

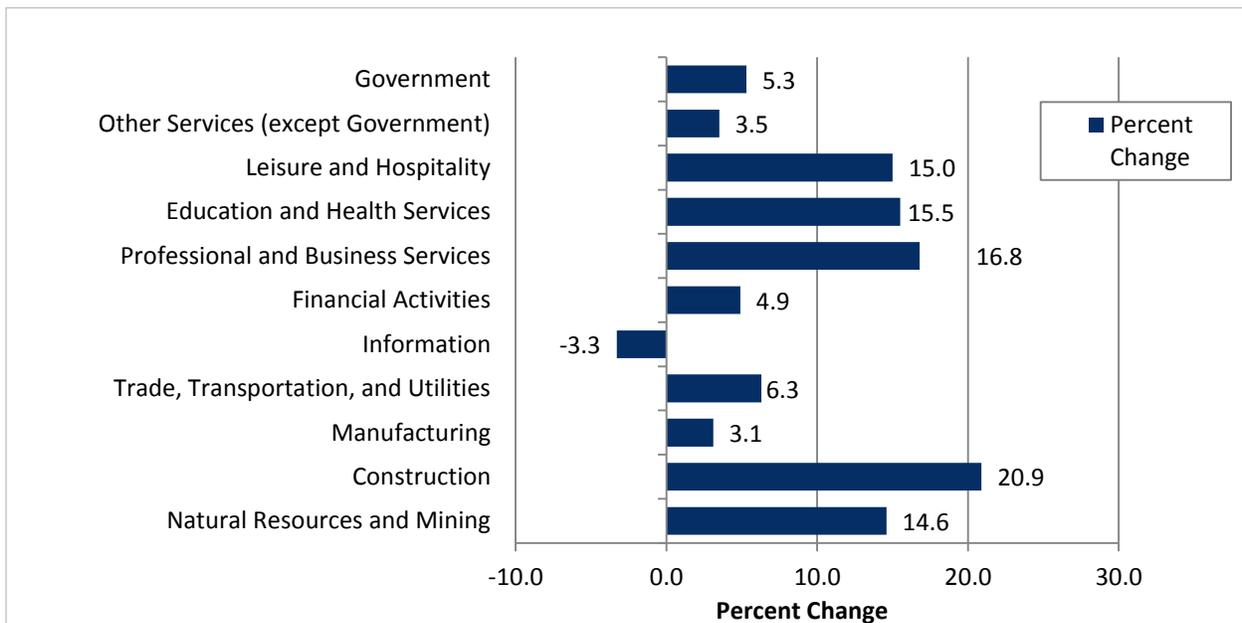
The construction industry is forecasted to have the largest increase in employment by 2022, at almost 21 percent. Employment growth in the natural resources and mining sector follows closely adding 11,010 jobs from 2012 to 2022. Manufacturing employment is expected to grow more slowly, at a rate of 3.1 percent, adding 4,150 jobs. The information sector is forecasted to lose jobs at a rate of 3.3 percent by 2022.

Figure 5-8. U.S. and Oklahoma Unemployment Rate (Seasonally Adjusted)



Source: U.S. Department of Labor, Bureau of Labor Statistics; Oklahoma Economic Indicators, Oklahoma Employment Security Commission and Economic Research and Analysis Division.

Figure 5-9. Oklahoma Long-Term Industry Employment Projections, 2012 to 2022



Source: Current Employment Statistics (CES); U.S. Department of Labor, Bureau of Labor Statistics; Oklahoma Economic Indicators report.

5.2.4. Commuting Patterns

The average travel time to work for Oklahoma workers is 21 minutes. Over 80 percent of the population that commutes to work drives alone, according to recent Census data. Those who drive alone to work average 20 minutes per commute; those who carpool average 24.5 minutes per commute, and those who use public transportation average 36.4 minutes per commute. **Table 5-3** shows that over 14.3 percent of all workers use an alternative mode of transportation to work: carpooling, public transit, walking, biking, telecommuting or another means. Those with a disability are more likely to use an alternative mode of travel than to drive alone, as compared to the overall population. Travel to work characteristics naturally vary by county and

by ODOT Division. A useful view of travel time involves the percentage of workers commuting less than 20 minutes and the percentage commuting more than 60 minutes. These capture the nominal, as well as the more arduous (or “extreme”) commutes.

