

Oklahoma's State of Health: The People, the Economy, and the Environment

2018 – 2022

Oklahoma  Tourism
and Recreation Department



2017 Statewide Comprehensive Outdoor Recreation Plan
The 2017 Oklahoma SCORP

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Acknowledgements

As a part of the legacy of the 1960s, the United States Congress implemented the Outdoor Recreation Resources Review Commission and, for the first time in the history of humans, a nation documented its natural resources with a focus on outdoor recreation. That review led to authorization of the Land and Water Conservation Fund (LWCF) – a grant program to aid states and sub-state units in acquiring and developing outdoor recreation resources to meet needs of a changing society. Over the balance of the 20th century and continuing into the 21st century, society and technology related to outdoor recreation changed dramatically. Oklahoma has benefited greatly from grants through LWCF, as have cities, towns, and schools across the state. Tennis courts, parks, trails, campgrounds, and picnic areas remain as the legacy of LWCF and statewide planning.

Oklahoma has sustained a commitment since 1967 to complete the federally mandated Statewide Comprehensive Outdoor Recreation Plan (SCORP) every five years. That commitment has maintained the eligibility of Oklahoma and its constituents to receive LWCF grants. That commitment is noteworthy!

Oklahoma has passed numerous milestones, grown in population, and remained committed to outdoor recreation as a major component of life in the state. Evidence of that commitment is shown in securing and managing public resources across the state. However, evidence of increasing stresses and demands for all resources demands significant planning to ensure the health of Oklahoma's people, its environment, and its economy.

The authors desired to meet federal expectations, to represent the interests of Oklahomans, and to present a plan that offers a secure future for Oklahoma and its people. "We know we belong to the land; and the land we belong to is grand."

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"In America many would demand what in other lands had been reserved for the few. Parks . . . are the best expressions of this ideal. . . They belong to all Americans. There is, then a symbolic significance to public recreation that transcends its everyday meaning. In a nation committed to equality . . . (parks) are the poor person's property."

Alexis de Tocqueville

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Figure F.1 – “Motorized consumptive” outdoor recreation



Oklahoma is a decade into its second century of statehood, having past that milestone in 2007. Over the first century of statehood, the face of Oklahoma changed. The landscape changed with development of cities, roads, highways, and lakes. The population changed with multiple waves of settlement comprised of a diverse range of people. The economy changed – sometimes based on agriculture; sometimes focused on energy; always reflecting the resources of the state and the productivity of the people. Lifestyles have changed as well, reflecting the behaviors, activities, and opportunities linking Oklahomans to the land and to the economy. As a result, it is essential that a foundation for the second century of statehood includes planning to achieve quality of life and provides the best opportunities in Oklahoma-lifestyle for residents and visitors to the state.

The preparation of this Statewide Comprehensive Outdoor Recreation Plan (SCORP) for Oklahoma marks the 11th generation of such planning documents in compliance with the Land & Water Conservation Fund Act of 1965 (P.L. 88-578, 16 U.S.C. § 460l-4 through 460l-11). That act provided for assistance in preserving, developing, and assuring accessibility to outdoor recreation resources, to strengthening the health and vitality of citizens, and to providing funds and authorizing federal assistance to the states. As a result, the National Park Service has provided \$60,359,120 in Land & Water Conservation Fund (LWCF) grants to and through the State of Oklahoma since 1965. Much of that funding has been directed to local providers of recreation – cities, towns, and schools.

Since 1965, Oklahoma has received more than \$60 million in LWCF grants distributed across the state in 1,548 projects.

State participation in the LWCF requires the preparation of a SCORP every five years as specified in Section 6(d) of the LWCF Act of 1965 as amended. Each SCORP requires the approval of the National Park Service and serves as a principal determinant in eligibility for grant funds from the federal government to the state. The LWCF Act requires that each SCORP includes:

1. The identity of the state agency having authority to represent and act for the state in dealing with the Secretary of the Interior for the purposes of the LWCF Act of 1965;
2. An evaluation of the demand for and supply of outdoor recreation resources and facilities in the state;
3. A program for the implementation of the plan;
4. Certification by the Governor that ample opportunity for public participation has taken place in the development of the plan; and
5. Other necessary information as may be determined by the Secretary of the Interior. This includes:
 - a. A description of the processes and methodologies chosen by the State to complete the SCORP;

- b. Ample opportunity for public participation involving all segments of the state's population;
- c. Comprehensive coverage of the issues of statewide importance, demand or preferences for public outdoor recreation, and supply of outdoor recreation resources and facilities;
- d. An implementation program that identifies the state's strategies, priorities, and actions for apportionment of LWCF monies; and
- e. A wetlands priority component consistent with Section 303 of the Emergency Wetlands Resources Act of 1986.

Passed by Congress in 1964, the Land and Water Conservation Fund (LWCF) Act was created to provide funds for the acquisition and development of public lands to meet the needs of all Americans for outdoor recreation and open space. Originally funded through revenues sales of surplus Federal real property, motorboat fuel taxes and fees for recreation use of Federal lands, and later from offshore oil and gas receipts, the LWCF now relies upon appropriation by Congress. Once appropriated, funds are allocated through a federal program and a stateside matching grant program.



**Figure F.2 –
LWCF logo**

- The federal program funds the purchase of federal agency land and water areas for conservation and recreation purposes. Congress appropriates these funds directly to federal agencies on an annual basis.
- The stateside matching grants program assists state and local governments in acquiring, renovating, developing, and expanding high quality outdoor recreation areas and facilities.

Oklahoma State University contracted to prepare this SCORP with the Oklahoma Tourism and Recreation Department (OTRD) as the state agency with authority to represent and act for the State of Oklahoma regarding the LWCF. This SCORP was prepared in compliance with the law; however, its intended audience includes resource managers, governmental decision makers, outdoor recreation enthusiasts, residents and visitors to Oklahoma.

To prepare the SCORP, the authors conducted multiple meetings and surveys to acquire the essential public input. These efforts included a statewide survey of cities and towns in Oklahoma (Appendix A), a survey of recreation professionals as members of the Oklahoma Municipal League (Appendix A), a survey of Oklahoma residents (Appendix B), a survey of trail users and advocates (Appendix C), and hosted two Recreation Rallies – one in Tulsa and one in Oklahoma City – to which members of the public and representatives of public and private recreation service providers were invited (Appendix D). In addition, public input was provided through cited research pertinent to the recreation needs and issues of the people of Oklahoma and those who visit the state for recreational experiences.

The SCORP is organized as follows:

- *Executive Summary*: a summary of the 2017 statewide comprehensive outdoor recreation plan for Oklahoma;

- *Oklahoma – The People and Their Health*: a description and analysis of the people who live in, rely upon, and enjoy Oklahoma’s great outdoors with emphasis upon their quality of life;
- *Oklahoma – The Economy and its Health*: a description and analysis of the Oklahoma economy, the constraints that economic conditions place on citizens and management of recreation resources, and the economic impacts of recreation, travel, and tourism on Oklahoma;
- *Oklahoma – The Environment and its Health*: a description of the recreation resources available in Oklahoma’s great outdoors, the management of those resources, and the status of the Oklahoma environment;
- *Oklahoma Trails*: an updating of discussions and issues related to recreational trails in Oklahoma; and
- *Oklahoma – The Outdoor Recreation Plan*: issues to be addressed and actions to be implemented during 2018 – 2022 to protect, preserve, and provide for the enjoyment of Oklahoma’s great outdoors.



Figure F.3 – Organization of the 2017 Oklahoma SCORP

“If bread is the first necessity of life, recreation is a close second.”

Edward Bellamy

“Recreation is a perpetual battlefield because it is a single word denoting as many diverse things as there are diverse people. One can discuss it only in personal terms.”

Aldo Leopold



Figure F.4 – Oklahoma State Park campgrounds in use



Executive Summary of the 2017 Oklahoma SCORP



- Oklahoma's population of 3.9 million people faces daunting challenges related to their health including:
 - 12th highest rate of death due to cancer in the nation;
 - 3rd highest rate of death due to heart disease in the nation;
 - 4th highest rate of death due to stroke in the nation;
 - Highest rate of death due to chronic lower respiratory disease in the nation;
 - 4th highest rate of death due to diabetes in the nation;
 - 50% increase in death due to unintentional injuries from 2000 to 2012;
 - Next to lowest rate of fruit consumption in the nation;
 - 44th lowest rate of vegetable consumption in the nation;
 - 44th least physically active state in the nation;
 - 6th highest rate of obesity in the nation;
 - Adult smoking rate of 21.1% compared to 18.1% nationally.
- Oklahoma's economy and the people of Oklahoma have been stressed over the past five years, with Oklahomans experiencing incomes below national averages, poverty levels above national averages, and a changing work environment.
 - Annually, outdoor recreation and tourism generates about 95,000 direct jobs, \$8.4 billion in consumer spending, \$2.5 billion in wages and salaries, and \$584 million in state and local tax revenues in the Oklahoma economy.
- Oklahoma's environment was ranked as 6th worst in the United States by the *Wall Street Journal* based on factors including:
 - Problematic air and water quality;
 - Limited public recreation space accessible to the population;
 - High homicide rates and low voter turnout.
- Oklahoman's want access to and provision of more recreational trails.
 - Oklahoma needs to update its now outdated statewide trail plan.
 - Oklahoma lacks long trails that cross jurisdictional boundaries.
 - Oklahoma is missing out on health and economic benefits offered by trails.



**THE HEALTH OF THE OKLAHOMA
ENVIRONMENT IS DIRECTLY LINKED TO
THE HEALTH OF THE OKLAHOMA
PEOPLE AND THE HEALTH OF THE
OKLAHOMA ECONOMY.**

Focus of the 2017 Oklahoma SCORP



Figure Exec Sum 1.0 – Oklahoma Priorities for 2018 – 2022

The priority issues to be addressed by Oklahoma as part of the Statewide Comprehensive Outdoor Recreation Plan for 2018 – 2022 remain consistent with those identified in 2012. Several of these priority issues have been consistent from year-to-year, varying slightly over time, but becoming increasingly difficult and more urgent to address. Oklahoma cannot delay action without adverse effects on the health of the Oklahoma people, the health of the Oklahoma economy, and the health of the Oklahoma environment.

Introduction

Outdoor recreation provides opportunities for people to connect and interact with the natural environment. Time spent outdoors leads to a range of benefits, from reduced obesity rates to strengthened family ties. Regular outdoor activity provides a number of physical health benefits, including weight loss and lowered risk of diabetes, certain cancers, and cardiovascular disease. Outdoor recreation sites provide the setting for physical and mental growth. Literature indicates that leisure behavior and recreational pursuit changes based on the place of residence and geographic environment.

The 2017 Oklahoma's Statewide Comprehensive Outdoor Recreation Plan (SCORP) offers an opportunity to view the state's recreational resources and management issues collectively and is intended to guide outdoor recreation managers and decision-makers on policy making and funding issues. SCORP provides Oklahoma decision-makers an analysis of the most significant outdoor recreation issues facing the people of Oklahoma and suggests strategies to address these issues during the next five years. The purpose of this chapter is to provide information about the people of Oklahoma and their health which is foundational to the statewide comprehensive outdoor recreation plan.

Population Distribution in Oklahoma

Population growth and changing demographics have a significant effect on outdoor recreation. With a growth in population, recreation demands and participation in outdoor recreation changes. Population growth may also lead to exceeding the capacity of some recreation areas and facilities. The 2015 population of Oklahoma is 3,911,338 which represented a 4.3% increase since 2010. The growth rate of Oklahoma shows a higher rate than the national average of 4.1%. To accommodate the population increase, there is a need to develop more recreational facilities and provide more recreational opportunities.

According to 2015 census estimates, approximately 6.9% of the Oklahoma population is under the age of five which is slightly higher than the national average of 6.2%, and 24.6% of the Oklahoma population is under the age of 18, also slightly higher than the national segment of 22.9%. On the other end of the age spectrum, 14.7% of Oklahomans are 65 years of age or older in 2015, while the national percentage in this age category is 14.9%. All of these percentages are close to the national averages.

Race and Ethnicity of the People of Oklahoma

Studies show that race and ethnicity have an important influence on recreation preferences and behaviors. Differences between the state and national figures are evident within the various race and ethnicity groups. Oklahoma has a smaller percentage of Whites, Blacks (African Americans), Asians, and Hispanic or Latino persons than is true at the national levels (See Table 1.1). On the other hand, the percentage of American

Indians (9.1%) is much greater than that shown across the nation (1.2%) and the percentage of persons reporting two or more races (6.0%) is considerably higher than the national level (2.6%). Oklahoma has seen an increase within the various minority populations according to the 2015 census which is true at the national level as well.

Table 1.1 – Population by Race/Ethnicity between 2010 and 2015

Race or Ethnicity	2015		2010	
	Oklahoma	United States	Oklahoma	United States
White	74.8%	77.1%	72.2%	72.4%
Black	7.8%	13.3%	7.4%	12.6%
American Indian or Alaskan Native	9.1%	1.2%	8.6%	0.9%
Asian	2.2%	5.6%	1.7%	4.8%
Native Hawaiian or other Pacific islander	0.2%	0.2%	0.1%	0.2%
Persons reporting Hispanic/Latino origin	10.1%	17.6%	8.9%	16.3%
Persons reporting two or more races	6.0%	2.6%	5.9%	2.9%
Persons speaking a language other than English at home (5 years and older)	9.8%	21.0%	9.1%	20.6%

Source: U.S. Bureau of Census (2010 & 2015)

Disability Conditions among the People of Oklahoma

Legislation requires that outdoor recreation agencies be inclusive of all people. Outdoor recreation is an important experience that carries numerous benefits for people with and without disabilities. The Americans with Disabilities Act has increased the accessibility of many outdoor recreation resources for people with disabilities in Oklahoma. 15.6% of Oklahoma population (597,084 Oklahomans) reported one or more disabling condition in 2015. Oklahoma's disability rate is higher than the overall national rate of 12.6%. Table 1.2 reports the percentage of the population by age for people with one or more disabilities.

Table 1.2 – Disability by Age Group in Oklahoma

Percentage of age group with a disabling condition	Oklahoma		United States	
	Number of persons with disability	Percentage of persons with disability	Number of persons with disability	Percentage of persons with disability
Total population	597,084	15.6%	39,906,328	12.6%
Under 5 years old	3,304	1.3%	148,609	0.8%
5 – 17 years old	43,063	6.2%	2,885,179	5.4%
18 – 34 years old	65,452	7.3%	4,433,365	6.0%
35 – 64 years old	255,028	18.0%	5,978,181	13.0%
65 – 74 years old	107,751	32.8%	6,917,845	25.4%
75 years old and above	122,486	53.3%	9,543,149	49.8%

Source: U.S. Bureau of Census (2015)

In Oklahoma, more than 53% of the persons 75 years old and above have at least one type of disability. Oklahoma's disability rate is higher than the national average in all age categories and it is going to continue as the population continues to age.

The percentage of Oklahoma population with different types of disability is shown in Table 1.3. The numbers indicate that ambulatory difficulty is the most reported type of disability present among the people of Oklahoma.

Table 1.3 – Disability Type in the Oklahoma Population

Disability type	Number of persons with disability	Percentage of persons with disability
With a hearing difficulty	189,396	4.9%
With a vision difficulty	128,037	3.3%
With a cognitive difficulty	208,732	5.9%
With an ambulatory difficulty	322,083	9.0%
With a self-care difficulty	104,672	2.9%
With an independent living difficulty	190,438	6.6%

Source: U.S. Bureau of Census (2015)

Disabling conditions can vary by ethnicity and race. Table 1.4 reports the disabling conditions based on race and ethnicity in Oklahoma. The American Indian or Alaskan Native, White, and Black population reported a higher percentage of people with disability, while Asian and Hispanic/Latino population have reported relatively lower rates of disabilities.

Table 1.4 – Disability by Race and Ethnicity in Oklahoma

Race	Number of persons with disability	Percentage of persons with disability
White	450,062	16.1%
Black	42,915	15.9%
American Indian or Alaskan Native	48,707	17.3%
Asian	5,173	6.7%
Persons of Hispanic/Latino origin	28,179	7.2%
Persons reporting two or more races	41,977	13.9%

Source: U.S. Bureau of Census (2015)

Health Issues among the People of Oklahoma

Outdoor recreation can play an important role in achieving long-term public health goals. Health and wellness have been shown to be critical components of how and why people recreate. Physical activity and outdoor recreation can play a key role in reducing obesity and other health conditions. Oklahoma should strive to provide access and opportunities for recreation to residents of all races, ages, abilities and socioeconomic levels to meet the Center for Disease Control recommendation of a minimum of 30 minutes of physical activity a day.

The Oklahoma State Department of Health provides a comprehensive picture of Oklahomans' health in the 2014 State of the State's Health Report. Unhealthy lifestyles, lack of physical activity, not consuming fruit and vegetable, along with a high rate of smoking and obesity contribute to most of the leading causes of death. Oklahoma ranks 44th in overall health status of its residents compared to the other states in the nation (1st is the best, 50th is the worst).

Leading causes of death [OK Dept. of Health]		
(Rate per 100,000 population)	U.S.	Oklahoma
Heart disease	179.1	235.2
Cancer	172.8	191.3
Strokes	39.1	50.0
Respiratory disease	42.2	67.4
Unintentional injury	38.1	60.5
Diabetes	20.8	26.9

Oklahoma has the fourth highest rate of death from all causes in the United States which is 23% higher than the national rate. Oklahoma's mortality rate dropped 5% over the past 20 years while at the national level, mortality rate dropped 20%. Oklahoma is showing signs of improvement in infant mortality rates. However, the state is still not keeping up with the rest of the nation. Oklahoma has a higher rate of deaths due to heart disease, stroke, cancer, chronic lower respiratory disease, and diabetes. The following includes Oklahoma's health summary:

- 12th highest rate of death due to cancer in the nation
- 3rd highest rate of death due to heart disease in the nation
- 4th highest rate of death due to stroke in the nation
- Highest rate of death due to chronic lower respiratory disease in the nation
- 4th highest rate of death due to diabetes in the nation
- 50% increase in death due to unintentional injuries from 2000 to 2012
- Next to lowest rate of fruit consumption in the nation
- 44th lowest rate of vegetable consumption in the nation
- 44th least physically active state in the nation
- 6th highest rate of obesity in the nation
- Adult smoking rate of 21.1% compared to 18.1% nationally

Obesity

There has been an increase in obesity over the past twenty years in the United States. More than one-third (35.7%) of adults in the United States are considered to be obese (U.S. Department of Health and Human Services, 2010). An estimated \$190.2 billion is spent on obesity-related health issues each year, representing 21% of annual medical spending. Obesity is a contributor to many causes of death, disability, and cardiovascular disease. Adult obesity rate in Oklahoma is currently 33.9% which is 20.1% higher compared to 2000. According to these reports, Oklahoma ranks the sixth highest in regards to adult obesity rate. Figure 1.1 shows the obesity trends since 1990.

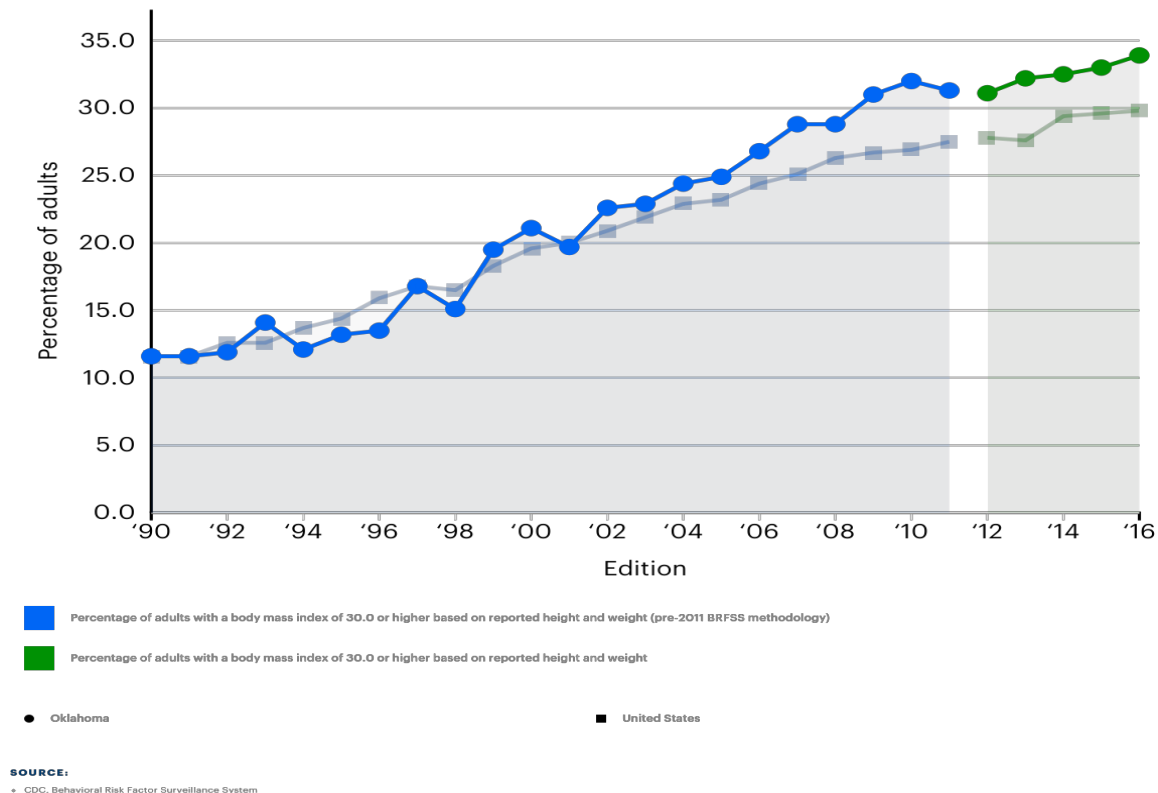


Figure 1.1 – Obesity Trends in Oklahoma and United States

In Oklahoma, a slightly higher percentage of males (33.5%) tend to be obese than females (32.5%). The population of age 45 to 64 has the highest percentage of obesity. According to the 2015 annual report of the United Health Foundation, Oklahoma has higher rates of obesity in every age group compared to the national rates (see Table 1.5).