Approximately 54 percent of the state’s workers arrive at work in less than 20 minutes. However, the number of what has been termed as “extreme commutes” constitutes over 4.4 percent of Oklahoma work trips. Divisions 1 and 5 (eastern and southwest Oklahoma) have the highest share of journey to work trips that are over an hour in length, while Division 2 in far southeast Oklahoma has the state’s highest share of workers leaving the state for employment, as shown in **Table 5-4**.

Table 5-3. Oklahoma Worker Commute by Mode and Travel Time, 2012

Commuting To Work	Total Population	With a Disability
Workers 16 years and over	1,682,277	122,517
Car, truck, or van - drove alone	82.3%	75.7%
Car, truck, or van - carpooled	10.4%	13.1%
Public transportation (excluding taxicab)	0.4%	0.8%
Walked	2.0%	3.0%
Other means	1.5%	2.7%
Worked at home	3.3%	4.7%
Mean travel time to work (minutes)	21.1	
Car, truck, or van - drove alone*	20.0	
Car, truck, or van – carpooled*	24.5	
Public transportation (excluding taxicab)*	36.4	

Source: U.S. Census Bureau, 2012 American Community Survey, Table S0201, S1811

*2009 American Community Survey, Table S0802

Table 5-4. Oklahoma Division Travel to Work Characteristics, 2008-2012

ODOT Division	Percent Commuting Less than 20 Minutes	Percent Commuting 60+ Minutes	Percent Employed Out of State
Division 1	47.8%	7.0%	7.1%
Division 2	56.7%	6.2%	11.3%
Division 3	49.7%	5.7%	1.0%
Division 4	53.9%	3.1%	1.1%
Division 5	67.7%	7.2%	2.4%
Division 6	69.6%	5.0%	7.7%
Division 7	60.9%	4.3%	1.9%
Division 8	51.4%	3.7%	2.4%
State	53.7%	4.4%	2.7%

Source: U.S. Census Bureau, 2012 American Community Survey, Table B08130

According to the U.S. Census, 2012 American Community Survey, a majority of Oklahoma’s resident workers (nearly three-quarters) are employed within their county of residence. Conversely, over a quarter travel to destinations outside of their home county for employment, underscoring the importance of transportation to sustaining the state’s economy. A few of the state’s counties (Canadian, McClain, Logan, Osage, Pawnee, Rogers, and Wagner) export over half their resident workforce to destinations outside of the home county for employment. The Oklahoma City and Tulsa metro employment centers attract people who live in other counties.

Figure 5-10 illustrates the census tract locations in Oklahoma that are likely to have a transit need. The transit need index is based on the percentage of households without access to a vehicle; percentage of mobility limited population; percentage of older population; and percentage of persons living below poverty.³

5.2.5. Vehicle Ownership

According to the U.S. Census 2012 American Community Survey, approximately 77 percent of state households have access to two or more vehicles (**Figure 5-11**). Compared to 2000, multiple vehicle ownership per household increased by 19 percent in 2012. The percentage of households with no vehicle available decreased over the same time period from 7 percent in 2000 to 2.1 percent in 2012.

5.2.6. Income and Poverty Status

In 2012, Oklahoma’s median household income was \$44,312, about 18 percent less than the U.S. median income of \$53,046 (**Table 5-5**).

Table 5-5. Oklahoma Median Earnings, 2012 Estimates

Median Income	Earnings
Median Household Income	\$44,312
Median Family Income	\$54,988
Married-couple family	\$66,096
Male head of household, no spouse present	\$39,600
Female head of household, no spouse present	\$26,661

Source: U.S. Census Bureau, 2012 American Community Survey Table S0201

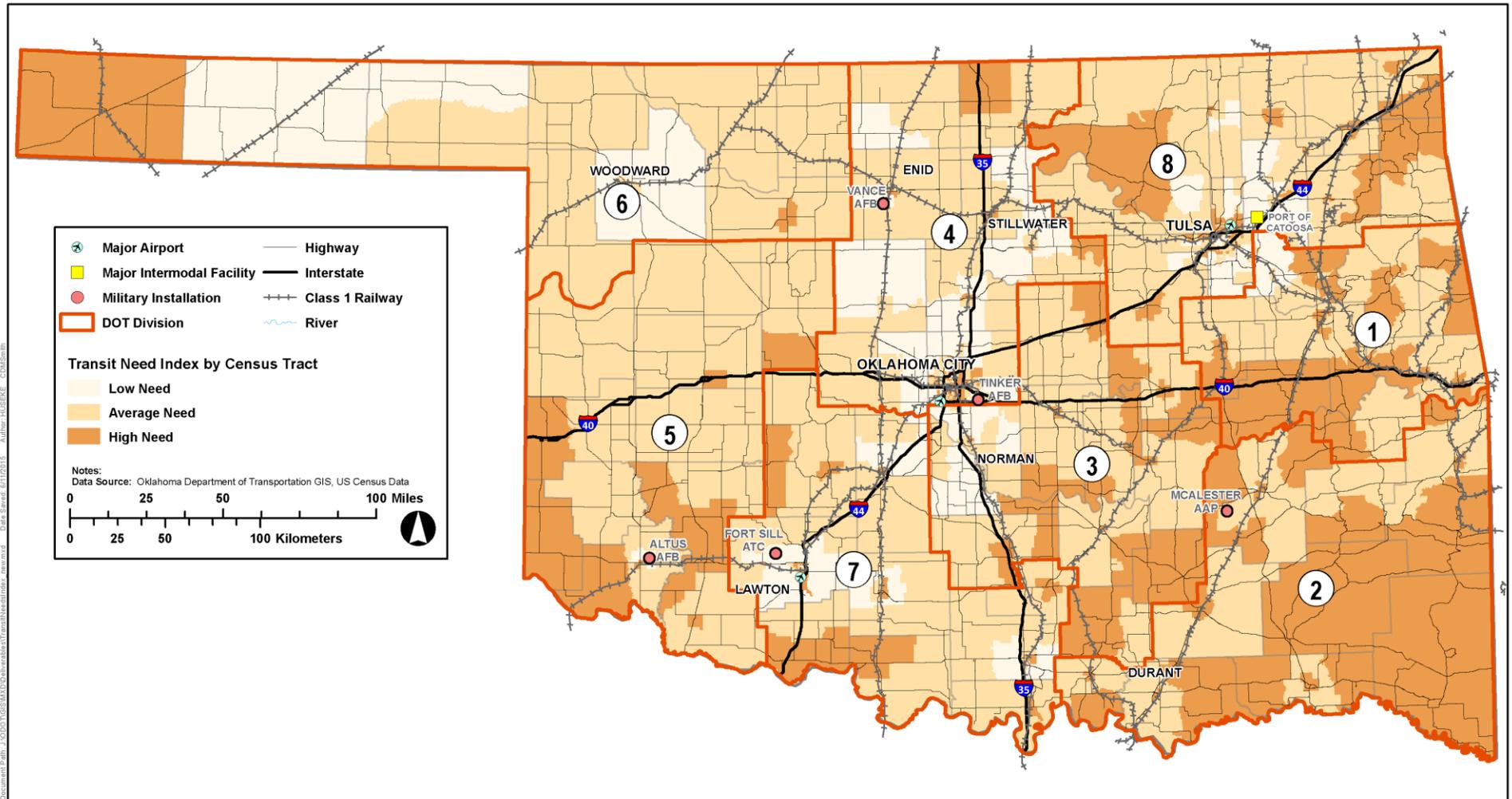
Approximately 13 percent of all families and nearly 35 percent of all families with a single female head of household are living in poverty. Seventeen percent of all people within the state are living below the poverty line; and 24 percent of all children are living in poverty, as shown in **Table 5-6**. Persons living below poverty and households without access to a vehicle are likely to have a greater dependence on public transportation.