Table 1.5 – Percentage of Obesity by Age Group

Age Group	Oklahoma	United States
18 – 44 years old	29.7%	25.7%
45 – 64 years old	40.0%	33.9%
65 years old and above	28.9%	27.5%

Source: United Health Foundation 2015 Annual Report

Table 1.6 reports the percentage of obesity by race and ethnicity. The White, American Indian or Alaska Native, and Hispanic population reported a higher percentage of obesity

than is true at the national levels. Asians have the lowest obesity rate at both state and national levels.

Table 1.6 – Percentage of Obesity by Race and Ethnicity

Race	Oklahoma	United States
White	32.9%	27.8%
Black	33.4%	38.9%
American Indian or Alaskan Native	36.4%	33.4%
Asian	7.6%	9.4%
Persons of Hispanic/Latino origin	35.5%	32.2%

Source: United Health Foundation 2015 Annual Report

Studies found that those with more education are less likely to be obese. This is evident in the percentage of obesity rates reported by the United Health Foundation 2015 annual report. As the education level increases, the percentage of obesity decreases at both state and national levels (see Table 1.7). In Oklahoma, obesity is greater among those persons with education levels through high school but declines to 28% for those who are college graduates. Among Oklahoma youth, 14% are obese and an additional 16% are considered to be overweight. Only 37% of high school students had a physical education class at least once per week, and only 31% had daily physical education.

Table 1.7 – Percentage of Obesity by Education Level

Education Level	Oklahoma	United States
Less than High School	37.3%	36.6%
High School Graduate	36.5%	34.3%
Some College	36.6%	33.1%
College Graduate	28.0%	22.3%

Source: United Health Foundation 2015 Annual Report

Obesity prevalence can change based on the income level. People earning less than \$25,000 tend to be more obese while those with an income of \$75,000 or more have a lower rate of obesity at both state and national levels. The statistics indicate that people with higher income are less likely to be obese than those with lower income.

Table 1.8 – Percentage of Obesity by Income

	Oklahoma	United States
Less than \$25,000	38.7%	36.0%
\$25,000 – \$49,999	35.8%	32.8%
\$50,000 – \$74,999	30.8%	30.8%
\$75,000 or more	26.3%	26.3%

Source: United Health Foundation 2015 Annual Report

Urbanicity refers to the impact of living in urban areas at a given time. A review of the published literature suggests that most of the important factors that affect health can be considered within three broad themes: the social environment, the physical environment,

and access to health and social services. People who live in rural areas tend to be more obese than those who live in urban and suburban areas (see Table 1.9).

Table 1.9 – Percentage of Obesity by Urbanicity

	Oklahoma	United States
Urban	30.9%	29.6%
Suburban	34.8%	29.4%
Rural	36.8%	33.1%

Source: United Health Foundation 2015 Annual Report

Physical Inactivity

According to the 2008 Physical Activity Guidelines for Americans, in order to improve health, adults need to do two types of physical activity each week including aerobic and muscle-strengthening. For important health benefits, adults need at least:

- Walking – 2 hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity every week.
- Weight training and muscle-strengthening activities for 2 or more days a week that work all major muscle groups.

Physical inactivity is the percentage of adults who stated doing no physical activity or exercise other than their regular job in the last 30 days. In Oklahoma, 28.3% of adults reported not being physically active at any time within a month: that is higher than the national average of 22.6%.

The many documented health benefits of staying active include reduced obesity, a diminished risk of disease, an enhanced immune system and most importantly, increased life expectancy. Oklahoma's parks, trails and recreational sites are excellent inducements to physical activity. These varied recreational opportunities make physical activity interesting, enjoyable, and encourage life-long fitness habits.

Physical inactivity increases the risk of developing cardiovascular disease, Type 2 diabetes, hypertension, obesity, certain cancers, depression, and premature death. According to the United Health Foundation, America's Health Rankings Senior Report 2016, Oklahoma is ranked 49th in the nation for physical inactivity in adults aged 65 and over. Approximately 39.8% of seniors in Oklahoma are physically inactive (Oklahoma State Department of Health). Physical inactivity is associated with many social and environmental factors including low educational attainment, socioeconomic status, and poverty. Adults in poverty are less likely to be physically active, and low-income adults are less able to afford gym memberships and exercise equipment.

Figure 1.2 on the following page shows the physical inactivity trends since 1990 reported by United Health Foundation.

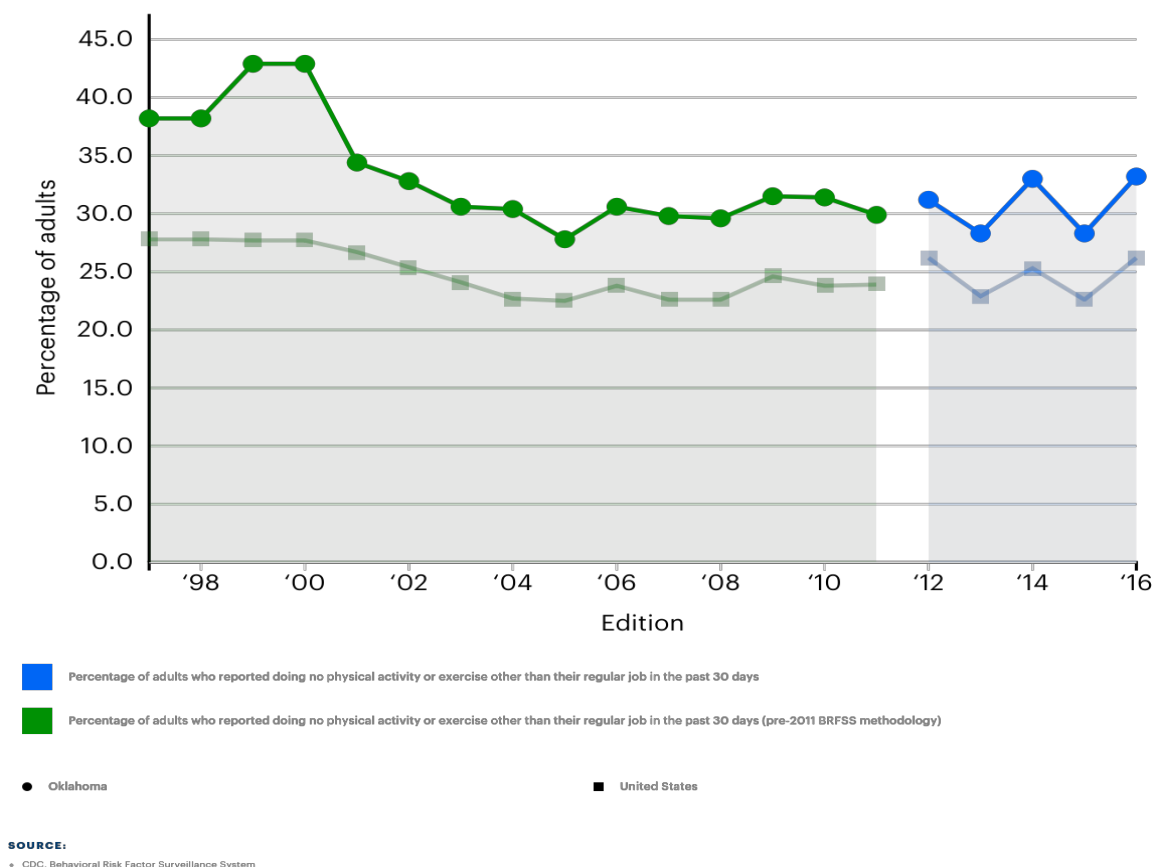


Figure 1.2 – Physical Inactivity Trends in Oklahoma and United States

In Oklahoma, the percentage of females with no physical activity (30.4%) is higher than males who are not physically active (26.2%) which is true at the national level as well. The population of 65 years old and above is the least physically active group. Among adults aged 65 years and older, the prevalence of a sedentary lifestyle increases with age. According to the 2015 annual report of the United Health Foundation, Oklahomans are less physically active in every age group compare to the national rates (see Table 1.10).

Table 1.10 – Percentage of Physical Inactivity by Age Group

Age Group	Oklahoma	United States
18 – 44 years old	21.2%	19.3%
45 – 64 years old	31.7%	25.6%
65 years old and above	39.8%	31.2%

Source: United Health Foundation 2015 Annual Report

Table 1.11 reports the percentage of physical inactivity by race and ethnicity. The White, Asian, and Hispanic population reported a higher percentage of physical inactivity than is true at the national levels. Both Black and American Indian or Alaskan Native population are less physically active in Oklahoma than is true at the national level.

Table 1.11 – Percentage of Physical Inactivity by Race and Ethnicity

Race	Oklahoma	United States
White	28.3%	21.6%
Black	23.5%	28.6%
American Indian or Alaskan Native	26.4%	27.1%
Asian	30.7%	21.4%
Persons of Hispanic/Latino origin	32.5%	29.6%

Source: United Health Foundation 2015 Annual Report

The United Health Foundation 2015 annual statistics show that people with higher education level tend to be more physically active (see Table 1.12). In Oklahoma, physical inactivity is greater among those persons with education levels through high school but declines to 17.1% for those who are college graduates.

Table 1.12 – Percentage of Physical Inactivity by Education Level

Education Level	Oklahoma	United States
Less than High School	43.8%	42.0%
High School Graduate	35.2%	31.7%
Some College	27.4%	22.0%
College Graduate	17.1%	12.2%

Source: United Health Foundation 2015 Annual Report

Physical inactivity prevalence can change based on the income level. People earning less than \$25,000 tend to be less physically active while those with an income of \$75,000 or more reported higher levels of physical activity at both state and national levels. The statistics indicates that people with lower income are more likely to be physically inactive than those with higher income.

Table 1.13 – Percentage of Physical Inactivity by Income

	Oklahoma	United States
Less than \$25,000	41.3%	37.4%
\$25,000 – \$49,999	31.2%	26.8%
\$50,000 – \$74,999	23.4%	19.5%
\$75,000 or more	16.9%	12.2%

Source: United Health Foundation 2015 Annual Report

Urbanization affects lifestyle. People who live in rural areas tend to be more physically inactive than those who live in urban and suburban areas (see Table 1.14). People who live in suburban areas tend to be more physically active in comparison with people who live in urban and rural areas at both state and national levels.

Table 1.14 – Percentage of Physical Inactivity by Urbanicity

	Oklahoma	United States
Urban	31.6%	25.5%
Suburban	26.5%	23.0%
Rural	32.8%	29.3%

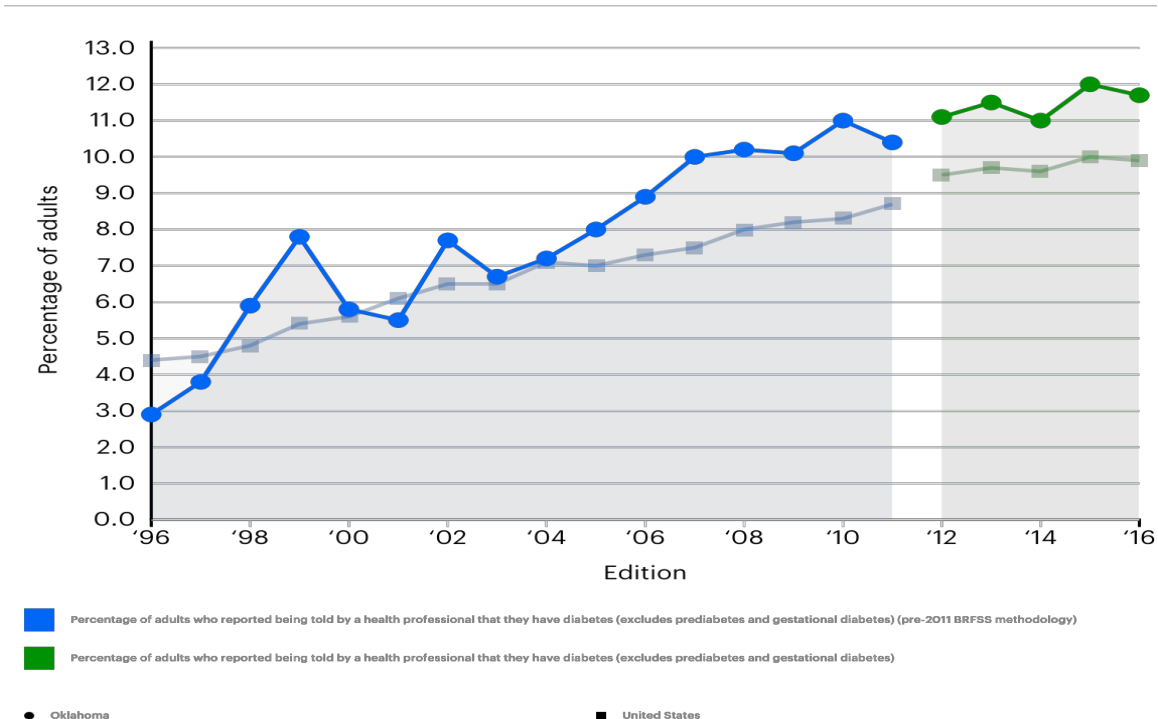
Source: United Health Foundation 2015 Annual Report

Diabetes

Diabetes is the nation's seventh-leading cause of death and contributes to heart disease and stroke. The number of people in Oklahoma with diabetes has been steadily increasing in the past decade, as is true in the United States. The number of Americans with diagnosed diabetes has increased from 5.5 million in 1980 to 21 million in 2014. An additional 8.1 million Americans are estimated to have diabetes, but are not yet diagnosed.

In 2015, 12.0% of Oklahoma adults age 18 and over reported being diagnosed with diabetes by health professionals (United Health Foundation, 2015). Compared to the 10% of American adults diagnosed with diabetes, Oklahoma ranked the seventh highest

Trend: Diabetes, Oklahoma, United States, 2015 Annual Report



SOURCE:
• CDC, Behavioral Risk Factor Surveillance System

AMERICA'S
HEALTH RANKINGS
UNITED HEALTH FOUNDATION

Figure 1.3 – Diabetes Trends in Oklahoma and United States

prevalence of people living with diabetes (United Health Foundation, 2015). Figure 1.3 shows the diabetes trends in Oklahoma and the United States.

In Oklahoma, a slightly higher percentage of males (12.3%) have diabetes than females (11.7%) while at the national level the diabetes rates for males and females are close (10.9% for males and 10.1% for females). The population of age 18 to 44 has the lowest percentage of diabetes and people of 65 years old and above reported the highest incidence of diabetes. According to the 2015 annual report of the United Health Foundation, Oklahoma has a higher rate of diabetes in every age group except people of age 18 to 44 (see Table 1.15).

Table 1.15 – Percentage of Diabetes by Age Group

Age Group	Oklahoma	United States
18 – 44 years old	2.7%	2.9%
45 – 64 years old	18.1%	14.1%
65 years old and above	24.1%	22.6%

Source: United Health Foundation 2015 Annual Report

The percentage of diabetes by race and ethnicity is reported in Table 1.16. Only the White population reported a higher percentage of diabetes than is true at the national levels. The rest of the ethnicities reported lower percentage of diabetes rates at the state level.

Table 1.16 – Percentage of Diabetes by Race and Ethnicity

Race	Oklahoma	United States
White	12.1%	9.8%
Black	12.8%	14.7%
American Indian or Alaskan Native	15.1%	15.1%
Asian	5.1%	7.2%
Persons of Hispanic/Latino origin	8.8%	10.8%

Source: United Health Foundation 2015 Annual Report

According to the United Health Foundation 2015 annual report, the percentage of diabetes rates decreases as the education level increases at both state and national levels (see Table 1.17). The percentage of people with diabetes is greater among those persons with education levels through high school but declines to 9.6% of those who are college graduates.

Table 1.17 – Percentage of Diabetes by Education Level

Education Level	Oklahoma	United States
Less than High School	17.5%	17.9%
High School Graduate	15.1%	13.8%
Some College	13.4%	11.6%
College Graduate	9.6%	7.4%

Source: United Health Foundation 2015 Annual Report

Statistics from the United Health Foundation 2015 annual report indicates that income level have an influence on diabetes rates. People earning \$75,000 or more annually have a lower rate of diabetes at both state and national levels.

Table 1.18 – Percentage of Diabetes by Income

	Oklahoma	United States
Less than \$25,000	18.4%	17.4%
\$25,000 – \$49,999	14.3%	12.4%
\$50,000 – \$74,999	13.4%	9.8%
\$75,000 or more	7.7%	6.9%

Source: United Health Foundation 2015 Annual Report

This trend of diagnosed diabetes in Oklahoma is closely related to the level of urbanization. Suburban residential areas reported to have less seriousness of diabetes prevalence (see Table 1.19).

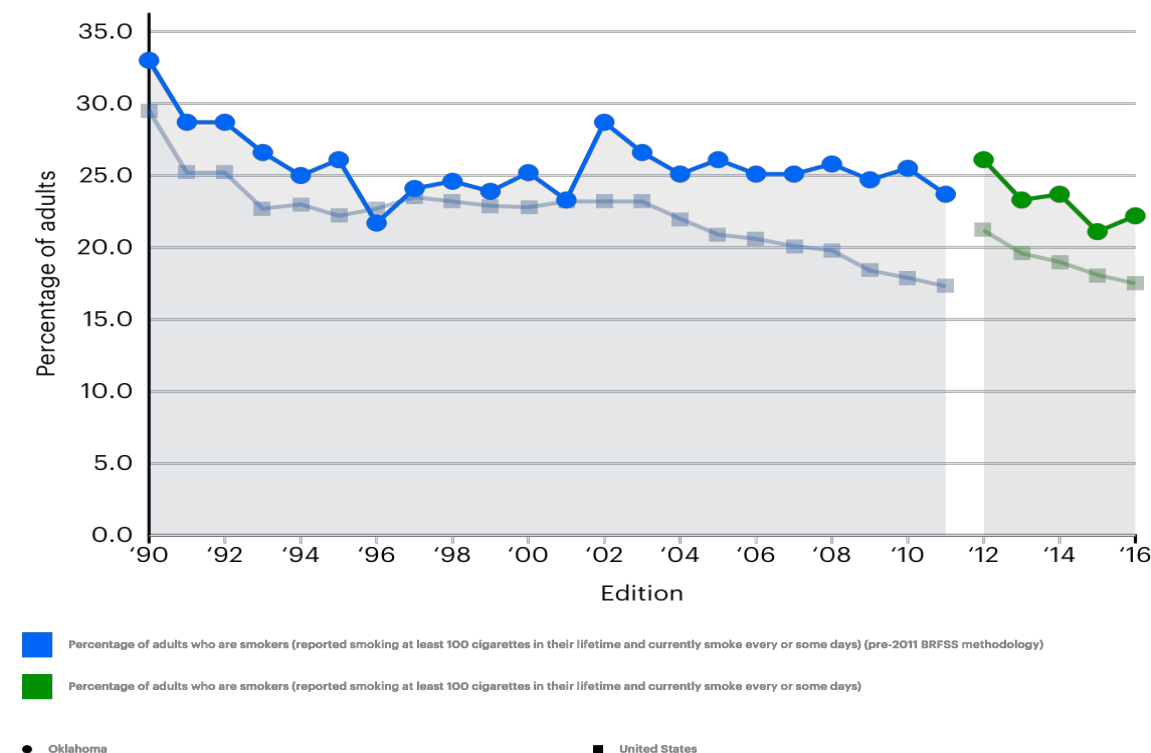
Table 1.19 – Percentage of Diabetes by Urbanicity

	Oklahoma	United States
Urban	15.1%	14.0%
Suburban	14.8%	12.8%
Rural	17.4%	14.6%

Source: United Health Foundation 2015 Annual Report

Tobacco Use among the People of Oklahoma

Smoking is the leading cause of preventable death in the United States and has a well-documented negative impact on health. Over the past several decades, policy efforts such as excise taxes and smoking bans have been effective in increasing cessation, preventing non-smokers from starting, and decreasing smoking-related health problems. Reducing the prevalence of smoking and creating smoke-free environments have an important impact on communities. As of August 1, 2012, Governor Mary Fallin issued an executive order to make all state property including state parks “tobacco free”. This resulted in keeping the public informed of the linkage between personal health choices and personal recreation choices in the out-of-doors. A reported 21.1% of Oklahoma adults smoke as compared to 18.1% nationally. Figure 1.4 shows the smoking trends in Oklahoma and the United States.



SOURCE:

• CDC, Behavioral Risk Factor Surveillance System



Figure 1.4 – Smoking Trends in Oklahoma and United States

A higher percentage of males (23.1%) smoke than females (19.1%) in Oklahoma which is similar at the national level as well. The population of age 18 to 44 has the highest rates of smoking and people of 65 years old and above have 11.2% smokers. According to the 2015 annual report of the United Health Foundation, Oklahoma has a higher rate of smoking in every age group (see Table 1.20).

Table 1.20 – Percentage of Smoking by Age Group

Age Group	Oklahoma	United States
18 – 44 years old	25.0%	19.9%
45 – 64 years old	21.3%	19%
65 years old and above	11.2%	8.8%

Source: United Health Foundation 2015 Annual Report

There is a relationship between race, ethnicity and smoking. Prevalence of smoking in Oklahoma is higher among American Indians (26.5%) than it is among Whites (20.2%). The percentage of smoking by race and ethnicity is reported in Table 1.21. The White, Black, and Asian population reported a higher percentage of smoking than is true at the national levels. People of Hispanic origin and American Indian or Alaskan Native population reported lower percentage of smoking rates at the state level.