Table 5-6. Oklahoma Poverty Rates for Families, 2012 Estimates

Poverty Rate	Percent
All families	13.1%
Married-couple family	6.7%
Female head of household, no husband present, family	35.4%
All people	17.2%
Under 18 years	24.1%
18 to 64 years	16.1%
65 years and over	9.9%

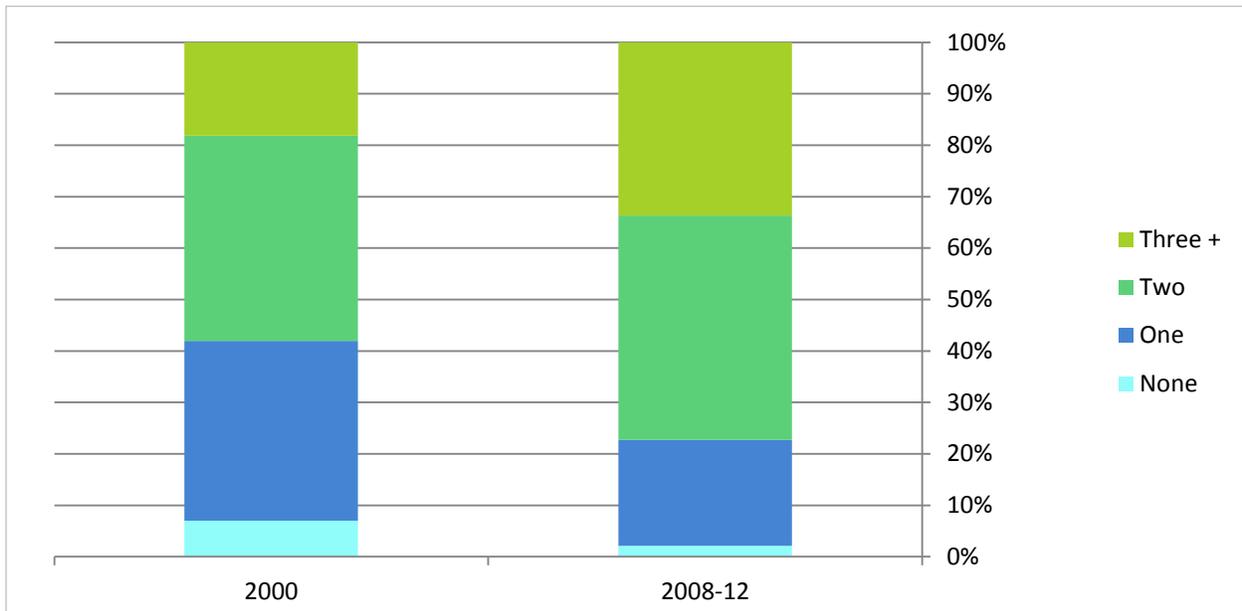
Source: U.S. Census Bureau, 2012 American Community Survey Table S0201

Figure 5-10. Oklahoma Transit Needs Index, 2010



Source: U.S. Census Bureau; CDM Smith Inc. analysis

Figure 5-11. Vehicles Available Per Household, Oklahoma, 2000; 2008-2012



Source: 2000 U.S. Census Bureau, 2008-2012 American Community Survey

5.3. LAND USE TRENDS

Transportation and land use are closely linked. Everything that happens to land use has transportation implications, and every transportation action affects land use. State departments of transportation often influence land development by providing infrastructure to improve accessibility and mobility, as well as through transportation-related regulations.

In Oklahoma, there are no statewide mandates that require land use planning. However in 1923, the Oklahoma Legislature enacted Section 401-425 of Title 11 of the Oklahoma Statutes that established the scope, procedures, and limitations for planning for cities and towns in the state. This legislation authorized the establishment of a city planning commission and a zoning commission, as well as granted authority to hire staff and conduct planning within the municipalities. Section 865.51 of Title 19 of the Oklahoma Statutes gave similar authority to county planning commissions and boards of adjustment. While ODOT does not have authority over land use, the projects it administers must be coordinated with local land use considerations as they move forward.

5.4. TRANSPORTATION IMPLICATIONS

The state’s total population is increasing, affecting future demand for travel statewide.

Total population is expected to increase by 16 percent between 2015 and 2040. All ODOT Divisions except Division 5 (west central Oklahoma) are expected to register increases in total population. A trend that Oklahoma is experiencing is rural outmigration to the urban counties located near Tulsa and Oklahoma City. This trend is likely related to access to jobs and training and educational opportunities.

In terms of race and ethnicity, the state largely remains homogeneous, but has been diversifying in recent years.

Total Hispanic population has climbed sharply since the turn of the century, increasing by 85 percent to over 330,000 persons. Changes in the composition of the state’s population suggest that ODOT will need to adopt a customized strategy for communicating with its constituents.

The total number of senior users of the state's transportation system is expected to increase by over 50 percent through 2040. Seniors' share of the state's total population will grow from 13.5 percent in 2012, to approximately 17 percent by 2040. The state will need to respond to this demographic group in how it provides transportation services and designs its projects.

Oklahoma workers overwhelmingly rely on the private automobile for their journey to work trips. More than four in five Oklahomans currently drive alone, while an additional 10 percent carpool.⁴ Also, a significant number of Oklahoma workers travel outside their county of residence for employment. The number of Oklahoma households that now have access to a vehicle has grown from 93 percent in 2000 to 97.9 percent in 2012. These three facts alone underscore the importance that transportation, particularly, the state's highways and bridges, has in facilitating the movement of workers to jobs and powering the state's economy. Additionally, as more senior workers (the baby boom generation) decide to remain in the workforce, more attention will need to be given to other modes, such as carpooling and public transportation, as these worker groups tend to shift away from single occupant vehicle (SOV) travel over time.

The state's total employment by industry is also evolving, with increases in construction, natural resources and mining, and other industries that are particularly dependent on transportation. High-level employment trends from the state's employment projections program indicate that the industries that are growing in importance to the state's economy are generally more reliant on transportation and the movement of people and goods.

The authority to manage land use remains with the state's cities, towns, and counties. ODOT needs to continue to coordinate project planning with local government land use planning processes, as it makes decisions regarding the state's transportation infrastructure.

Transportation policy should be in harmony with local land use decisions in order to ensure the safety and capacity of transportation projects that are being designed and constructed.

5.5. CONCLUSION

Oklahoma is experiencing a steady rise in population and economic growth, resulting in an increase in demand on Oklahoma's transportation system. Income and poverty can create a greater dependence on public transportation. With these socioeconomic characteristics, the transportation system will experience more use, leading to issues such as deterioration, congestion, and potential safety concerns. Understanding the users of the transportation system and their mobility needs can help inform public policy as it relates to the delivery of transportation projects and services. These transportation needs are further discussed in **Chapter 8**. ODOT's proposed policies are discussed in **Chapter 11**.

5.6. ENDNOTES

¹ *Diamondback Correctional Facility. Watonga, Okla. -- The Diamondback Correctional Facility has a capacity of 2,100 prisoners. Facility closed in 2010.* <http://oklahomawatch.org/2013/09/19/vacant-private-prisons-in-oklahoma-may-re-open/>

² *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994. Poverty thresholds are the dollar amounts used by the U.S. Census Bureau to determine poverty status. The thresholds vary according to the size of the family and the ages of the members. For example, the poverty threshold for a family of four was \$23,492 in 2012.*

³ *The transit need index is designed to assess the relative need for public transportation services across the State of Oklahoma. It entails an analysis of households and populations that may have limited mobility options. Data is from the U.S. Census Bureau. See endnote two on definition for poverty thresholds.*

⁴ *U.S. Census Bureau, 2012 American Community Survey, Tables S0201 and S1811.*

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