Table 1.21 – Percentage of Smoking by Race and Ethnicity

Race	Oklahoma	United States
White	20.2%	18.1%
Black	25.6%	19.8%
American Indian or Alaskan Native	26.5%	29.5%
Asian	12%	8.8%
Persons of Hispanic/Latino origin	13.3%	14.1%

Source: United Health Foundation 2015 Annual Report

As education increases, the prevalence of smoking decreases. For those Oklahoma residents with less than a high school education, 31.5% smoke. By contrast, 7.8% of those college graduates in Oklahoma smoke (see Table 1.22).

Table 1.22 – Percentage of Smoking by Education Level

Education Level	Oklahoma	United States
Less than High School	31.5%	27.9%
High School Graduate	25.0%	22.8%
Some College	20.5%	17.9%
College Graduate	7.8%	7.1%

Source: United Health Foundation 2015 Annual Report

In the same manner, fewer of those persons who earn \$75,000 or more annually smoke (8.8%) than do those who make \$25,000 or less (33.0%). People with an income of \$75,000 or more smoke less than is true at the national level.

Table 1.23 – Percentage of Smoking by Income

	Oklahoma	United States
Less than \$25,000	33.0%	127.0%
\$25,000 – \$49,999	20.1%	19.3%
\$50,000 – \$74,999	17.5%	15.4%
\$75,000 or more	8.8%	9.7%

Source: United Health Foundation 2015 Annual Report

Similar to other health indicators, people who live in suburban residential areas smoke less than those who live in urban and rural areas of Oklahoma (see Table 1.24).

Table 1.24 – Percentage of Smoking by Urbanicity

	Oklahoma	United States
Urban	16.6%	14.3%
Suburban	16.2%	13.6%
Rural	18.5%	18.4%

Source: United Health Foundation 2015 Annual Report

Social Value and Health Benefits of Oklahoma State Parks

Parks are great places for people to recreate and connect with nature, but they also provide opportunities for people to have fun, find mental, physical, and spiritual health, and sustain healthy lifestyles. Research shows parks contribute to health in a number of ways from promoting physical activity to improving mental health. In the United States, the justification for creating parks is rooted in public health through the provision of clean air and water, and also providing spaces for people to recover from the stressors of daily life. A study focusing on Oklahoma state park users was conducted to understand the social value and health benefits of state parks (Liu, Wu, Caneday & Soltani, 2016). This research was supported by the Oklahoma Tourism and Recreation Department (OTRD) and the Division of State Parks during fiscal year 2016. Approximately 580 individuals responded to the online survey, whereas 463 respondents were identified as useable cases. The research team applied Landscape Value measurement developed by Brown (2005) and colleagues to identify various types of values associated with Oklahoma state parks. Social values were categorized as: (1) future value, (2) intrinsic value, (3) recreation value, (4) aesthetic value, (5) biodiversity value, (6) economic value, (7) learning value, and (8) heritage value. Research participants were asked to indicate their level of agreement to each value statement on a 7-point Likert scale from 1 (Strongly Disagree) to 7 (Strongly Agree). A benefit-based recreation instrument was also used to examine park visitors' perceived health benefits from visiting parks (Driver, 1998, Freidt, Hill, Gomez, & Goldenberg, 2010). Health benefits were categorized as: (1) improved health condition, (2) prevention of a worse health condition, and (3) recognition of psychological experience. Participants were asked to select the most appropriate answer for each statement on a 5-point Likert scale from 1 (definitely false), 2 (mostly false), 3 (Uncertain), 4 (mostly true), to 5 (definitely true). Several important findings of the study are as follows:

1. The top three social values associated with Oklahoma state parks were: future value, intrinsic value, and recreation value.
2. The top three perceived benefits of visiting state parks were: “reduces stress”, “improves my environmental awareness”, and “causes me to appreciate life more”
3. “Recognition of psychological experience” ranked highest among park visitors' perceived health benefits followed by “Improve health condition” and “prevention of a worse health condition”
4. 319 people indicated that visiting a state park increases their physical activity level.

Americans Want a Pre-Tax Fitness Expense Payment Option

A Park Pulse poll conducted by the National Recreation and Park Association (NRPA) asked 1,020 Americans ages 18+ how strongly they support a proposal that allows them to use money from a health savings account (HSA) or flexible spending account (FSA) to pay for fitness club fees, sports equipment, youth sports league fees and fitness class registration costs at a gym or recreation center.

64% of Americans

are in favor of a proposal such as the Personal Health Investment Today (PHIT) Act, with support crossing multiple generations.



Millennials

77%



Gen X'ers

68%



Baby Boomers

54%

78% of individuals with children
are in favor of a proposal like the PHIT Act.

NRPA urges Congress to pass the PHIT Act as it would provide more people, especially low-income families, with access to physical fitness opportunities in their own communities through local parks and recreation, organized sports leagues, etc.

www.nrpa.org/Park-Pulse



©2017 National Recreation and Park Association

The National Recreation and Park Association Survey was conducted by Wakefield Research (www.wakefieldresearch.com) among 1,020 nationally representative Americans, ages 18+, between February 2nd and February 9th, 2017 using an email invitation and an online survey. Quotas have been set to ensure reliable and accurate representation of the U.S. adult population 18 and older. The margin of error for this study is +/- 3.1 percentage points at the 95% confidence level. *All decimals are rounded to the nearest percentage point. This may result in certain numerical totals adding up to slightly more or slightly less than 100%.

Figure 1.5 – Personal Health Investment Today (PHIT) proposal

Survey of Oklahoma Residents

An online survey was developed to provide opportunity for public input. The complete survey with responses and comments is included in Appendix B. The survey was developed based on existing literature and previous studies related to outdoor recreation participation. The survey included questions pertaining to reasons and barriers to participation in outdoor recreation, funding priorities, use of technology while recreating, opinions about outdoor recreation issues, and demographics. Access to the survey was provided via press releases through radio, television, and newspaper outlets across Oklahoma. In addition, an email blast with the link to the survey was released through the Oklahoma Tourism and Recreation Department. 485 individuals completed the survey. Oklahoma residents represented 95% of the responses leaving only 5% of the responses from out-of-state residents.

Almost 70% of the respondents were female. The age of the respondents ranged from 18 to 91 years old with a median age of 44 years old. Only 3% of the participants indicated that they were of Hispanic or Latino origin, and the majority of the sample (84%) were of White ethnicity. More than one third of the respondents (37%) had a bachelor's degree, and 42% were employed full-time. 7% of the participants had less than \$25,000 annual household income, and 42% had an annual household income of \$25,000 - \$74,000. Among the respondents, 19% (91 individuals) stated that either they or a member of their household had a disability with mobility being reported as the highest type of disability (79%, 72 individuals). These characteristics are similar to those found within the general population of Oklahoma.

Among the respondents, 46% indicated that they participate in outdoor recreation activities few times per week. More than half of the respondents (51%) used one of Oklahoma state parks for their most frequent outdoor recreation activity. Participants were asked to identify the most important reasons for participation in outdoor recreation activities. The top five most important reasons were: (1) for relaxation, (2) to enjoy the scenery, (3) for my mental well-being, (4) to be close to nature, and (5) to be with family and friends. Participants were also asked to provide insights in regards to barriers to outdoor recreation participation. The three highest scoring reasons include: too busy with other activities (work or leisure), lack of information, and the weather is not comfortable outside (see Table 1.25).

Figure 1.6 – Barriers to outdoor recreation participation

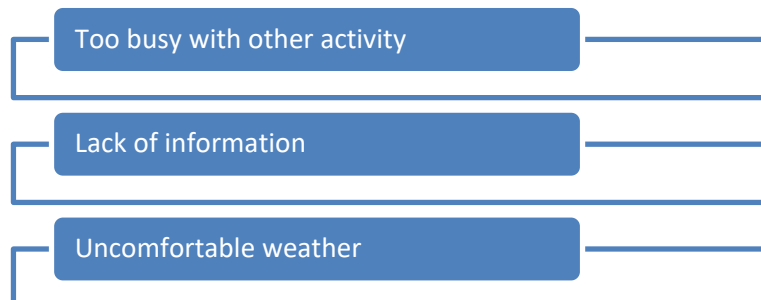


Table 1.25 – Barriers to Outdoor Recreation Participation



Barriers to outdoor recreation	Strongly disagree				Strongly agree	Mean
	1	2	3	4	5	
Parks, trails, historic and cultural sites are too crowded	22%	34%	28%	14%	2%	2.41
The weather is not comfortable outside	21%	24%	27%	25%	3%	2.65
Fees are too high (for admission, camping, etc.)	33%	31%	22%	13%	2%	2.20
Parks, trails, historic and cultural sites are too far away	26%	25%	24%	22%	3%	2.52
Too busy with other activities (work or leisure)	16%	17%	21%	42%	5%	3.04
Areas have too many rules	43%	31%	20%	5%	1%	1.89
Lack of information	23%	23%	23%	27%	4%	2.67
Don't know where parks, trails, historic and cultural sites are	34%	26%	16%	21%	3%	2.33
Lack of organized programs and events	24%	27%	28%	18%	3%	2.47
Parks, trails, historic and cultural sites are not open at the right hours	30%	32%	26%	11%	1%	2.20
Staff are not available to provide services	28%	26%	29%	16%	2%	2.40
Don't have the skills or physical ability	49%	24%	19%	6%	1%	1.86
Don't have the necessary equipment	43%	27%	23%	7%	1%	1.95
Activities I am interested in are not provided or are prohibited	44%	23%	25%	6%	1%	1.96
Don't have companions/people to go with	48%	20%	17%	12%	2%	2.00
Don't feel welcome	69%	17%	11%	2%	0.2%	1.47
Lack of interest	72%	16%	11%	1%	1%	1.43
Limited accessibility for people with disabilities	34%	19%	38%	6%	3%	2.25
Afraid of getting hurt or sick (by animals, other people, weather, etc.)	67%	18%	9%	6%	0.4%	1.55

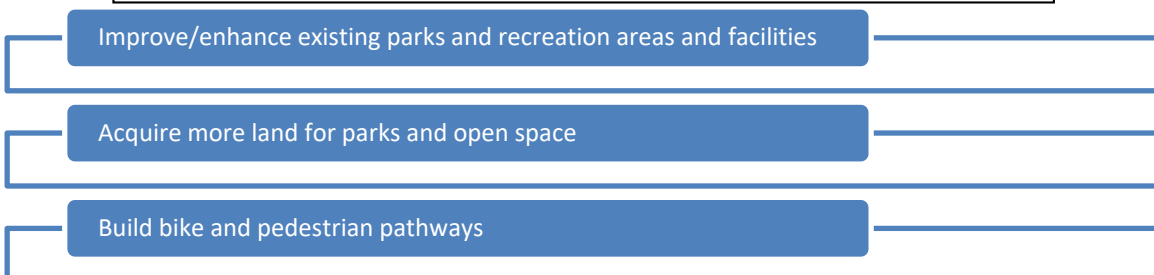
Table 1.26 – Outdoor Recreation Issues

Level of agreement with issue statement	Strongly disagree				Strongly agree	Mean
	1	2	3	4	5	
The parks and recreation areas in my community are generally well-maintained	4%	14%	6%	47%	28%	3.81
Recent budget cuts to parks and recreation providers have had a negative impact on outdoor recreation experiences in my area	3%	5%	25%	35%	31%	3.90
Access to the public outdoor recreation lands in my area is adequate	6%	22%	16%	40%	13%	3.33
I am satisfied with the number of parks, open spaces, natural areas and playgrounds in my community	14%	30%	13%	32%	11%	2.96
My outdoor recreation experiences are often negatively impacted by other recreation users	18%	34%	24%	20%	3%	2.55
There is a lack of recreation opportunities in my area for people with special needs	12%	16%	52%	15%	3%	2.80
Conflicts between homeowners and recreation users are a problem in trails/lakes	24%	23%	44%	7%	1%	2.39
Providing recreation activities is more important than protecting natural and cultural resources	39%	31%	22%	6%	1%	1.97
In general, people have sufficient knowledge and awareness about the natural environment	22%	45%	15%	13%	4%	2.30

Understanding the perceptions of Oklahoma recreation users, in terms of recreation concerns and issues is important for recreation planners and providers. In the general public survey, respondents were asked how strongly they agreed or disagreed (on a scale of 1 strongly disagree to 5 strongly agree) with nine statements about issues and concerns for participation in outdoor recreation activities. The top three rated statements were: (1) recent budget cuts to parks and recreation providers have had a negative impact on outdoor recreation experiences in my area [3.90], (2) the parks and recreation areas in my community are generally well-maintained [3.81], and (3) access to the public outdoor recreation lands in my area is adequate [3.33]. Participants indicated that having adequate access to recreation areas and maintenance of recreation areas are important issues and concerns, however, recent budget cuts had a negative impact in their outdoor recreation experience (see Table 1.26 on the prior page).

The top funding priorities for respondents were: (1) improve/enhance existing parks and recreation areas and facilities, (2) acquire more land for parks and open space, and (3) build bike and pedestrian pathways between places of work, schools, shopping areas, and neighborhoods. A strong 83% of the respondents indicated that they use automobile to get to the outdoor recreation area that they visit most frequently and 11% indicated that they walk or jog to the area. Too much distance to outdoor recreation areas and lack of sidewalks, crosswalks, and/or pedestrian signals were reported as the top obstacles for participants to walk, jog, or ride a bike to any park and/or outdoor recreation areas near their place of residence. 86% of the respondents stated that they used technology such as smartphone (70%), maps (46%), and social media websites (45%) while participating in outdoor recreation. Overall 75% of the respondents rated the outdoor recreation facilities available in their community as good or fair.

Figure 1.7 – Funding priorities expressed by Oklahomans



At the beginning of the survey, respondents were asked a qualifying question of “Have you participated in outdoor recreation activities in Oklahoma in the past 12 months?” A small proportion of the overall sample answered “no.” Among those who completed the survey, only seven indicated that they did not participate in outdoor recreation activities in the past twelve months in Oklahoma. Those respondents were asked to rate a list of reasons for barriers to participation in outdoor recreation. The top three barriers included: (1) too busy with other activities (work or leisure) [3.57], (2) don’t have companions/people to go with [3.43], and (3) limited accessibility for people with disabilities [3.29] and lack of organized programs and events [3.29] both ranked the same as the third barrier. The age of this group ranged from 18 to 74 years old and the majority had mobility disabilities.

Summary of the Health of the People

The foregoing discussion reveals a disturbing and on-going pattern related to the health of the people of Oklahoma. Health issues fall more heavily upon certain segments of the population, particularly based on ethnicity, economic status, age, and place of residence. However, these health issues place a burden upon all members of the population.

These health issues also affect participation in physical activity. For Oklahomans, that has typically meant less participation in physical activity – a factor that may exacerbate the underlying health issue.

While weather was identified as being a factor in lack of participation in physical activity, the environment of Oklahoma is also valued by the people of Oklahoma. They desire improvement of recreation space and facilities, acquisition of more public space for outdoor recreation, with particular emphasis upon trails and pathways.

Figures 1.8a and 1.8b on the following pages provide a graphic summary of the health of the people of Oklahoma. In addition, partners are available and ready to assist with programs and services to address the health of Oklahomans. One such program of support is through TSET – the Tobacco Settlement Endowment Trust (Figure 1.9a and 1.9b). TSET is addressing the issues of concentration as reported in this SCORP.



**THE HEALTH OF THE OKLAHOMA
PEOPLE IS DIRECTLY LINKED TO THE
HEALTH OF THE OKLAHOMA
ENVIRONMENT AND THE HEALTH OF
THE OKLAHOMA ECONOMY.**

Focus of the 2017 Oklahoma SCORP

Oklahoma

RANK: 45

Improved from 2014

2014 Rank: 46
Improved: 1

TOP FIVE HEALTHIEST STATES:

1. Hawaii
2. Vermont
3. Massachusetts
4. Minnesota
5. New Hampshire



Smoking

21.1%



of people in Oklahoma smoke compared with 18.1 nationally

Healthy People 2020 Goal: 12.0% of adults

Drug Deaths

20.3



deaths per 100,000 people in Oklahoma from drug overdose compared with 13.5 deaths per 100,000 nationally

Healthy People 2020 Goal: 11.3 deaths per 100,000

Physical Inactivity

28.3% or about

1 in 4



adults in Oklahoma are physically inactive compared with 22.6% nationally

Infant Mortality

7.1



deaths per 1,000 live births in Oklahoma compared with 6.0 deaths per 1,000 nationally

Healthy People 2020 Goal: 6.0 infant deaths per 1,000 live births

Obesity/Diabetes

33.0%

of adults in Oklahoma are obese



12.0%

of adults in Oklahoma have diabetes

Nationally, 29.6% of adults are obese, and 10.0% have diabetes.

Immunizations—Children

73.3%



of children in Oklahoma received vaccinations compared with 71.6% nationally

Healthy People 2020 Goal: 80.0% of children

Figure 1.8a – Summary of Oklahoma's Health

Oklahoma

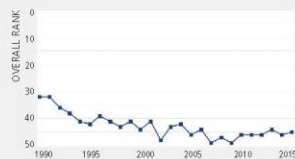
OKLAHOMA

Overall Rank: 45

Change: ▲ 1

Determinants Rank: 46

Outcomes Rank: 44



Strengths:

- Low prevalence of excessive drinking
- Small disparity in health status by education level
- High immunization coverage among children

Challenges:

- High prevalence of obesity
- High rate of cardiovascular deaths
- Limited availability of primary care physicians

Ranking:

Oklahoma is 45th this year; it was 46th in 2014.

Highlights:

- In the past year, disparity in health status by education level decreased 22% from 32.1% to 25.1%.
- In the past year, smoking decreased 11% from 23.7% to 21.1% of adults.
- In the past 5 years, preventable hospitalizations decreased 29% from 88.7 to 62.6 per 1,000 Medicare beneficiaries.
- In the past 20 years, low birthweight increased 21% from 6.7% to 8.1% of live births.
- In the past 10 years, children in poverty increased 77% from 14.1% to 25.0% of children.

State Health Department Website:
www.ok.gov/health

	Value	2015 Rank	No 1 State
Behaviors			
Smoking (% of adult population)	21.1	40	9.7
Excessive Drinking (% of adult population)	13.5	5	10.3
Drug Deaths (deaths per 100,000 population)	20.3	45	2.7
Obesity (% of adult population)	33.0	45	21.3
Physical Inactivity (% of adult population)	28.3	46	16.4
High School Graduation (% of students)	84.8	21	89.7
Behaviors Total*	-0.13	39	-0.33
Community & Environment			
Violent Crime (offenses per 100,000 population)	441	39	121
Occupational Fatalities (deaths per 100,000 workers)	7.6	46	2.0
Children in Poverty (% of children)	25.0	40	10.6
Infectious Disease (combined value <i>Chlamydia</i> , <i>Pertussis</i> , <i>Salmonella</i>)*	0.49	42	-1.09
<i>Chlamydia</i> (cases per 100,000 population)	479.1	37	236.2
<i>Pertussis</i> (cases per 100,000 population)	6.7	22	1.0
<i>Salmonella</i> (cases per 100,000 population)	23.9	44	8.4
Air Pollution (micrograms of fine particles per cubic meter)	9.5	34	5.0
Community & Environment Total*	-0.11	47	-0.24
Policy			
Lack of Health Insurance (% of population)	16.5	44	3.5
Public Health Funding (dollars per person)	\$74	24	\$227
Immunizations—Children (% of children aged 19 to 35 months)	73.3	18	84.7
Immunizations—Adolescents (combined value of HPV, MCV4, and Tdap)*	-0.62	36	1.31
HPV Females (% of females aged 13 to 17 years)	36.4	32	54.0
HPV Males (% of males aged 13 to 17 years)	19.9	29	42.9
MCV4 (% of adolescents aged 13 to 17 years)	70.8	37	95.2
Tdap (% of adolescents aged 13 to 17 years)	82.6	39	94.8
Policy Total*	-0.06	40	0.16
Clinical Care			
Low Birthweight (% of live births)	8.1	28	5.8
Primary Care Physicians (number per 100,000 population)	85.2	48	206.7
Dentists (number per 100,000 population)	50.4	38	81.2
Preventable Hospitalizations (discharges per 1,000 Medicare beneficiaries)	62.6	41	24.4
Clinical Care Total*	-0.11	43	0.17
All Determinants*	-0.41	46	0.67
Outcomes			
Diabetes (% of adult population)	12.0	43	7.1
Poor Mental Health Days (days in previous 30)	4.1	39	2.7
Poor Physical Health Days (days in previous 30)	4.5	44	2.9
Disparity in Health Status (% difference by education level)**	25.1	11	14.9
Infant Mortality (deaths per 1,000 live births)	7.1	41	4.2
Cardiovascular Deaths (deaths per 100,000 population)	322.5	48	186.5
Cancer Deaths (deaths per 100,000 population)	215.8	45	146.1
Premature Death (years lost per 100,000 population)	9,799	46	5,414
All Outcomes*	-0.25	44	0.33
Overall*	-0.66	45	0.89

*Negative value denotes below US average, positive value denotes above US average.

**Difference in the percentage of adults aged 25 and older with vs. without a high school education who report their health is very good or excellent.

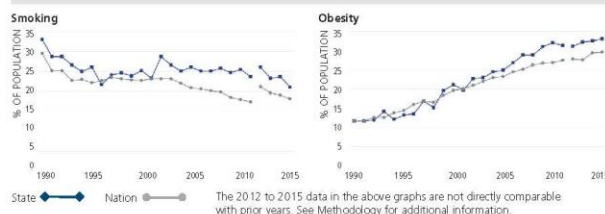


Figure 1.8b – Summary of Oklahoma's Health



TSET HEALTHY LIVING PROGRAM

The TSET Healthy Living Program consists of grants to 50 organizations working in 63 counties to prevent and reduce tobacco use and obesity, the primary causes of Oklahoma's top killers – cancer and cardiovascular disease. Half of all cancers are caused by obesity and other lifestyle choices.

Using a comprehensive approach, grantees work with businesses, city governments, community organizations and schools to create meaningful opportunities to encourage Oklahomans to eat better, move more and be tobacco free.

The TSET Healthy Living Grant Program supports the prevention and reduction of tobacco use and obesity in an effort to lessen the burden of unhealthy behaviors before they take root. A strong emphasis on reducing these risk factors will save lives and save money.

Examples of TSET Healthy Living Program strategies include:

- Working to ensure tobacco-free properties, and promoting the Oklahoma Tobacco Helpline for those who want to quit tobacco.
- Facilitating school, business, and community gardens, food pantries, and farmers markets to create opportunities for healthy eating.
- Assisting with agreements between schools and community groups to open the school grounds for physical activity outside of the school day.
- Engaging schools and child care organizations to support tobacco-free lifestyles, and to teach in active classrooms that improve academic achievement.
- Improving the nutritional value and appeal of school and worksite food preparation and offerings. In one program, a chef teaches cafeteria workers how to make and market healthy appealing meals that meet nutritional standards.
- Providing guidance to grocery and small food stores on stocking healthy foods and creating healthy checkout aisles to encourage shoppers to choose healthy options.
- Working with cities and governments on a variety of zoning ordinances, urban design, and transportation strategies that encourage active living for people of all ages and abilities.



Designed with input from grantees in the former TSET Communities of Excellence programs, partner organizations and national experts, the TSET Healthy Living Program is evaluated externally by a team of University of Oklahoma and Oklahoma State University academics.

Grantees in the TSET Healthy Living Program began work on their five-year grants July 1, 2015.



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Executive Director John Woods
Board of Directors Chair Don Millican

Figure 1.9a – TSET Healthy Living Program



OKLAHOMA TOBACCO SETTLEMENT ENDOWMENT TRUST (TSET)

Created by voters in 2000, TSET is an endowment trust established with payments from the 1998 Master Settlement Agreement (MSA) between 46 states and the tobacco industry. Funds are invested by a Board of Investors and **only the earnings** from those investments are used by a Board of Directors to support efforts to improve the health of Oklahomans.

TSET has focused funding on reducing Oklahoma's leading causes of preventable death – tobacco use and obesity – in order to reduce cancer and cardiovascular disease. As a state grant-making trust, TSET funds prevention, research and emerging opportunities to improve the health of every Oklahoman.

TSET is governed by Article 10, Section 40 of the Oklahoma Constitution and by 62 O.S. § 2301-2310.

HOW TSET IS FUNDED

Oklahoma was the first state to constitutionally protect funds received as part of the Master Settlement Agreement. The majority of Oklahoma's payments are invested in the TSET endowment, and only the earnings are used to fund grants and programs to improve the health of Oklahomans for generations to come.



- Tobacco Settlement Endowment Trust (75%)
- State Legislature's Tobacco Settlement Fund (18.75%)
- Office of the Attorney General (6.25%)

FY2016 Certified Earnings for TSET's Use: **\$45.9 MILLION***

PROGRAM FUNDING DISTRIBUTION FISCAL YEAR 2017



Tobacco Prevention
38.6%



Obesity Prevention,
Physical Activity and Nutrition
26.9%



Research
23.2%



Evaluation
3.6%



Administration
3.5%



Emerging Opportunities
1.9%



Programs & Grant
Management Support
2.2%

*Includes \$27.1 million from FY2016 annual endowment earnings and \$18.8 million from certified reserve.

Rev. 3/2017

Figure 1.9b – TSET Healthy Living Program

Introduction

Outdoor recreation and tourism are significant economic drivers in the United States. More than 140 million Americans make outdoor recreation a priority in their daily lives. Each year, Americans spend over \$646 billion on outdoor recreation which creates 6.1 million direct jobs and \$80 billion in federal, state and local tax revenue (Outdoor Industry Association, 2012). In Oklahoma, outdoor recreation and tourism generated 95,000 direct jobs, \$8.4 billion in consumer spending, \$2.5 billion in wages and salaries, and \$584 million in state and local tax revenues in 2012 (Outdoor Industry Association, 2012).

Economic Status of the People of Oklahoma

It is well-known that socioeconomic status is related to participation in outdoor recreation. It is important to understand the perceived barriers faced by different socioeconomic segments of the population in terms of participation in outdoor recreation. Numerous studies focused on the effects of socioeconomic status on involvement in outdoor recreation. Socioeconomic status is often measured as a combination of education, income and occupation. Economic well-being influences access to a wide range of leisure amenities.

Public park and recreation leaders desire to make facilities and programs accessible to people regardless of their socioeconomic status. However, it has been difficult to meet the leisure needs of people who are economically challenged. Chubb and Chubb (1981) expressed: “The poor do not have the recreation rooms, landscaped backyards, automobiles, recreation vehicles, seasonal homes, and other amenities that enhance the recreation environment” (p. 94). The reality is that poorer communities face challenging barriers and constraints to accessing public and private outdoor recreation amenities.

Income Status of the People of Oklahoma

The literature on outdoor recreation constraints indicate there is a relationship between level of income and leisure involvement. Participation rates in outdoor recreation vary with the cost and physical availability of outdoor recreation resources to public. People with low incomes perceive more constraints to participation in outdoor recreation than people with high incomes. Higher costs and further accessibility of outdoor recreation resources to low income people affects participation in outdoor recreation. Income is a stronger predictor of perceived constraints to outdoor recreation than gender, age, race and level of education. Public recreation facilities are publicized as places where people of all classes, races, and ethnicities can mix equally. Recreation agencies must strive to welcome people with low income.

According to the U.S. Bureau of Census, the median Oklahoma household income increased slightly from \$42,979 in 2010 to \$46,879 in 2015. The household income in the

state is below the national average of \$53,889. As of 2015, the average per capita annual income in Oklahoma is \$25,032 per person, while \$28,930 is the national average. In terms of income and race, the White and Asian population have relatively higher per capita income than other population groups by race in Oklahoma (Table 2.1). At the national level, the Asian population has the highest per capita income. Overall, the per capita incomes across all race groups in Oklahoma are below the national averages except for American Indian or Alaskan Native population.

Table 2.1 – Annual Income Per Capita by Race/Ethnicity

Race	Per capita income	
	Oklahoma	United States
Race or Ethnicity		
Total Population	\$25,032	\$28,930
White	\$28,024	\$31,801
Black	\$17,213	\$19,378
American Indian or Alaskan Native	\$17,661	\$17,367
Asian	\$23,808	\$33,069
Native Hawaiian or other Pacific islander	\$20,205	\$20,735
Persons reporting Hispanic/Latino origin	\$13,338	\$16,674
Persons reporting two or more races	\$14,997	\$16,164

Source: U.S. Bureau of Census (2015)

Poverty Status of the People of Oklahoma

People with high poverty rates tend to have less access to public parks and the natural environment. Residents in wealthy communities have relatively easy access to park and recreation amenities while there is a lack of funding for municipal services in poorer communities. 16.7% of the Oklahoma population lives below the federally determined poverty level, while nationally 15.5% of population is at this level or below. In Oklahoma, 30.1% of African Americans, 22.2% of American Indians, and 26.9% of those of Hispanic or Latino origin in the state are below the federally defined poverty level (see Table 2.2). The White and Asian population have relatively lower percentages of poverty, while the rest of population groups show higher percentages of households in poverty. Overall, 12.4% of the families in Oklahoma live below poverty level which is higher than the national level of 11.3%.

Table 2.2 – Poverty Status by Race/Ethnicity

Race	Percent below poverty	
	Oklahoma	United States
Race or Ethnicity		
Total Population	16.7%	15.5%
White	14.0%	12.7%
Black	30.1%	27.0%
American Indian or Alaskan Native	22.2%	28.3%
Asian	15.3%	12.6%
Native Hawaiian or other Pacific islander	23.3%	21.0%
Persons reporting Hispanic/Latino origin	26.9%	24.3%
Persons reporting two or more races	22.6%	19.9%

Source: U.S. Bureau of Census (2015)

Children growing up in poverty are unlikely to have access to outdoor recreation activities and leisure destinations. Early childhood outdoor recreation experiences tend to carry over into adulthood. Wealthy Americans have the opportunity to pass on to their children skills, knowledge, and appreciation of the outdoors while poorer Americans do not have the resources to introduce their children to outdoor recreation opportunities. In Oklahoma, more than 23% of people under 18 years old are below federal poverty guidelines. More Oklahomans live below the federally determined poverty level at every age group except for people who are 65 years and over than is true at the national level (see Table 2.3).

Table 2.3 – Poverty Status by Age

Age	Percent below poverty	
	Oklahoma	United States
Age		
Total Population	16.7%	15.5%
Under 5 years	26.8%	24.5%
5 to 17 years	21.8%	20.7%
18 to 64 years	15.8%	14.5%
65 years and over	9.1%	9.4%

Source: U.S. Bureau of Census (2015)

Poverty affects education. It is well documented that socioeconomic status such as poverty correlates with education. Education remains the key to escaping poverty, while poverty remains the biggest obstacle to education. In terms of education level for people below poverty levels, both Oklahoma and United States show similar statistics. The percentage of people who live below the federally determined poverty level is the highest for people with education levels of less than high school and lowest for people with a bachelor's degree or higher.

Table 2.4 – Poverty Status by Education Level

Education level	Percent below poverty	
	Oklahoma	United States
Total Population	16.7%	15.5%
Less than high school graduate	27.4%	27.5%
High school graduate	15.1%	14.3%
Some college, associate's degree	11.3%	10.5%
Bachelor's degree or higher	4.5%	4.5%

Source: U.S. Bureau of Census (2015)

Unemployment Status of the People of Oklahoma

The unemployment rate in Oklahoma has been lower than the national level for the past decade (U.S. Department of Labor, 2016). However, since 2016, Oklahoma's unemployment rate is at a higher level than is true at the national level (see Figure 2.1). The drop in oil prices had a negative effect on the economy of Oklahoma. According to the Oklahoma Employment Security Commission, Economic Research and Analysis Division, and the U.S. Bureau of Labor Statistics, there was a total of 79,209 gross job gains in Oklahoma while gross job losses totaled 81,183 in the 4th quarter of 2015. For the fourth consecutive quarter, gross job losses surpassed gross job gains by 1,974 in Oklahoma. Oklahoma's real GDP decreased in the 1st quarter of 2016 for the 4th consecutive quarter and the state ranked 39th among all other states and the District of

U.S. and Oklahoma Unemployment Rate (Seasonally Adjusted)

Source: U.S. Department of Labor, Bureau of Labor Statistics

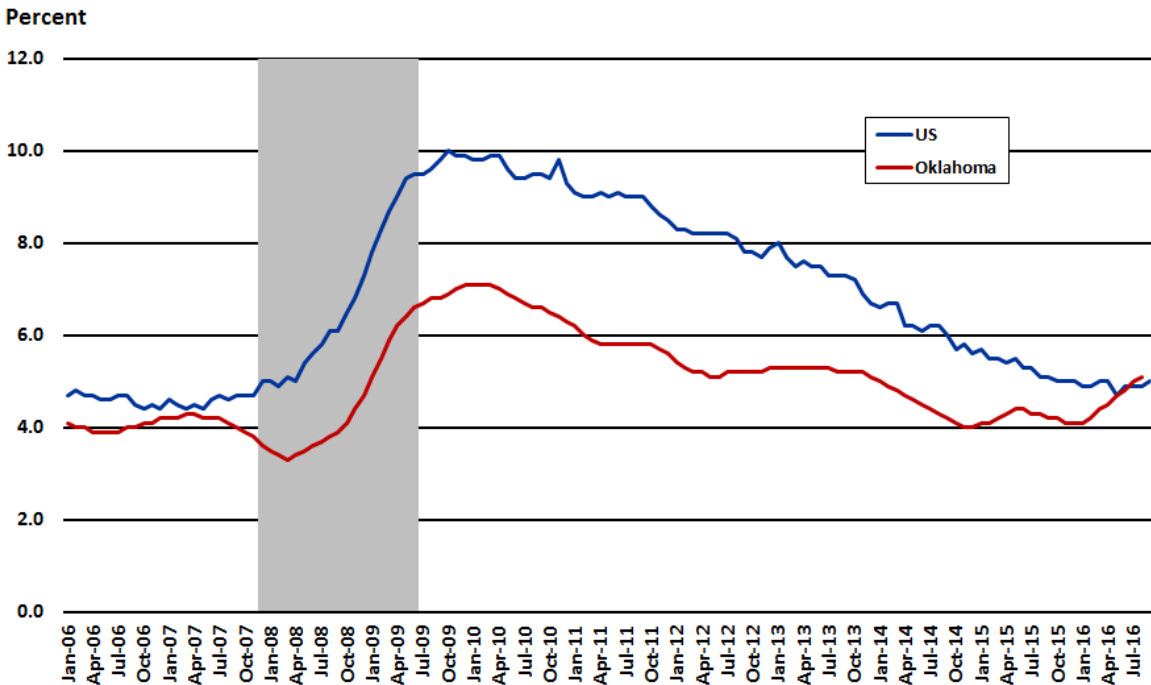


Figure 2.1 – Unemployment Rate in Oklahoma and United States

Columbia. Statewide GDP was \$2.48 billion down at a level of \$176.8 billion in the 4th quarter compare to the 3rd quarter.

Unemployment rates vary considerably across race and ethnicity groups. In 2015, the overall civilian unemployment rate for Oklahoma was 6.3%, while the rates for the major racial and ethnic groups ranged from 4.8% for Asians to 11.3% for Blacks or African Americans; the rate for White population was 5.4% and the rate for persons reporting Hispanic/Latino origin was 6.4%.

Table 2.5 – Unemployment Rate by Race/Ethnicity

Race	Unemployment rate	
	Oklahoma	United States
Factor or grouping		
Total population	6.3%	8.3%
White	5.4%	7.1%
Black	11.3%	14.8%
American Indian or Alaskan Native	9.2%	14.7%
Asian	4.8%	6.4%
Native Hawaiian or other Pacific islander	6.8%	11.9%
Persons reporting Hispanic/Latino origin	6.4%	9.8%
Persons reporting two or more races	10.0%	12.2%

Source: U.S. Bureau of Census (2015)

In Oklahoma, people with a bachelors' degree or higher have the lowest unemployment rate of 2.2% which is consistent with unemployment rates at the national level. For those with associate degrees, unemployment increases to 5.0%, and for high school graduates, the unemployment rate increases to 6.6%. Oklahoma has a lower unemployment rate in every education level than is true at the national level. The highest unemployment rate in Oklahoma is for people without a high school degree which is 9.5% (see Table 2.6).

Table 2.6 – Unemployment Rate by Education Level

Race	Unemployment rate	
	Oklahoma	United States
Factor or grouping		
Total population	6.3%	8.3%
Less than high school graduate	9.5%	12.6%
High school graduate	6.6%	8.9%
Some college, associate's degree	5.0%	7.0%
Bachelor's degree or higher	2.2%	3.7%

Source: U.S. Bureau of Census (2015)

Employment Change in Oklahoma

Employment growth by industry identifies the types of jobs being created in the state. On the other hand, industries with a declining employment trend indicate those which are becoming less important in the state's economy. In 2015, eight out of Oklahoma's 11 statewide super sectors recorded job growth. Leisure and hospitality led all other super sectors adding 5,600 jobs with the bigger part of hiring happening in food services and drinking places. The trade, transportation and utilities sector added 5,100 jobs with the

Oklahoma Employment Change by Industry, 2014-2015

Annual Averages (Not Seasonally Adjusted)

Source: Current Employment Statistics (CES), U.S. Department of Labor, Bureau of Labor Statistics

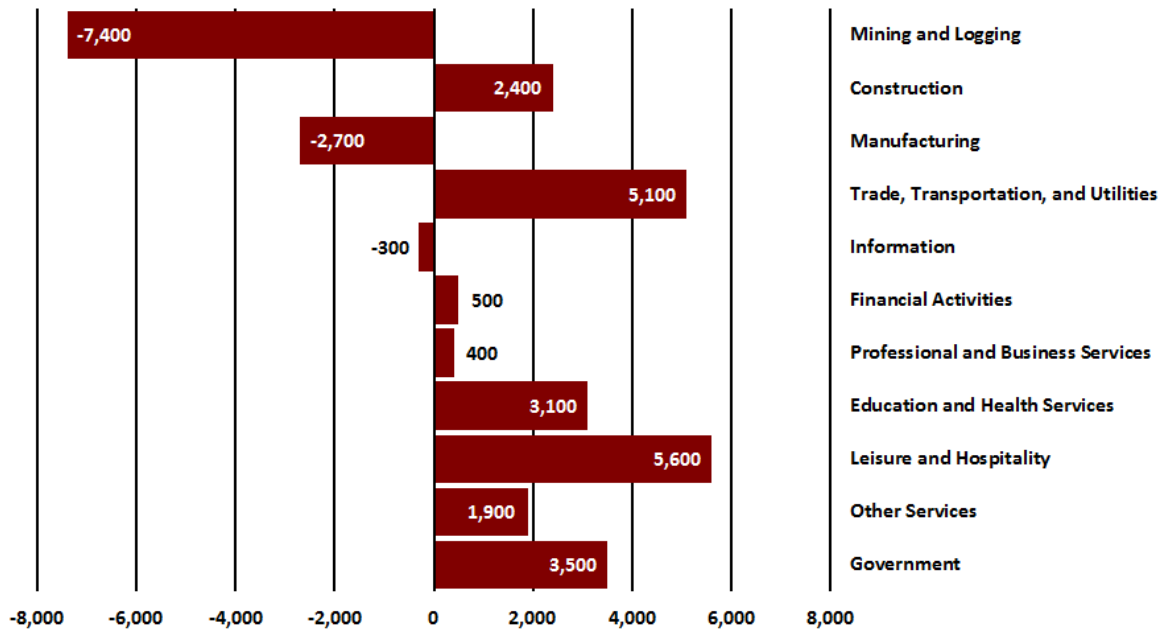


Figure 2.2 – Employment Change by Industry in Oklahoma

largest part of growth coming from retail trade. Government added 3,500 employees with most of the growth in local government. Construction added 2,400 jobs with nearly all the job growth in specialty trade contractors (Bureau of Labor Statistics).

In Oklahoma, energy sector layoffs slowed the annual average employment growth and influenced the overall job growth. Total non-farm employment added a non-seasonally adjusted 12,100 jobs for a 0.7 percent growth rate while in 2014, 21,300 jobs were added at a 1.3 percent growth rate. The largest annual average job losses were seen in mining and logging which dropped a non-seasonally adjusted 7,400 jobs (-12.0 percent).

Manufacturing employment lost 2,700 jobs mostly in durable goods manufacturing, and information sector lost 300 jobs in 2015. Figure 2.2 shows employment change by industry in Oklahoma.

Oklahoma Travel Impacts

Travel is a multi-billion-dollar industry in Oklahoma. Travel, often defined as tourism, is the third largest industry in the state behind ‘oil and natural gas’ and ‘agriculture.’ The industry is represented primarily by businesses in the leisure and hospitality sector, transportation, and retail. Dean Runyan Associates conducted a study in regards to the economic impact of travel to Oklahoma. The results of the study indicate that total direct travel spending in Oklahoma in 2014 was \$8.9 billion. The growth in tourism and recreation businesses creates jobs and revenue for the state and improves the quality of life for the people of Oklahoma. More than 95,000 jobs and \$2 billion in payroll in

Oklahoma are supported due to travel spending. Tourism spending generated \$972 million in local, state and federal tax revenue in 2014. State tax revenues attributable to tourism spending have increased 15 percent since 2010. The following is a summary of Oklahoma travel reported by Dean Runyan Associates:

- “Total direct travel spending in Oklahoma was \$8.6 billion in 2015. Largely due to a decline in the price of motor fuel, total direct travel spending declined by 2.1 percent over the preceding year in current dollars.
- Most notably, non-transportation visitor spending (not including motor fuel and visitor air transportation) increased by 2.4 percent over the preceding year. Since 2010, non-transportation visitor spending in the state has increased on average by 4.3 percent per year in current dollars.
- Direct travel-generated employment was 98,300 in 2015. This represents a 3 percent increase over the previous year. On average, direct travel-generated employment has increased by 2.6 percent per year since 2010.
- Direct travel-generated earnings (\$2.1 billion in 2015) increased by 4.2 percent over the previous year; travel-generated earnings have grown by 4.4 per year since 2010.
- Local, state and federal tax revenue generated by travel spending totaled \$986 million in 2015: \$265 million local (an increase of 2.5%), \$369 million state (an increase of 1.5%), and \$352 million federal. This is equivalent to \$650 for each Oklahoma household (state and local tax revenue is equivalent to \$415 for each Oklahoma household). The local and state tax revenues generated by travel spending represent 4.0 percent of all local and state tax revenues collected in Oklahoma.”

Travel spending in Oklahoma brings money into Oklahoma communities. Almost two thirds (69%) of all travel spending in Oklahoma was made by out-of-state U.S. residents while Oklahoma residents accounted for 28% of travel spending in 2015.

Examples of Economic Impact of Outdoor Recreation

Oklahoma State Parks

In several locations across Oklahoma, a state park is the major economic driver for a county or region. These state parks draw visitors (tourists) to a specific locale while stimulating expenditures by those visitors in their home location, along the route to the park, and upon arrival at the state park.

Currently, the revenue sources for the Oklahoma State Park system’s operation rely on the park-generated revenues, general funds, dedicated funds, federal funds, and other financial sources. For the past several years, the total annual operating expenditures for Oklahoma State Park system has averaged approximately \$30 million among which park-generated revenues provided \$16.2 million, general funds provided \$11.5 million, and dedicated funds provided \$2.3 million. The average operating expenditure per visit was \$3.42 per visit in which park-generated revenues provided \$1.87.

In considering a move toward self-sufficiency, Oklahoma State Park system has been searching for pricing strategies to increase park-generated revenues. The utilization of user fees to generate revenue is considered efficient and equitable within limits. User fees ensure that visitors pay most of the cost of the park service and operation. This suggests that state park systems are a “quasi-market” arrangement where visitors – the actual users of the park and the services – pay for the services they benefit from and bear most of the cost of the services. However, a general understanding of the visitors’ utility of the user fees is necessary. The pricing system in state parks is multidimensional, particularly, generating revenues and public access. Seeking the profit maximization may sacrifice the rights of utilization from general public.

Besides the entrance fees, an understanding of the pricing policies for the state park services is important in generating park-generated revenues as well. The proper consideration of the price elasticity of the services may generate more revenues. Differential pricing may help to raise revenues and to reduce congestion for popular park activities. Different charges for different infrastructures at different locations at different times are an effective pricing strategy. State parks need to create incentives for both visitors and park managers.

Updating of aging infrastructures, providing recreational programs, and providing quality services are incentives for visitors. Retaining the revenues earned by individual parks and using them in the park creates incentives for park managers to serve the visitors. Increased park-generated revenues and decreased operating costs are equally important in reaching self-sufficiency – although decreasing operating expenses may reduce quality of services and put resources at risk. Properly and efficiently arranging staff and managing infrastructure may reduce the operating costs. Self-sufficiency is a long-term goal and requires many improvements, policy changes, and cultural adjustments.

Grand River Dam Authority

The Grand River Dam Authority (GRDA) was originally created as a public utility, generating and distributing electrical power. Over the years, and significantly increased by legislation in 2016, GRDA has become a manager of outdoor recreation resources and provider of outdoor recreation opportunities. Clearly, Grand Lake o’ the Cherokees is a premier destination for many, but GRDA has also acquired responsibility for resources that provide rock-crawling experiences and float experiences.

Rock-crawling is a growing, ‘trending’ recreation phenomenon in which enthusiasts drive specially modified vehicles in extremely rough terrain – including up vertical walls. The area below Pensacola Dam has transformed Langley and Disney from lakefront and water-dependent communities to the home of large special events dependent upon rock-crawling. Events such as the Big Meat Run attract enthusiasts and spectators from across the United States bringing crowds of 15,000 rock-crawlers to the south Grand Lake area for each event (Caneday, et al., *Rock-crawling on GRDA Properties*).

The Illinois River is Oklahoma’s premier float stream, offering canoes, kayaks, and river rafts to enhance recreation experiences north of Tahlequah to the Arkansas state line. As authorized by legislation in 2016, GRDA received management responsibility for the float streams from the former Oklahoma Scenic Rivers Commission. As a result, GRDA

sponsored research to review the management policies, pricing, and valuation of the Illinois River. *Carrying Capacity and Valuation of the Illinois River* (Caneday, et al. and Boyer, et al., 2016) documents the visitation patterns, capacity, and values associated with a float experience. The Illinois River continues to be a premier recreation resource and economic stimulator for northeastern Oklahoma.

McClellan-Kerr Arkansas River Navigation System

Although developed primarily for transportation, the McClellan-Kerr Arkansas River Navigation System (MKARNS) extends from Catoosa (OK) to the Arkansas state line and beyond. Recreation sites along this corridor provide visitors with opportunities to enjoy the water-based resource.

As presented in a report by Caneday and Soltani, the USACE documents 459,235 recreational visitors at 11 developed recreation sites along MKARNS. The principal investigators for this project utilized a variety of sources to estimate recreational visitation at 15 lesser developed recreation sites not included on the USACE report. As a result, the estimated visitation at these public access locations is 293,600 persons annually.

Based upon years of prior research, the USACE estimates that 80% of visitation to its sites in the Tulsa District is day use with 20% of recreational visits being overnight use. As a result, Table 2.7 presents the visitation patterns between day visitors and overnight visitors along MKARNS.

Table 2.7 – Visitation Patterns along MKARNS

Visitation	Day visitors	Overnight visitors	Total visitors
USACE reports	367,388	91,847	459,235
PI estimates	234,880	58,720	293,600
Totals	602,268	150,567	752,835

Using the visitation patterns and the expenditure patterns for these visitors, it is possible to estimate the total expenditure of recreational visitors utilizing public access locations along MKARNS. Table 2.8 reports the recreation expenditures by day and overnight visitors within the immediate MKARNS corridor, beyond five miles from the corridor, and the total direct expenditure. The total estimated direct recreational expenditure generated by visits to public access locations along MKARNS is almost \$78 million annually.

The authors of this report utilized the Money Generation Model Version 2 (MGM2) to assess economic impact in recreation settings in Oklahoma. While this project was based on IMPLAN, MGM2 is also developed on IMPLAN. The authors selected two important measures to document the economic impact of recreation visitation and expenditures along MKARNS: total economic impact and number of jobs created.

Table 2.8 – Recreation Expenditures along MKARNS

Category of Visitors	Number of Visitors	Expenditure per Visitor	Within 5 miles of MKARNS	Beyond 5 miles from MKARNS	Total expenditure
Day visitors	602,268	\$69.09	\$41,610,696		\$69,796,838
Day visitors		\$46.80		\$28,186,142	
Overnight visitors	150,567	\$36.61	\$5,512,257		\$8,106,527
Overnight visitors		\$17.23		\$2,594,269	
Totals	752,835		\$47,122,953	\$30,780,411	\$77,903,364

Table 2.9 – Economic Impact of Recreation Expenditures along MKARNS

Category	Explanation	Dollars generated or jobs created
Direct expenditure		\$77,903,364
Economic impact	Oklahoma multiplier of 1.27	\$98,937,272
Jobs created	Expenditure of \$46,600 = 1 job	2,123

Although recreation was not – and is not – the primary purpose for the McClellan Kerr Arkansas River Navigation System, recreation is clearly an important economic, social, cultural, and personally-valued component of MKARNS.

Summary of the Health of the Oklahoma Economy

The Oklahoma economy has demonstrated a series of “boom and bust cycles” since statehood. The extremes of those cycles have been reduced in recent years. Oklahoma remains below national averages on several major economic measures as shown by Census data. Recent employment patterns have shown reduction in higher-paying job sectors with replacement of employment opportunities in lower-paying job sectors. Tourism and recreation remain among the top three economic sectors for Oklahoma, stimulating the economy, providing quality of life, and linking residents and visitors to the natural environment.

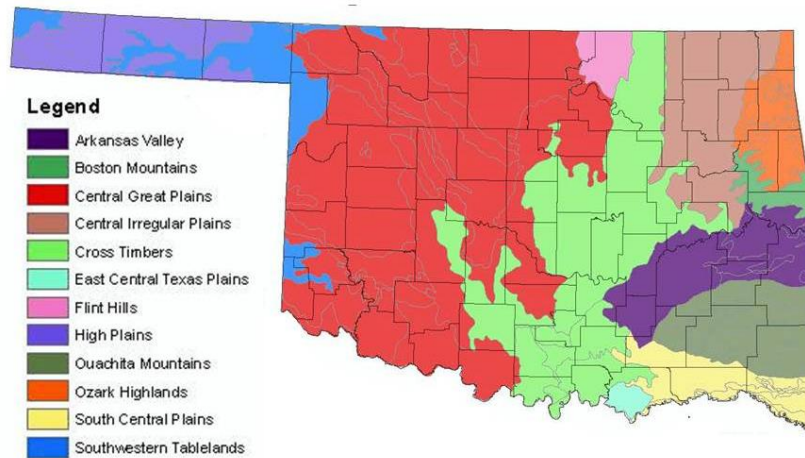


**THE HEALTH OF THE OKLAHOMA
ECONOMY IS DIRECTLY LINKED TO
THE HEALTH OF THE OKLAHOMA
PEOPLE AND THE HEALTH OF THE
OKLAHOMA ENVIRONMENT.**

Focus of the 2017 Oklahoma SCORP

Oklahoma – The Environment and its Health

“Mile for mile, Oklahoma offers the nation’s most diverse terrain. It’s one of only four states with more than 10 ecoregions, and has by far, the most per mile in America according to the EPA. Oklahoma’s ecoregions – or, terrains/subclimates – include everything from Rocky Mountain foothills to cypress swamps, tallgrass prairies, and hardwood forests to pine-covered mountains. Each is graced with wide blue lakes, rivers and streams” (Office of the Secretary of the Environment). The stereotype of Oklahoma as ‘flat, dry, windy, and tornado alley’ is belied by the evidence from the EPA and heralded by the Secretary of the Environment. The environment of Oklahoma offers great diversity and supports an equally diverse opportunity for outdoor recreation.



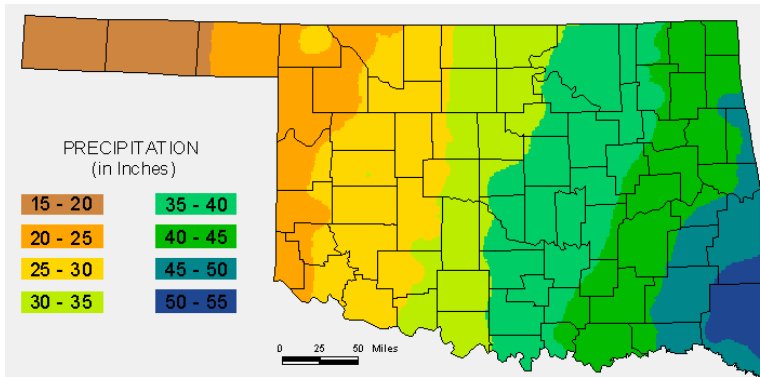
**Figure 3.1 –
Ecoregions of
Oklahoma**

Source: Office of the
Secretary of the
Environment

Oklahoma is the 20th largest state in the United States with a total area of 69,960 square miles. The highest point in Oklahoma is located in the far northwestern portion of the panhandle, Black Mesa at an elevation of 4,973 feet above sea level. By contrast the lowest point in the state at 289 feet above sea level is in far southeastern Oklahoma where the Little River crosses the border into Arkansas. It is this change in elevation combined with the location in the south-central portion of the United States that produces the diversity in ecosystems across Oklahoma.

While it is evident that the ecosystems of Oklahoma affect the recreation opportunities available, it is also evident that the ecosystems of Oklahoma affect the recreation patterns of the people. The body of Oklahoma, with the exception of the panhandle and a small portion of Osage County, is located in a humid subtropical climate characterized by hot, muggy summers. These summers feature frequent thunderstorms, whereas winter precipitation is usually rain, but may include occasional snow. The panhandle of Oklahoma is a mid-latitude steppe climate offering deficient precipitation for much of the year. A small portion of Osage County is classified as humid continental climate. This zone includes warm to hot muggy summers in which most

**Ecosystem: a system formed
by the interaction of a
community of organisms with
their environment**

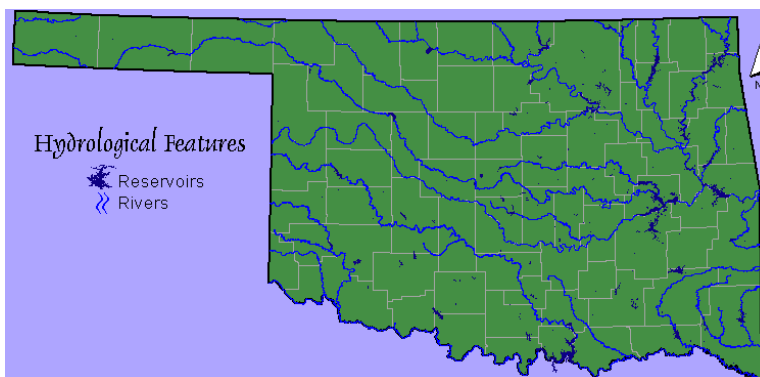


**Figure 3.2 –
Precipitation across
Oklahoma**

Source: National
Geographic Society

precipitation is associated with thunderstorms, whereas the winter precipitation is frequently snow.

Precipitation and terrain influence the watersheds in Oklahoma. Three major river systems dominate Oklahoma, with each of the rivers flowing in an east-southeast direction. The Arkansas River originates in Colorado and flows through Kansas before entering Oklahoma and then exits into Arkansas. Numerous tributaries flow into the Arkansas including the Cimarron, the Verdigris, the Grand (combining the Neosho and Spring rivers), and the Illinois rivers. The Canadian River systems (North and South) also flow into the Arkansas River and drain much of the central portion of Oklahoma. The third major river system in Oklahoma is the Red River forming the southern border with Texas.



**Figure 3.3 –
Hydrological features
of Oklahoma**

Source: National
Geographic Society

With a total area of 69,903 square miles, Oklahoma includes 1,224 square miles of water or approximately two percent of its area as surface water. It is asserted by several authorities that Oklahoma has more miles of shoreline than the Atlantic and Gulf coasts combined. This shoreline would include that of numerous lakes impounded on Oklahoma's rivers and streams, several of which can be seen in Figure 3.3. Oklahoma has no natural lakes, but has been enriched with numerous impoundments – many of which provide outdoor recreation opportunities.

Despite its stereotyped reputation, Oklahoma has four mountain ranges distributed across the state. The Ouachita Mountains are located in the southeastern portion of the state and generally extend in east-west ridges. The foothills of the Ozark Mountains extend into east central Oklahoma and drain into the Illinois River on the Oklahoma side of the border. The Arbuckle Mountains are located in south-central Oklahoma and have been

called “the oldest mountain range in the United States.” In the southwestern part of Oklahoma, the Wichita Mountains provide the environment for a major national wildlife refuge.

Approximately 24% of Oklahoma is forested as shown in Figure 3.4, with considerable diversity in the composition of those forests. Much of the central portion of Oklahoma is dominated by the Cross Timbers ecosystem, synonymous with the Post Oak-Blackjack forests extending from Kansas to Texas. The Ozark foothills show a considerably different forest of oak-hickory, while the Ouachita Mountains are dominated by Oak-Southern pine forests. Due to their east-west ranges, the Ouachita Mountains frequently show very different ecosystems on the north facing slopes from that on the south facing slopes. River valleys in the eastern portion of the state have more traditional Bottomland hardwood forests. Although prairie and plains extend across much of western Oklahoma, the extreme northwest corner of the state includes Pinion pine-juniper forests that extend west toward the Rocky Mountains.

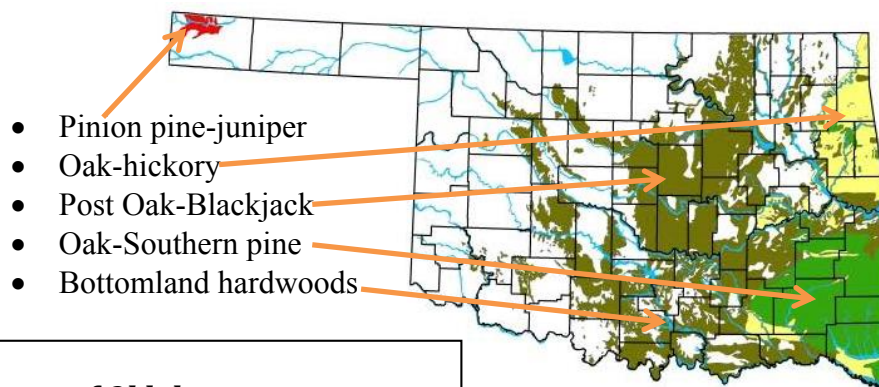


Figure 3.4 – Forests of Oklahoma

Source: Oklahoma Forestry Services

The Oklahoma environment is a natural playground. The geography, ecology, biology, and botany of the state provide wonderful resources for residents and visitors. Experience has shown that climate, temperature, precipitation, and seasonality are major factors in determination of outdoor recreation for Oklahomans. Additionally, economic and employment conditions are important factors. This is evident in patterns of behavior related to hunting and fishing. It is even more evident in patterns of visitation to Oklahoma’s parks and lakes.

During the past five years there have been changes in the availability and utility of the recreation resources in Oklahoma. Some of those changes were governmental; some changes were economic; some changes were climatological; and some changes were environmental. Each is important to comprehensive planning for outdoor recreation.

Oklahoma’s Public Recreation Estate

A SCORP focuses on the public provision of outdoor recreation, although private partnerships and cooperative agreements are important in provision of services, opportunities, and access to the recreation resources. As reported in the 2007 SCORP,

there had been only minor changes in public properties available for outdoor recreation experiences in Oklahoma during the prior five-year period. That situation changed between 2008 and 2012, due in large part to the economic recession and budgetary pressures placed upon governmental units. Some additional change has continued during the period between 2012 and 2017.

The major changes in availability of public acreage for recreation reported in 2012 were the result of “closure” of seven Oklahoma State Parks in 2011. Those closures did not actually reduce the public recreation estate as responsibility for property management was transferred from OTRD to other agencies. The properties remain available for public recreation. Table 3.1 shows the detail of land and water acreage in Oklahoma available for public recreation.

Table 3.1 – Oklahoma’s Public Recreation Estate by Acreage

Local, State, and Federal Recreation Property

Level of Government and Managing Agency	Land Acreage	Water Acreage	Total
Local governments			
Cities	28,175	51,530	79,705
Counties	14	0	14
State government			
Colleges/Universities/State Regents	14,870	4,212	19,082
Grand River Dam Authority	57	69,050	69,107
Oklahoma Dept. of Wildlife Conservation*	765,238	2,120	767,358
Oklahoma Tourism and Recreation Dept.*	68,443	NA	68,443
School Land Office*	756,018	NA	756,018
Federal government			
Army Corps of Engineers*	79,680	432,337	512,017
Bureau of Indian Affairs	54	NA	54
Bureau of Land Management	320	NA	320
Bureau of Reclamation*	23,552	34,890	58,442
National Park Service	7,416	2,346	9,762
U.S. Fish and Wildlife Service	140,814	NA	140,814
U.S. Forest Service*	249,010	91	249,101
Totals	2,133,661	596,576	2,730,237

* Reported figures include leased properties that may be connected to other agencies.

Availability of public recreation space is an important consideration in provision of outdoor recreation activity. While private properties provide opportunities for some to participate in recreation, those properties are typically limited by personal choice of the property owner or by proprietary operation, thus limiting certain segments of the population. The public domain is “everyone’s property,” managed to encourage use by the public and, in the case of parks, these properties are managed for recreation. As such, public parks are essential in the supply of opportunities for outdoor recreation for the majority of Oklahomans.

In contrast to the table on the previous page which showed the public recreation estate, Table 3.2 reports the land ownership pattern for all properties in Oklahoma. There is a much higher percentage of private land ownership in Oklahoma than is true on a national average across the United States. This ownership pattern influences such opportunities as access to resources to hunt, linkages and corridors that may serve as trails, and available parks and playgrounds – especially within cities.

Table 3.2 – Oklahoma’s Land Ownership by Percentage of Area

Ownership of Property	Acreage by agency	Total acreage	Oklahoma percentage	National percentage
Private properties		41,720,290	93.17%	58.0%
Other private owners	40,328,341		90.07%	
Indian lands	1,391,949		3.10%	2.0%
Federal government		1,118,459	2.50%	33.0%
Army Corps of Engineers	512,017			
Bureau of Reclamation	58,442			
Department of Defense	148,323			
National Park Service	9,762			
U.S. Fish and Wildlife Service	140,814			
U.S. Forest Service	249,101			
State government		1,124,109	2.51%	4.5%
Grand River Dam Authority	82			
Dept. of Wildlife Conservation	300,046			
Tourism and Recreation Dept.	24,942			
School Land Office	756,018			
State Regents, other state agencies	43,021			
Local government		28,182	0.06%	2.5%
Cities	27,442			
Counties	740			
Water (with public access)	783,360	783,360	1.75%	
Totals		44,774,400	100.00 %	100.0 %

Location of these public lands is also a consideration for individuals seeking outdoor recreation experiences. Figure 3.5 on the following page shows the distribution of these public lands and waters across Oklahoma. The larger public holdings are in the eastern part of Oklahoma and somewhat distant from the population centers of the state.

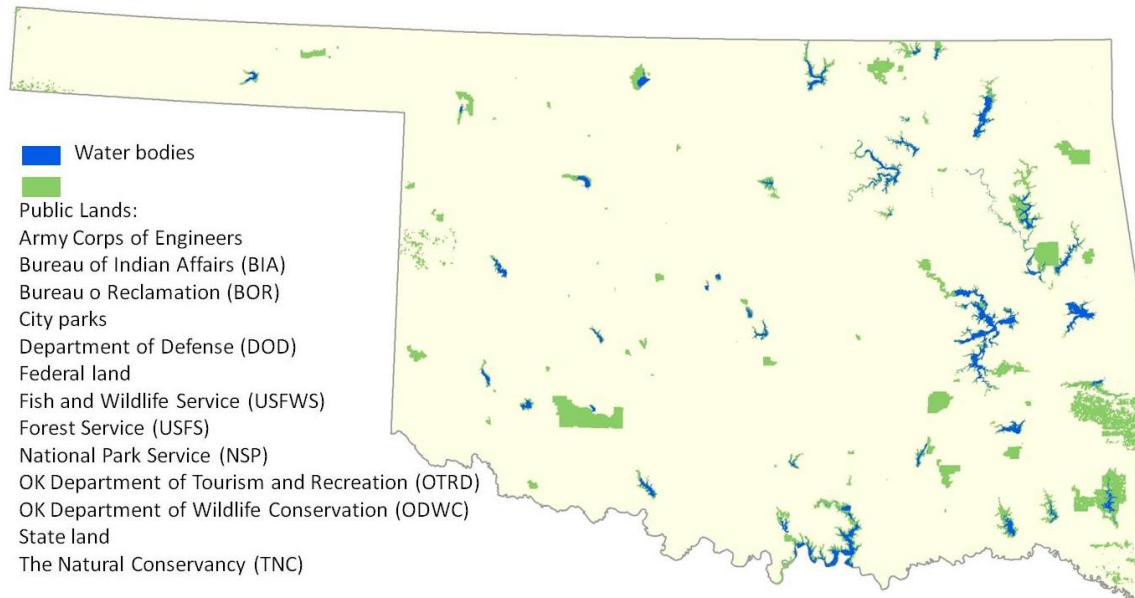
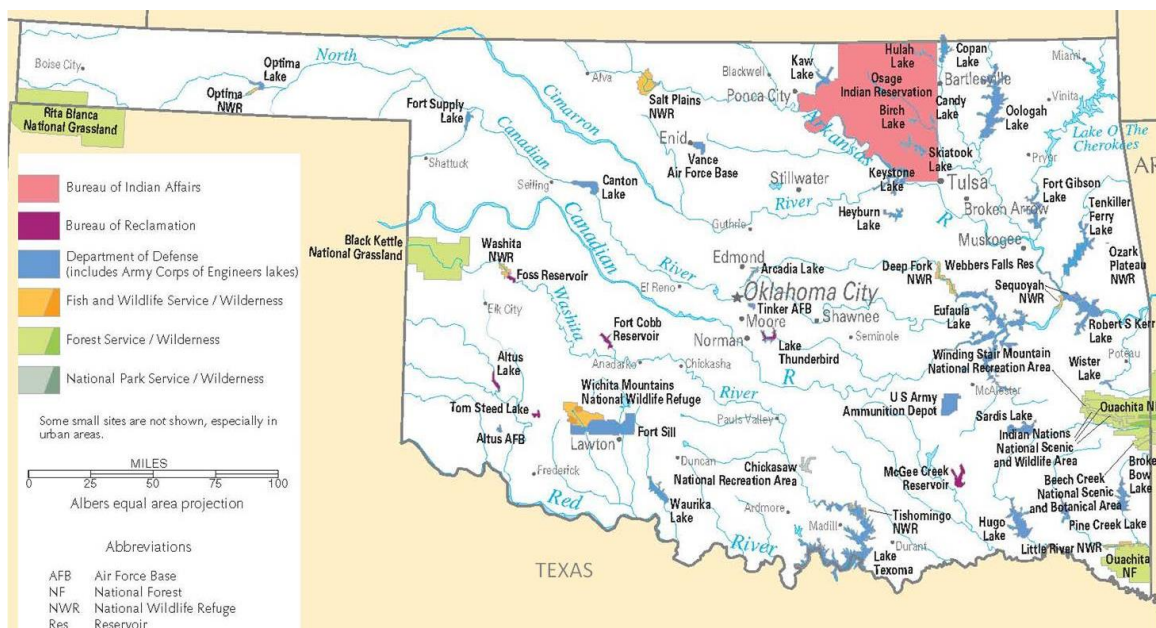


Figure 3.5 – Public lands in Oklahoma

Above: Major lakes and public lands including state and federal properties

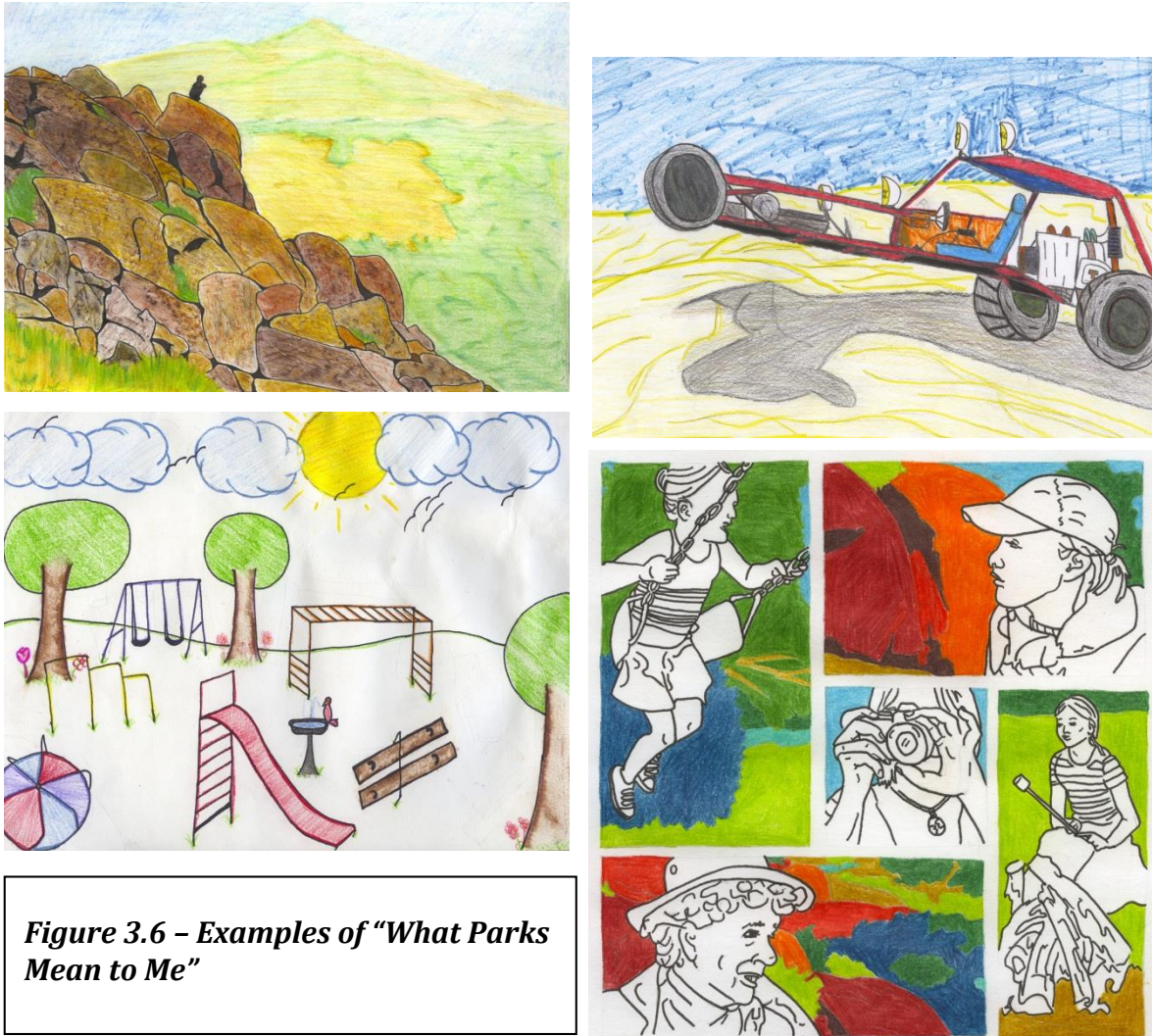
Below: Federal lands in Oklahoma by agency

Source: U.S. Geological Survey



Oklahoma's Parks

Portions of the public lands in Oklahoma have been designated as parks or places for recreation. What do these places mean to Oklahomans? The 2007 SCORP established the meaning of these special places for Oklahomans through drawings and writings focused on “What Parks Mean to Me.”



Park: an area in its natural or semi-natural state set aside for human recreation and enjoyment or for protection of wildlife and their habitat

Figure 3.6 documents a sample of the input provided by Oklahomans of all ages and ethnicities regarding the meaning of parks in their individual lives. Analysis of the text of essays written by Oklahomans and drawings prepared by Oklahomans revealed and documented specific patterns in the meanings of parks.

So what do parks mean to Oklahomans? These special places set aside for human recreation and enjoyment or for protection of wildlife and their habitat are settings for multiple important aspects of life. Parks are:

- Settings for development and maturation of relationships;
- Settings for memories and hope for the future;
- Settings for physical activity and recreation;
- Settings for interaction with nature;
- Settings for personal development and quality of life;
- Settings for positive emotions – acceptance, romance, nurturing, laughter, dynamism, amazement, challenge, peace, happiness, energy, excitement, joy, love, and more;
- Settings in which to express pride and ownership in Oklahoma; and
- Settings for highly personal values and perspectives.

For many Oklahomans, parks are the premier representations of their home – Oklahoma. The meanings ascribed by Oklahomans to parks represent a range of interactions, called “sense of place,” from passive viewing of the landscape, to playing in structured and defined spaces, to active engagement in outdoor experiences. Lifelong memories are created in parks. Life’s lessons are learned in parks. Parks truly are the “public recreation estate.”

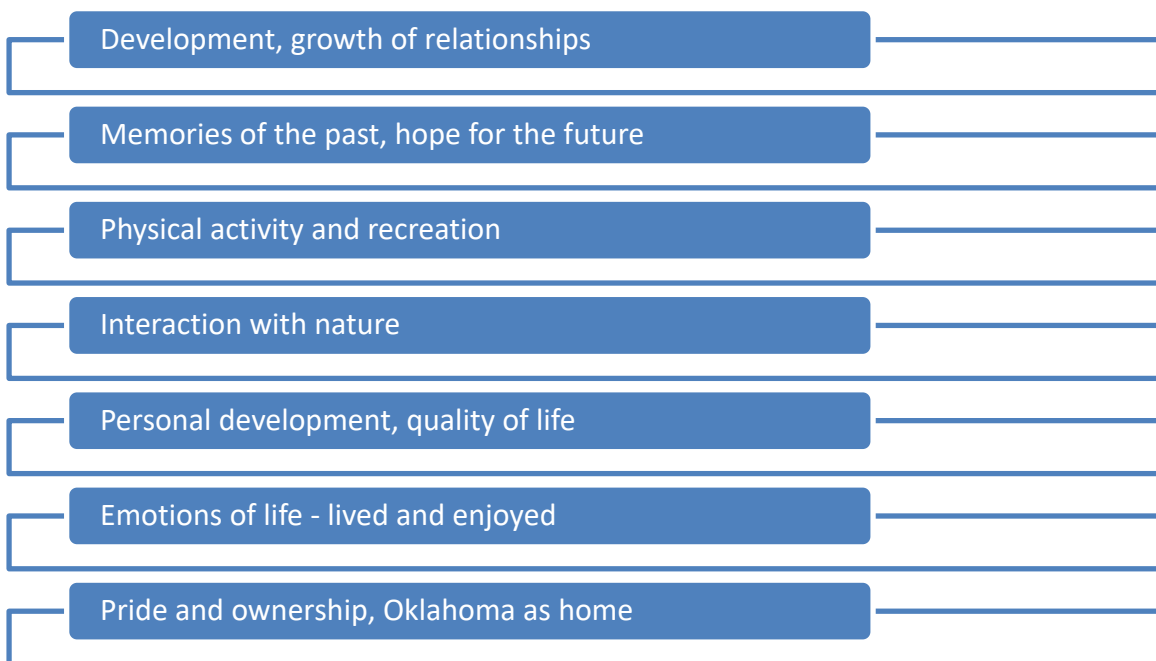


Figure 3.7 – The Meaning of Oklahoma Parks to Oklahomans

Who are the providers of public recreation opportunities for the residents of Oklahoma and those who visit the state? The previous discussion in this SCORP described the ownership pattern of properties in Oklahoma and that pattern correlates highly with the agents who actually provide the recreation opportunities. Public recreation is principally provided by cities and towns in Oklahoma, by school districts, by county government, by the state of Oklahoma, or by agencies of the federal government.

The following discussion presents a snap-shot of the conditions and provisions of public outdoor recreation in Oklahoma as a foundation for the 2017 SCORP. This presentation is organized based on the providers as shown in Figure 3.8. The level of involvement among these governmental agencies in provision of outdoor recreation opportunities varies greatly.

The general pattern in provision of opportunities shows a greater reliance upon local provision. The frequency of involvement among residents is greatest at the local level of provision due largely to proximity and familiarity.

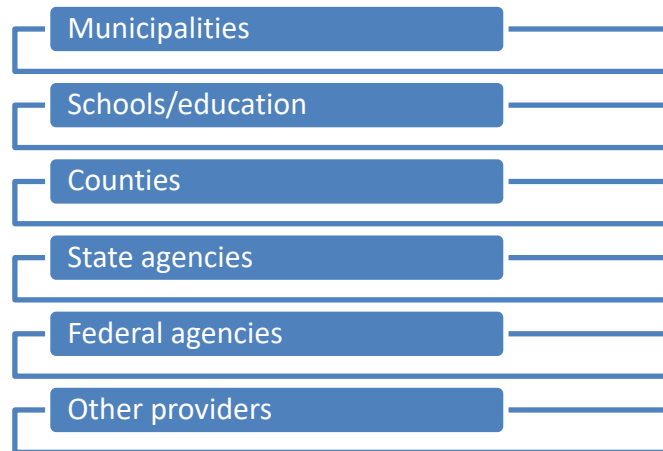


Figure 3.8 – Public providers of outdoor recreation in Oklahoma

During preparation of the SCORP, citizens asked specific questions about the purpose for different types of parks. During public meetings in preparation of this and other recent SCORPs, citizens asked “What is meant by a state park versus a city park?” “What are the expectations and use patterns of a lake-based state park versus other sub-genres such as river or prairie-based parks?” “What recreation needs are met by which agency?” “Should parks at one level of government duplicate the services provided by another level of government?”

The systems planning model (Mertes & Hall, 1996) suggests multiple levels or classifications for parks, recreation areas, open space, and pathways. This classification system is intended to address access for participants, skill level of participants, traffic flow, and need. In part, the systems planning model includes the following:

- Mini-park: In a residential setting, serving a radius of about ¼ mile, ranging from 2,500 square feet to one acre in size, designed and intended as “walk-up” facilities. (Municipal or housing association)
- School park: Units that combine the resources of two public agencies to expand the recreation, social, and educational opportunities for a community.
- Neighborhood park: The basic unit of a park system serving a radius of ¼ to ½ mile distance, with access routes uninterrupted by physical barriers such as major streets or roads. These properties range from 5 acres to 10 acres in size and focus on informal active and passive recreation. (Municipal)

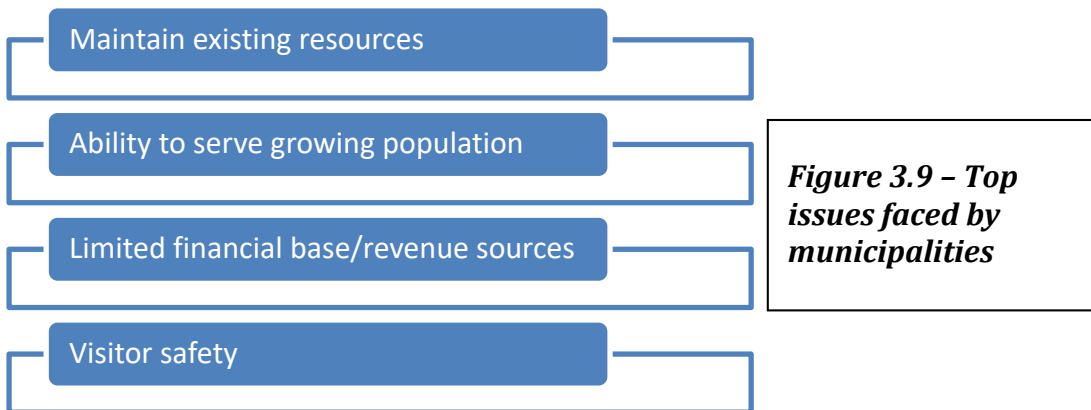
- Community park: These parks serve multiple neighborhoods meeting community-based needs while preserving green landscapes and open spaces. These parks serve a radius of about 3 miles and may be 30 to 50 acres in size. (Municipal)
- Urban or city park: Usually a minimum of 50 acres and upwards, these parks may preserve green landscapes and open spaces, but also serve as sites for programmed activities. They may include athletic complexes, recreation centers, nature centers, and other specialized facilities. (Municipal)
- Natural resource area: Lands set aside for preservation of significant natural resources, remnant landscapes, open space, and visual aesthetics or buffering. These properties support active and passive recreation appropriate to the environment and may include wildlife habitat, wetlands, geological features, and historic or cultural areas. (Municipal or state)
- Greenways: Units that effectively tie park system components together to form a continuous park environment. These units include linear parks, trails, and bikeways. (Municipal or state)
- State park: The classic definition of a state park from Richard Lieber is “properties having scenic or historic value or both, dedicated to the public for the intelligent use of its leisure time.” In Oklahoma that had been applied as (1) sites having statewide significance for natural beauty, uniqueness, or other recreational and resource preservation purposes, and (2) sites which will improve the overall availability of public recreation facilities to the recreation public while possessing resource significance. (State)

The systems planning model offers guidance for decisions in planning and expectations of the public particularly in the urbanized areas of Oklahoma. In these locales, there is a higher level of service offering more recreational options. By contrast in many of the rural portions of Oklahoma, the local provider may offer one local park option with limited opportunities beyond that single provision of recreation space.

Municipal Provision of Recreation

As indicated in the previous discussion, Oklahoma has 612 incorporated towns and cities scattered statewide. A statewide online survey was utilized to gain input from municipal leaders in these towns and cities. The Oklahoma Municipal League (OML) supported this survey by providing access to their email contacts for all members of OML and increased the credibility of the survey through their reputation with the municipal leadership. The full survey and detail of responses is provided in Appendix A.

The local contact for the survey regarding provision of recreation opportunities may have been a mayor, a city clerk, a director of a department, or other member of OML. Figure 3.9 on the following page provides a graphic indication of the greatest concerns facing recreation managers and providers in their respective communities.



If funding were available to support park and recreation agencies, these respondents indicated their rankings of purposes for which such funds would be utilized. The top four purposes presently needing additional funding were:

1. Operational costs for current facilities and programs;
2. Acquisition of properties for parks and recreation areas;
3. Development of new outdoor recreation areas and facilities;
4. Development of new recreation, education, and interpretive programs.

These respondents also indicated the great value that grant programs provide to local communities. Within the scope of a SCORP, these respondents also recognized the need for information related to trends in the population, trends in outdoor recreation, demand for recreation services, and economic data as a rationale for and supporting argument for recreation services.

A study conducted by Dunnington (2017) took place in a car-dependent and car-prioritized city where physical inactivity is high, inadequate active living supportive policies have been adopted, and few walkable and bikeable areas exist. Multiple themes were revealed in the connection between city politics and active living.

School/Education Provision of Recreation

The educational system from pre-kindergarten through university levels in Oklahoma is potentially a key provider of outdoor recreation education, opportunity, and service. Most public schools at the elementary and middle school levels include playgrounds; many serve as the only public park within a community. Beyond provision of play space, schools are the primary agencies for education of citizens in preparation for a productive, high quality life. A life of quality includes a life of health in a healthy environment. Therefore, the educational system is a critical partner in outdoor recreation in Oklahoma – and beyond.

Physical education in Oklahoma has tended to focus on traditional sports, whereas a relatively small percentage of students remain active in those sports. By contrast, few schools include curricular preparation in education related to outdoor activity – hunting, fishing, swimming, and other active recreational pursuits. Drowning is particularly identified as being among the most frequent causes of injury death in Oklahoma – an indicator of lack of education that could prevent these tragedies.

On a positive note, higher education in Oklahoma is active in provision of outdoor recreation. Examples of this involvement include: (1) Quartz Mountain Arts, Conference, and Nature Park managed through the Oklahoma State Regents for Higher Education; (2) Crowder Lake managed through Southwestern Oklahoma State University; (3) Lake Carl Blackwell managed through Oklahoma State University; (4) the Gary Harding Ranch and Research Farm managed through Connors State University, (5) property managed by the University of Central Oklahoma at Lake Arcadia, (6) the presence of the University of Oklahoma and University of Central Oklahoma in the OKC boathouse district, and (7) the Outing Club on the Illinois River as part of Northeastern Oklahoma State University.

**“The problem of education in a democratic society is to . . . make leisure a reward of accepting responsibility for service, rather than a state of exemption from it.”
John Dewey, 1916**

Conversely, as documented in the 2002, 2007, and 2012 SCORPs and continuing to the present, Oklahoma State Regents for Higher Education policy has devalued education related to outdoor recreation, recreation ethics, and personal responsibilities for recreation environments. As a result of public school curricula and policies in public colleges and universities, Oklahoma citizens must look elsewhere for meaningful education in preparation for quality of life in pursuit of recreation, skill development to enhance that pursuit, understanding of the effects of recreation behavior on the natural environment, or understanding of the effects of the natural environment on quality of life.

County Provision of Recreation

Tulsa County is the only county in Oklahoma that provides well established parks and recreation services. Their mission specifically states the purpose of the Tulsa County Parks Department as “to improve the quality of life within the community, Tulsa County Parks promotes health and wellness, by providing opportunities in both natural and developed environments, where citizens and guests can enjoy recreation and leisure activities” (<http://www.parks.tulsacounty.org/departments.aspx?page=departmentinfo>).

Other counties have increased their involvement in provision of recreation places or management of recreation sites. This has been particularly true of cooperative agreements between counties and other levels of government for management of recreation properties. An excellent example of these cooperative agreements is demonstrated by the management of Holly Creek, Panther Creek, and the Re-regulation Area on Broken Bow Lake and the Mountain Fork River by McCurtain County under agreement with the Oklahoma Tourism and Recreation Department and the U.S. Army Corps of Engineers.

State Provision of Recreation

Cooperative agreements for management of properties formerly managed by agencies of the State of Oklahoma have increased in recent years. As the state budget has tightened, efforts have been made to reduce expenses and increase efficiencies in management of recreation resources (Atkinson, 2011; Price, 2011; McNutt, 2011). There are three major providers of outdoor recreation properties and opportunities through the State of Oklahoma: (1) the Oklahoma Department of Wildlife Conservation (ODWC), (2) the

Oklahoma Tourism and Recreation Department (OTRD), and (3) the Grand River Dam Authority (GRDA).

ODWC receives no general state tax appropriation, but is supported by revenue from hunting and fishing license fees, and Wildlife and Sport Fish Restoration Program taxes. ODWC manages more than 65 public hunting areas, four state fish hatcheries, and several lakes. Property designations include Wildlife Management Areas (WMA) and Wildlife Refuges (WR). These areas include lands owned, licensed, leased or under the management of the Department (ODWC, 2017). ODWC also provides numerous educational and informative programs throughout the year, including a well-attended Wildlife Expo (Figure 3.10).



Figure 3.10 – ODWC Wildlife Expo



The Oklahoma Tourism and Recreation Department is a broad-based state agency with multiple divisions including a film and music office, *Oklahoma Today* magazine, travel promotion, and state parks. Oklahoma State Parks operates 33 state parks, five state lodges, and seven state golf courses. Table 3.3 provides detail related to acreage encompassed in Oklahoma State Parks and the ownership of the properties that comprise these parks.

Table 3.3 – Oklahoma's State Parks

Total Acreage in Oklahoma State Parks	68,442.91 acres
Property ownership	
State-owned	24,941.92 acres
U.S. Army Corps of Engineers	17,734.69 acres
Bureau of Reclamation	23,552.00 acres
Other leased properties	2,214.30 acres

During 2011, seven properties were removed from the state park system, but remained open for public recreation (Hoberock, 2011). Additional closures occurred during the past five years. Management of these properties was transferred to various agencies – cities (Tulsa, Heavener, Sallisaw, Okmulgee, and Beaver), Indian nations (Chickasaw and Osage), counties (Adair County), and the U.S. Army Corps of Engineers.

Since 2009, Oklahoma State Parks has experienced a \$13.5 million budget cut, approximately 38% of the budget. During this same period, Oklahoma State Parks has made significant investment in capital improvements in state parks, increased efficiency in management with a focus on covering operations from generated revenue, modernized planning and mapping for all state parks utilizing geo-referenced data, and completed resource management plans for each property as required by state law (<http://geog.okstate.edu/resources/rmpgis>).

In 2016, the Oklahoma legislature took action that changed responsibilities for specific recreation resources in Oklahoma. Beginning in 1977, the Oklahoma Scenic Rivers Commission was established to preserve free-flowing rivers and streams in Oklahoma for outdoor recreation. All of the designated scenic rivers and streams that were under the Commission are in eastern Oklahoma, including the Illinois River, Flint Creek, Barren Fork Creek, and portions of the Upper Mountain Fork River. As of July 1, 2016, the responsibilities and resources formerly under the Oklahoma Scenic Rivers Commission were assigned to the Grand River Dam Authority (GRDA; <https://www.ok.gov/osrc/>).



Figure 3.11 – Floaters on the Illinois River

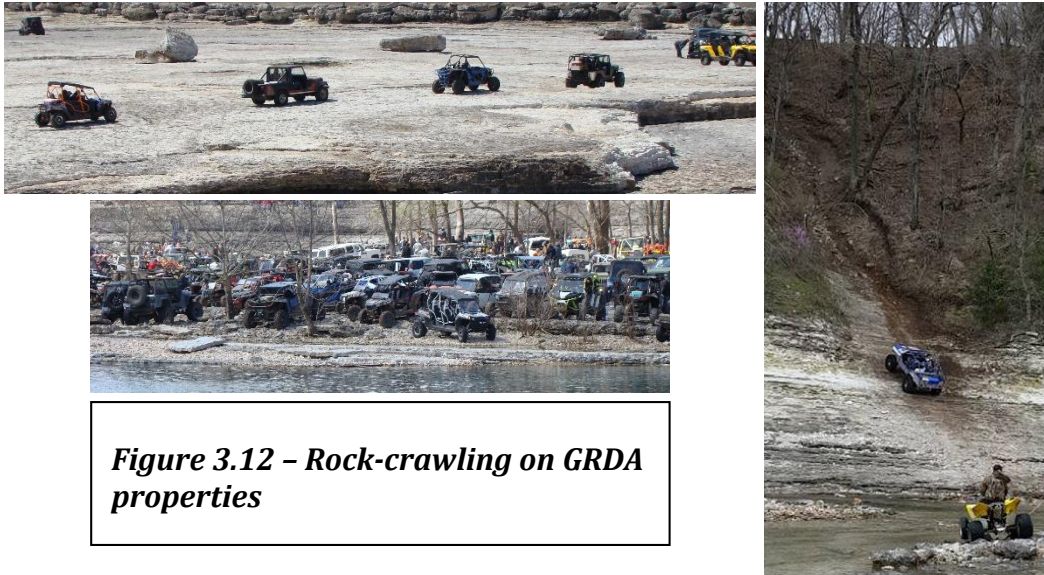


Figure 3.12 – Rock-crawling on GRDA properties

The Grand River Dam Authority (GRDA; <http://www.grda.com/>) was established in the 1930s with primary responsibility for generation of electricity and management of generating plants along the Grand River. Over the years, GRDA has managed water resources and leased properties for outdoor recreation. Grand Lake o’ the Cherokees includes a recreation management plan as part of the licensed operation under the authority of the Federal Energy Regulatory Commission. However, with the expansion of powers and scope of authority authorized in 2016, GRDA is now responsible for several important recreation resources in northeastern Oklahoma. These responsibilities now include (1) properties within the authorized lake levels for Grand Lake o’ the Cherokees and Lake Hudson and adjoining river valleys, (2) the area below Pensacola dam which has become a rock-crawling and ORV destination as shown in Figure 3.13 above, and (3) the Illinois River and its tributaries, the principal canoe and float streams in Oklahoma as shown in Figure 3.12 on the preceding page.

Additional agencies of Oklahoma government manage resources that may include outdoor recreation. Prominent among these other agencies, the Commissioners of the Land Office (<https://clo.ok.gov/>), also known as the School Land Office, may lease properties for hunting, fishing, grazing, agriculture, or other purposes. The Commissioners of the Land Office were authorized under an Enabling Act in 1906 that set aside Section 13 of each township for specific colleges and universities. In addition, sections 16 and 36 of each township were set aside for K-12 education. From an original allocation of three million acres of land, the CLO now own and manage slightly more than 750,000 surface acres and 1.1 million mineral acres. In recent years, the CLO has also been the state agency with management responsibility for sale and transfer of property, affecting several state parks.

Federal Provision of Recreation Resources

Oklahoma has a much smaller presence of federal land management agencies than is true in the United States in general. However, that presence is significant for outdoor recreation, resource management, and the economy.

U.S. Army Corps of Engineers – Tulsa District

While the Tulsa District of the U.S. Army Corps of Engineers (USACE, <http://www.swt.usace.army.mil/>), a division of the Department of Defense, extends from southern Kansas, across the panhandle of Texas and portions of north Texas, into a small portion of western Arkansas, the primary properties for USACE through the Tulsa District are in Oklahoma. There are 28 lakes in Oklahoma under the responsibility of the USACE. Most of these lakes include multiple recreation locations, some of which are managed by the Corps while others are contracted to other management units. Several of these properties, including over 17,700 acres of lakefront, are Oklahoma State Parks.

Figure 3.13 – Typical USACE waterfront

Skiatook Lake



U.S. Forest Service

The U.S. Forest Service (USFS), a division in the United States Department of Agriculture, manages two types of property in Oklahoma. On the eastern border, the Ouachita National Forest (<http://www.fs.usda.gov/ouachita>) includes three ranger districts in Oklahoma, while the headquarters for the forest are located in Hot Springs, Arkansas. Within the Ouachita National Forest are several management units including the Upper Kiamichi River Wilderness and a small portion of the Black Fork Wilderness. Other management units include the Kerr Arboretum, game management units, Billy Creek, Winding Stair, and Cedar Lake Recreation Areas (Figure 3.14 on the following page). These areas include camping, hiking, and other outdoor recreation amenities.

The Ouachita National Recreation Trail extends from Talimena State Park through the Ouachita National Forest to the Arkansas border and beyond. This lengthy trail winds through the Upper Kiamichi River Wilderness before exiting the state on the east.



Figure 3.14 – Ouachita National Forest



A second unit of the USFS, Cibola National Forest manages the Black Kettle National Grassland and the Rita Blanca National Grassland. Black Kettle National Grassland is located near Cheyenne, OK, although it is managed out of the USFS in New Mexico. Black Kettle (<http://www.forestcamping.com/dow/southwst/bkinfo.htm>) includes three campgrounds, plus numerous trails, and undeveloped areas. Rita Blanca (<http://www.forestcamping.com/dow/southwst/rb.htm>), also managed out of New Mexico, is located in the panhandle of Oklahoma. There are no developed campgrounds in the Oklahoma portion of Rita Blanca National Grassland, but there are picnic areas, trails, and hunting opportunities.

National Park Service

The National Park Service (<http://www.nps.gov/state/ok/index.htm?program=all>) is active in Oklahoma at a number of locations and under a variety of management units. Three locations are identified as “national park properties”, including Chickasaw National Recreation Area, the Washita Battlefield National Historic Site, and the Santa Fe National Historic Trail. In addition, the Oklahoma City National Memorial is an NPS designated site. The National Park Service is a bureau in the Department of Interior.

Over 1200 locations in Oklahoma are on the National Register of Historic Places. Three locations are identified as National Natural Landmarks and 21 additional locations are National Historic Landmarks. There are an estimated 1.2 million visitors annually to the various National Park Service sites in Oklahoma. These sites and their visitors have an economic benefit to the state over \$17 million annually.

Figure 3.15 – National Park Service properties in Oklahoma



Bureau of Reclamation

Another Department of Interior bureau is active in Oklahoma. While not technically a recreation agency, the Bureau of Reclamation has seven projects in Oklahoma (<http://www.usbr.gov/projects/FacilitiesByState.jsp?StateID=OK>). All of these projects include some recreational provision, while five of the lakes include state parks covering over 23,500 acres of land and water managed under lease to the State of Oklahoma. As a result, recreation access at lakes such as Thunderbird, Foss, Fort Cobb, Tom Steed, and McGee Creek is provided by and managed by Oklahoma State Parks. On Lake of the Arbuckles, the recreation access is managed by the National Park Service as a unit of Chickasaw National Recreation Area.



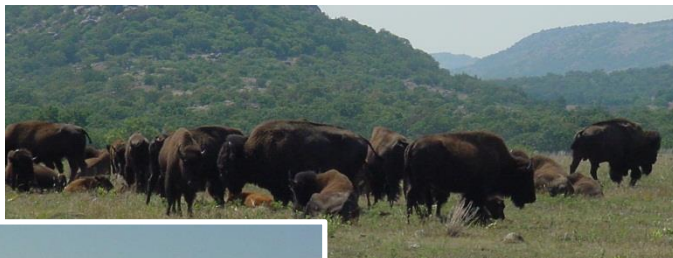
Figure 3.16 – Courtesy dock on a Bureau of Reclamation lake

U.S. Fish and Wildlife Service

Also a bureau in the Department of Interior, the U.S. Fish and Wildlife Service (<http://www.fws.gov/>) operates nine wildlife refuges in Oklahoma: Optima, Salt Plains, Washita, Deep Fork, Ozark Plateau, Sequoyah, Wichita Mountain, Tishomingo, and Little River. These refuges extend across the diverse ecosystems in Oklahoma. All of the refuges include some outdoor recreation opportunities. Wichita Mountains Wildlife Refuge offers the greatest level of development and recreation support with campgrounds, a nature center, climbing areas, and numerous opportunities for wildlife viewing.

Several of the refuges are adjacent to state parks. The proximity of these wildlife refuges to other recreation resources enhances the recreation experiences and environmental quality for many of the state parks.

Figure 3.17 – Wichita Mountains Wildlife Refuge



Provision of Recreation by Other Agencies

There are a number of other agencies at various levels that provide opportunities for outdoor recreation in Oklahoma. Certainly many private and non-profit businesses and organization supplement the delivery of public recreation. However, there are other governmental agencies that are important partners in provision of recreation.

The Federal Highway Administration, the Oklahoma Department of Transportation, and the Oklahoma Turnpike Authority provide transportation services supporting tourism and outdoor recreation. In particular, these agencies provide rest areas, trails, maps, and numerous other services that permit the public to access the recreation resource. Funding for alternative transportation corridor development and enhancements for highways is also coordinated through the Oklahoma Department of Transportation.

The Oklahoma Historical Society, a state agency that also serves through a membership organization, was established by Title 53, Oklahoma statutes, during territorial days in 1895. The Historical Society manages museums and historical sites around the state, providing destinations, education, and recreation for residents and tourists. Another important component of the Oklahoma Historical Society is the State Historic Preservation Office (SHPO).

The River Parks Authority (<http://www.riverparks.org/>) was created by the City of Tulsa and Tulsa County to develop the riverfront through the various jurisdictions, cities, and towns along that corridor. Today, River Parks includes over 800 acres of land, an urban wilderness, and miles of trails. The River Parks Authority is a prime example of public and private partnerships with the ratio of public funding to private funding at 49/51. Among the projects coordinated by the River Parks Authority is the Gathering Place. The Gathering Place is a project of the George Kaiser Family Foundation and will transform approximately 100 acres of Tulsa's Arkansas River waterfront into a dynamic and active space.

Oklahoma City Riversport (<http://riversportokc.org/>) is active in the Oklahoma City area along the Oklahoma River – that portion of the North Canadian River through the metropolitan area. In the Boathouse District south of downtown, OKC Riversport is expanding opportunities for rowing, kayaking, biking, and other outdoor recreation. Whitewater rafting and competitions, rowing, festivals, events and adventure are available through the resources and businesses along the Oklahoma River.

Although commonly associated with casinos, several of the American Indian nations are increasingly active in provision of outdoor recreation. Many have developed campgrounds and sports facilities on tribal lands. The Chickasaw and Choctaw nations have contracted for management of the former Boggy Depot State Park. The Osage nation has contracted for management of several USACE properties on Skiatook Lake, as well as Wah-Sha-She on Copan Lake. The Cheyenne-Arapaho nation has contracted for management of properties on Canton Lake. The Cherokee nation is managing tourism centers and other facilities, as is the Chickasaw nation with a new tribal cultural center.

Figure 3.18 – Casino development

Right: [Choctaw Casino](#) near Durant, Oklahoma

Below: [WinStar World Casino](#) near Thackerville, Oklahoma



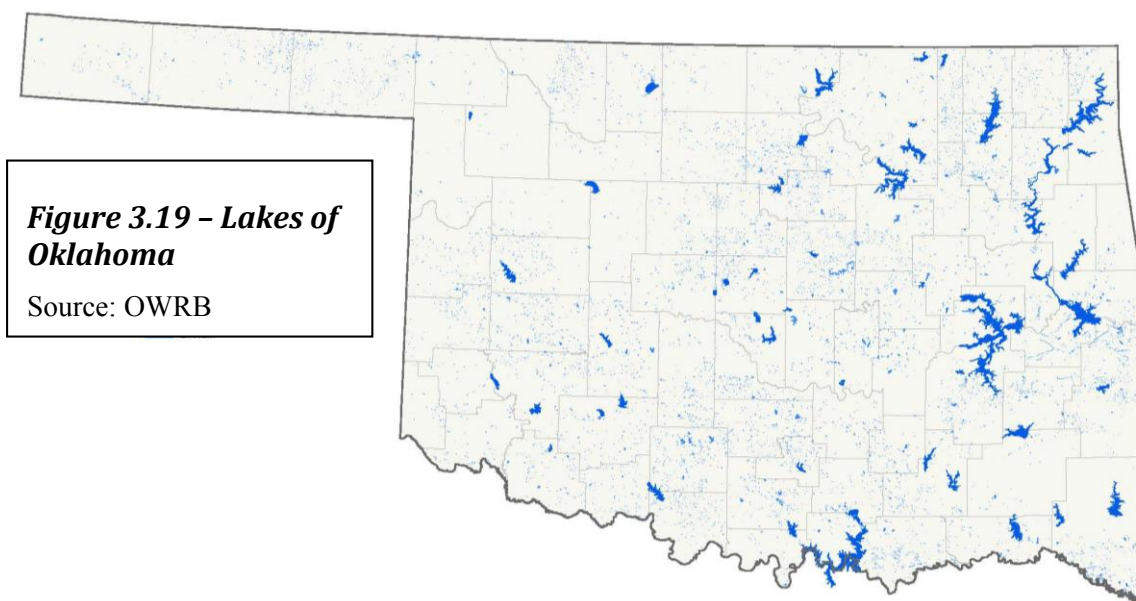
Two examples of the relationship of Native American casino and resort development to outdoor recreation in Oklahoma are shown in Figure 3.18. The Choctaw Casino Resort near Durant along Highway 69/75 and WinStar World Casino and Resort along Interstate 35 south of Ardmore are situated with the intent of attracting the population base from north Texas via good highways. As shown in the aerial views, both properties include large campground facilities adjacent to golf courses and accessible to numerous other visitor amenities. Similar facilities have been developed in Tulsa by the Cherokee Nation, with smaller destinations near Miami (Miami, Quapaw, and Peoria nations), Hugo (Choctaw), Lawton (Apache and Comanche nations), and numerous other towns and cities across the state by various Native American nations.

The management base of outdoor recreation in Oklahoma has expanded in the initial decades of the 21st century, although the resource base has remained constant. Oklahoma is limited in its public resource base, particularly at the municipal level. The greatest loss during this period has been at the local level in access to proximate recreation experiences and facilities. Neighborhoods – and their residents – are being disconnected from recreation opportunities.

Oklahoma's Water

The Oklahoma Water Resources Board (OWRB) has updated detail regarding groundwater and surface water in the state of Oklahoma (OWRB, 2012b). Oklahoma has 23 major groundwater basins containing 300 million acre-feet of water, of which only half may be recoverable. From a recreation perspective, surface waters may be of greater immediate importance.

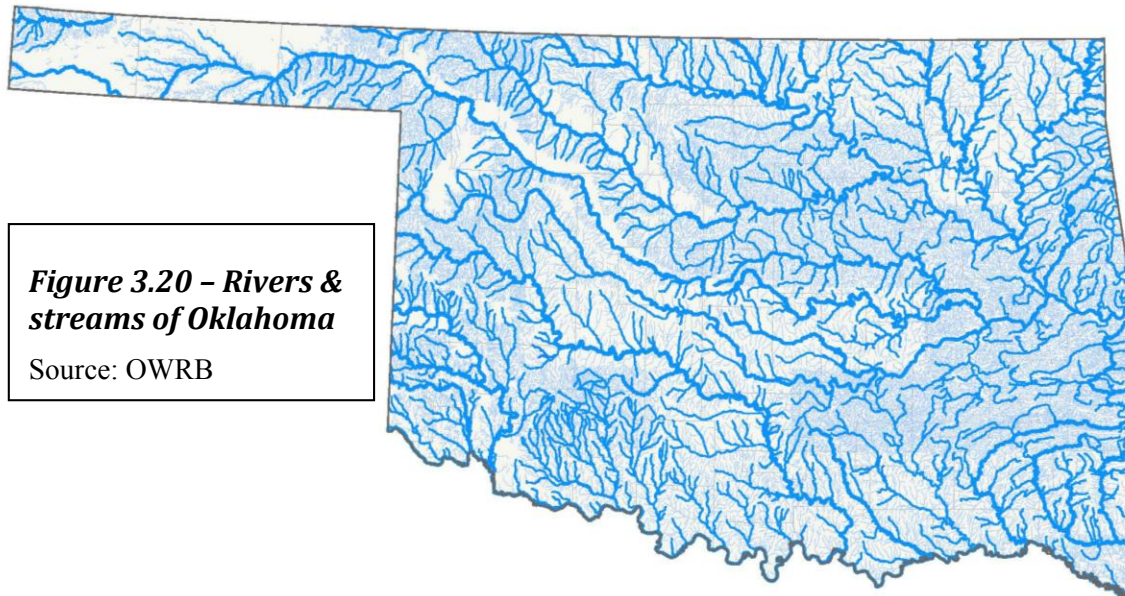
With improved mapping and data management, OWRB has updated details related to Oklahoma's surface waters. With 55,646 miles of shoreline along lakes and ponds, Oklahoma has more shoreline than is included in the Atlantic and Gulf Coasts combined. These lakes and ponds have a surface area of 896,640 acres. Figure 3.19 documents the distribution of these lakes and ponds across Oklahoma.



In addition to the lakes and ponds, Oklahoma has approximately 167,600 miles of rivers and streams. This array of drainage is shown in Figure 3.20 on the following page. Interestingly, approximately 10.5 million acre-feet of water flows into Oklahoma annually while 36 million acre-feet of water flows out of the state each year. It is the surface water and its accompanying shoreline that serve as invaluable resources for outdoor recreation in Oklahoma.

Water use is allocated and reported by the OWRB, with public water supply (41% of total use), irrigation (32%), and livestock and aquaculture (12%) identified as the major beneficial uses of water. Approximately 54% of Oklahoma's surface water is used for public water supply.

Currently recognized beneficial uses for some or all of the waters in Oklahoma include public and private water supply, agriculture, navigation, fish and wildlife propagation, primary body contact recreation, secondary body contact recreation, and aesthetics (OWRB). Outdoor recreation may rely on and co-exist with several of these beneficial uses, but it is directly related to the latter five. Primary body contact recreation includes



swimming and diving, while secondary body contact recreation includes boating and fishing.

Oklahoma's Water Quality Standards are established under statutory authority of the OWRB under 82 O.S. § 1085.30. It is the intent of the Oklahoma Water Resources Board to assign as many beneficial uses as are attainable. For water bodies with quality standards that exceed those required to protect beneficial uses (e.g. Scenic Rivers, some lakes, and critical habitat for endangered species) the Water Quality Standards include an anti-degradation policy statement. The OWRB then works with the Oklahoma Department of Environmental Quality (ODEQ) in monitoring those standards. DEQ develops draft National Pollutant Discharge Elimination System permits for the control and abatement of municipal and industrial pollution and participates in monitoring and permit compliance.

In order to determine attainment of Primary Body Contact Recreation (PBCR) beneficial use, samples must be taken at a point of a drinking water intake from a body of surface water. Detailed standards are established for fecal coliform, *Escherichia coli* (*E. coli*), and *Enterococci*, in addition to other factors. These standards include specifics related to dates of sampling, number of samples, number of colonies per milliliter, and other details. Sampling must occur during the principal recreation period from May 1 through September 30. Attainment for the Secondary Body Contact Recreation (SBCR) beneficial use is identical in methodology to that for PBCR, but permits five times the numerical criteria and screening levels of contaminants that is used for PBCR (ODEQ, 2004).

In 2011, as a result of a combination of drought conditions, extreme temperatures, and other factors, several lakes in Oklahoma were declared to be out of compliance with water quality standards for PBCR. Beginning about July 1 and continuing through much of the summer, several lakes had robust blue-green algae, also known as cyanobacteria, blooms resulting in high levels of toxins known to contaminate drinking water and recreational water. The toxins released by cyanobacteria include anatoxin and microcystins that can cause illness in humans and animals.

Blue-green algae blooms form in warm, slow-moving waters, rich in nutrients and have been linked to human and animal illnesses.

As a result of the presence of blue-green algae, warnings were issued at several lakes recommending “no swimming, wading, or primary body contact.” Essentially, Grand Lake was off limits for recreation for the July 4th holiday in 2012. Lake Texoma remained under warnings through the winter of 2011-2012. These warnings have been

sporadic over the past several years extending through the fall 2016.

In addition to the reduction in recreation opportunities, there are significant adverse economic impacts from the environmental conditions of Oklahoma’s surface waters. Most of these warnings occur between Memorial Day and Labor Day affecting the prime outdoor recreation season.

While water quality is a significant concern related to outdoor recreation, water quantity and allocation are also topics of concern. Oklahoma waters are managed under compacts with surrounding states as shown in Figure 3.21.

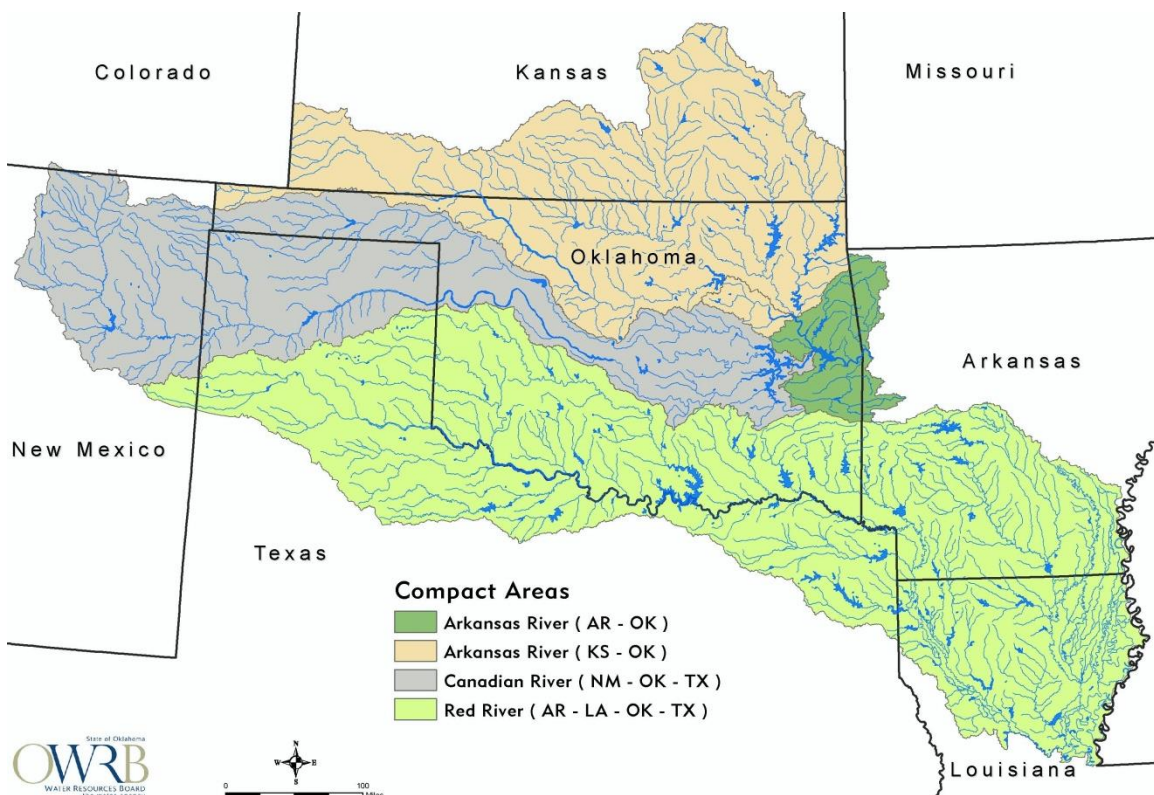


Figure 3.21 – Water compacts involving Oklahoma

Source: OWRB

At the time of the preparation of the 2007 SCORP and again with the 2012 SCORP, water allocation was an issue. As documented in both processes, there was a moratorium on water sales out-of-state, resulting in a lawsuit. As Oklahoma prepared a new water plan, additional proposals for instate allocation led to additional disputes.

In 1974, the Oklahoma Legislature enacted 82 O.S. §1086.2(1) requiring the Oklahoma Water Resources Board (OWRB) to develop a 50-year strategic plan for the State's water resources. The Oklahoma Comprehensive Water Plan was first published in 1980 and updated in 1997. Then, in 2006, the Oklahoma Legislature appropriated funds for a second update as a five-year study. That planning process has been underway with numerous local meetings in 2007, additional regional meetings in 2008, workshops in 2010, special town halls in 2011, and further meetings in 2012. The ultimate responsibility for writing the Oklahoma Comprehensive Water Plan resides with the OWRB. The new plan was approved in October 2011 (OWRB, 2012a).

The process of developing a water plan for Oklahoma awakened statewide interest in water as a critical resource. These interests are particularly evident among several of the American Indian nations in Oklahoma (e.g. <http://waterfuture.tv/#/home>, <http://www.ouoklahomaourwater.com/>, <http://www.owea.org/>, and others).

Oklahoma's Wetlands

Oklahoma is not typically considered to be a state in which wetlands are a major feature. However, approximately 733,000 acres within the state are freshwater wetlands. In addition, Oklahoma ranks among the top ten states in the nation in total acres enrolled in the Wetlands Reserve Program (NRCS, 2011). The Wetlands Reserve Program (WRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their private property. The Natural Resources Conservation Service and state agencies provide technical and financial assistance to aid those landowners in restoration of wetlands. Oklahoma currently has 60 active WRP projects with another 40 projects in the application phase.

Wetland: areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation adapted for life in saturated soil conditions

Oklahoma supports many distinct types of wetlands, such as playa lakes, riparian wetlands, swamps, bogs, marshes, oxbow lakes, closed depressions, and cypress swamps (Oklahoma Conservation Commission, 2017). These wetlands are under an umbrella of regulations from a number of governmental agencies. At the federal level, wetlands are affected by management and regulations of the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Natural

Resources Conservation Service, and the Environmental Protection Agency. At the state level, these wetlands receive oversight from the Oklahoma Conservation Commission, the Oklahoma Water Resources Board, and the Oklahoma Department of Environmental Quality.

A SCORP is required to have a wetland priority component consistent with section 303 of the Emergency Wetlands Resources Act of 1986. The Land and Water Conservation

Fund Grants-in-Aid Manual, chapter 630.1.4(E) states that this component must (1) be consistent with the “National Wetland Priority Conservation Plan” prepared by the United States Fish and Wildlife Service, (2) provide evidence of consultation with the state agency responsible for fish and wildlife resources, and (3) contain a listing of those wetland types which should receive priority for acquisition.

The Oklahoma Conservation Commission has developed a comprehensive plan for Oklahoma’s wetlands (OCC, 1996; <https://www.ok.gov/wetlands/>). That plan has been updated on several occasions with principal communication through online resources. This plan identifies priority wetlands by size and location. The targeted wetland types have been defined and categorized in that plan. The comprehensive plan acknowledges the importance of wetlands for a variety of environmental benefits and human benefits, including recreation.

One component of the wetlands plan in Oklahoma is the wetlands registry for landowners. This voluntary program functions as a clearinghouse linking interested property owners with those working to restore wetlands. A second major component of the wetlands plan is education, including WOW – Wonder of Wetlands.

The Statewide Comprehensive Outdoor Recreation Plan utilizes the inventory provided by the Oklahoma Conservation Commission as the authoritative state inventory of wetlands. In addition, the SCORP supports the priority plan provided by the Commission for protection, restoration, or acquisition of wetlands in Oklahoma.

Oklahoma’s Campgrounds

Oklahoma has over-built campgrounds and campsites in many areas of the state. Studies have shown that state parks and U. S. Army Corps of Engineers facilities operate at less than 40% occupancy on an annual basis. Many locations, even in prime settings, are operating at less than 20% occupancy annually. There may be two summer holiday weekends each year in which parks are crowded. However, number of campsites and campgrounds is adequate to meet current use levels and anticipated demand.

Of greater concern for the future is the quality of the camping experience in an Oklahoma campground or campsite. Technology and size of recreational vehicles has changed over the years. Many of the campgrounds were designed in the mid- to late-20th century and no longer match well with visitors’ expectations. Other campgrounds are over-developed, designed for dense accommodation, resulting in less than a desired outdoor experience.

In addition, contemporary guests and tourists traveling significant distances desire specific information as they plan their travels. This desired information may include geographic information for their GPS unit, visual images of their destination prior to arrival, and assurance of a reserved site. Technology, policies, aesthetics, service, and communication are important to the outdoor recreation experience.

Health of the Oklahoma Environment

Geology and Seismicity

Historically, the geology of Oklahoma has been associated with oil and gas production. In recent years, the focus of that association has changed! A significant increase in earthquake activity resulted in numerous studies associating the increased seismicity with the oil and gas industry. As a result, new terminology became familiar in Oklahoma, including “induced seismicity.” The Oklahoma Corporation Commission stated: “While we know that Oklahoma has historically experienced some level of seismicity, we know that the recent rise in earthquakes cannot be entirely attributed to natural causes. Seismologists have documented the relationship between wastewater disposal and triggered seismic activity. The Oklahoma Geological Survey has determined that the majority of recent earthquakes in central and north-central Oklahoma are very likely triggered by the injection of produced water in disposal wells.” (<http://earthquakes.ok.gov/what-we-know/>)

Oklahoma experienced 623 magnitude 3+ earthquakes in 2016, 903 magnitude 3+ earthquakes in 2015 and 579 magnitude 3+ earthquakes in 2014. 109 magnitude 3+ earthquakes were recorded in 2013.

As reported by the Oklahoma Geological Survey and the U.S. Geological Survey –

Between 1980 and 2000, Oklahoma averaged about two earthquakes greater than or equal to magnitude 2.7 per year. However, this number jumped to about 2,500 in 2014; 4,000 in 2015; and 2,500 in 2016. The decline in 2016 may be due in part to injection restrictions implemented by the state officials. Of the earthquakes last year, 21 were greater than magnitude 4.0 and three were greater than magnitude 5.0.

USGS research considers a magnitude 2.7 earthquake to be the level at which ground shaking can be felt. An earthquake of magnitude 4.0 or greater can cause minor or more significant damage.

The forecasted chance of damaging ground shaking in central Oklahoma is similar to that of natural earthquakes in high-hazard areas of California.

“Most of the damage we forecast will be cracking of plaster or unreinforced masonry. However, stronger ground shaking could also occur in some areas, which could cause more significant damage,” said Petersen, chief of the USGS National Seismic Hazard Mapping Project.

Induced earthquakes are triggered by human activities, with wastewater disposal being the primary cause in many areas of the CEUS. Wastewater from oil and gas operations can be disposed of by injecting it into deep underground wells. Injected fluids cause pressure changes that can weaken a fault and therefore bring it closer to failure. Most injection wells do not trigger felt earthquakes, suggesting that a combination of many factors contribute to such events.

“By understanding the relationship between earthquakes and wastewater injection, informed decisions can be made on processes such as controlling the volumes and rates of wastewater injected and determining which wells are most susceptible to inducing earthquakes,” said Petersen.

Many questions have been raised about hydraulic fracturing—commonly referred to as “fracking.” (<https://www.usgs.gov/news/new-usgs-maps-identify-potential-ground-shaking-hazards-2017>)

How is this increased seismic activity associated with recreation and recreation resources? For many residents who have experienced the tremors, some of whom have experienced significant property damage in the cities of Cushing and Pawnee, there are concerns for property damage. Such property damage has adverse economic impact, potentially reducing optional spending for recreation. For some of those residents, the stress and uncertainty associated with frequent tremors adversely affects personal health.

In a more direct association, the Oklahoma Department of Transportation and the Oklahoma Turnpike Authority have established and implemented inspection procedures following specific magnitude quakes. To date there has not been specific bridge damage associated with earthquakes, but concern has been expressed related to safety of travel and there has been identifiable road damage (Figure 3.22).

Multiple recreation facilities and approximately three million residents are within the “bullseye” for forecast of earthquakes shown in Figure 3.23 on the following page. Historic properties in Cushing and Pawnee were damaged during events in 2016 (Figure 3.22).

An extreme example of concern related to seismic events is the location of Alabaster Caverns State Park within the “2 – 5%” or greater forecast region for a damaging event. An earthquake of damaging magnitude could be tragic for recreation visitors within a cave.

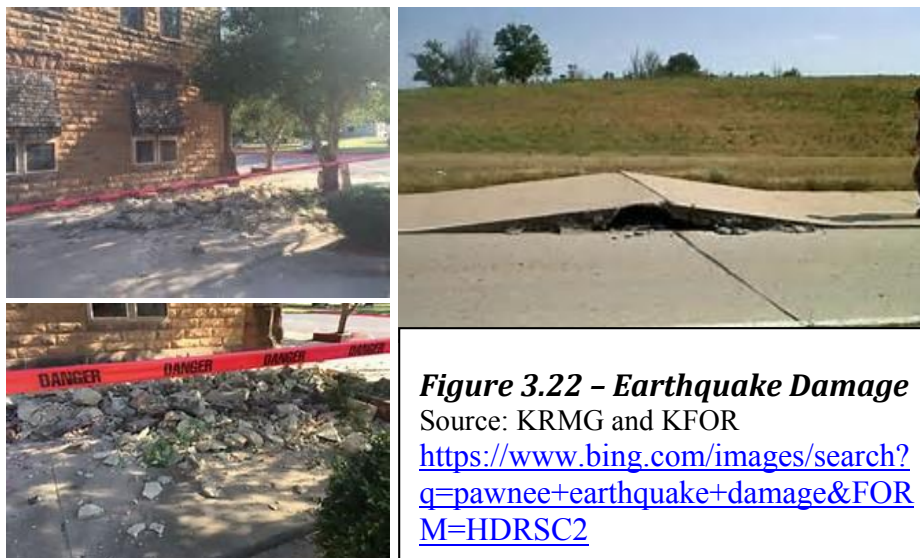
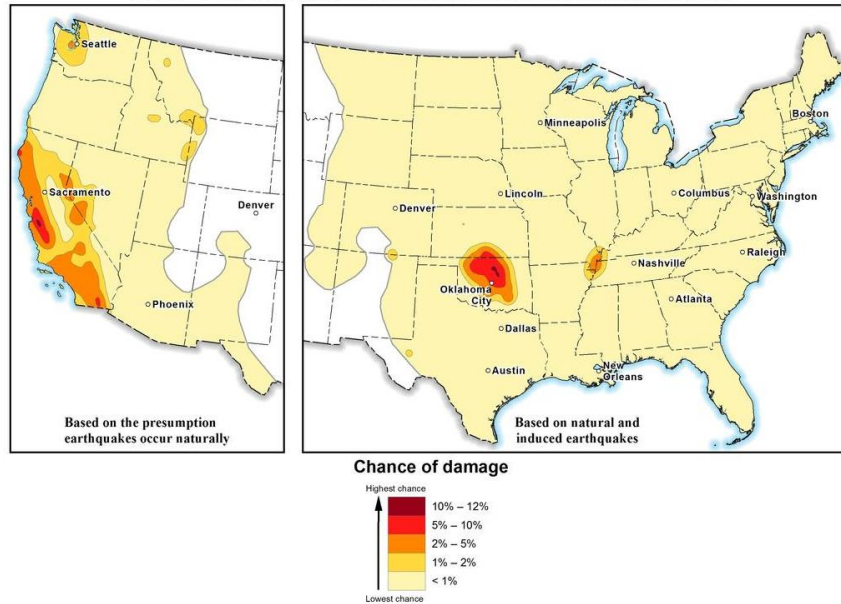


Figure 3.22 – Earthquake Damage

Source: KRMG and KFOR

<https://www.bing.com/images/search?q=pawnee+earthquake+damage&FORM=HDRSC2>

USGS Forecast for Damage from Natural and Induced Earthquakes in 2017



USGS map displaying potential to experience damage from natural or human-induced earthquakes in 2017. Chances range from less than 1 percent to 12 percent.

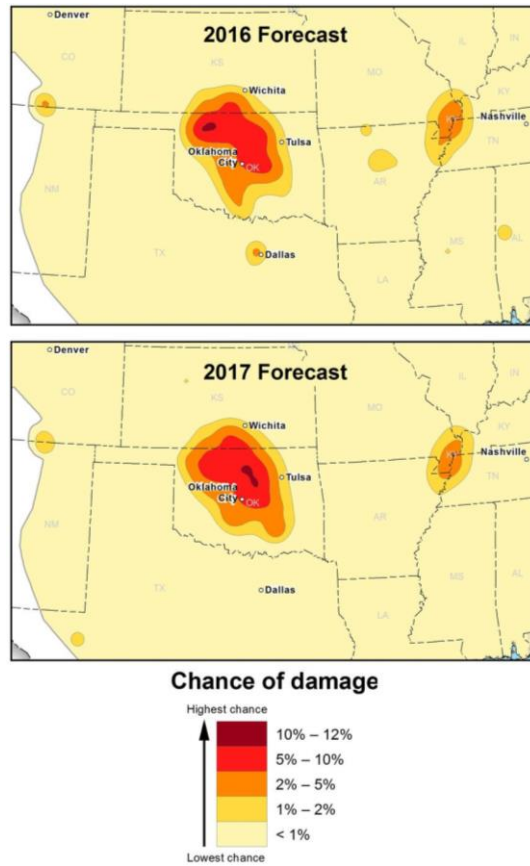


Figure 3.23 – Earthquake Damage Forecast

Source: USGS

Climate and Its Variation

Given its location in the south central plains of the United States, Oklahoma experiences extremes in weather. However, the past five years have included drought, flooding, and other events that have pushed those extremes. The Oklahoma Climatological Survey (http://climate.ok.gov/index.php/climate/summary/reports_summaries) presents month-by-month summaries of patterns and events. An example of these summaries is shown in Figure 3.24 documenting the water index for soil moisture month-by-month.

For much of the past five years, Oklahoma has been experiencing drought conditions across most of the state. Figure 3.25 on the following page presents drought conditions nationally as of April 20, 2017. Much of Oklahoma is shown to be “abnormally dry” to “moderate drought.” When compared to conditions in the fall 2016, almost 60% of Oklahoma was experiencing “severe drought.” Soil moisture levels, lake and stream levels, and vegetation reflected these conditions, leading to severe fires in northwest Oklahoma.

The weather and climate across Oklahoma is diverse, dynamic, and impacts the welfare of the citizens of the state.
(Oklahoma Climatological Survey)

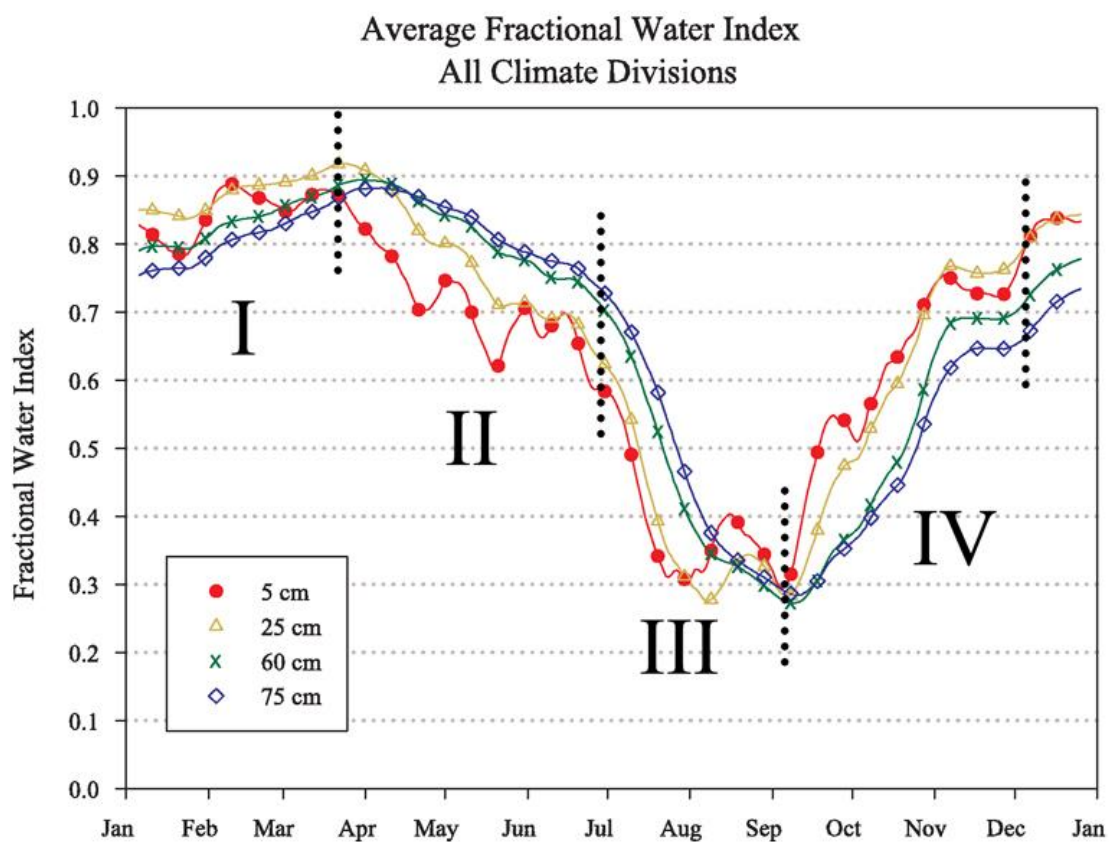


Figure 3.24 – Water in Oklahoma Soils by Month

Source: Oklahoma Climatological Survey

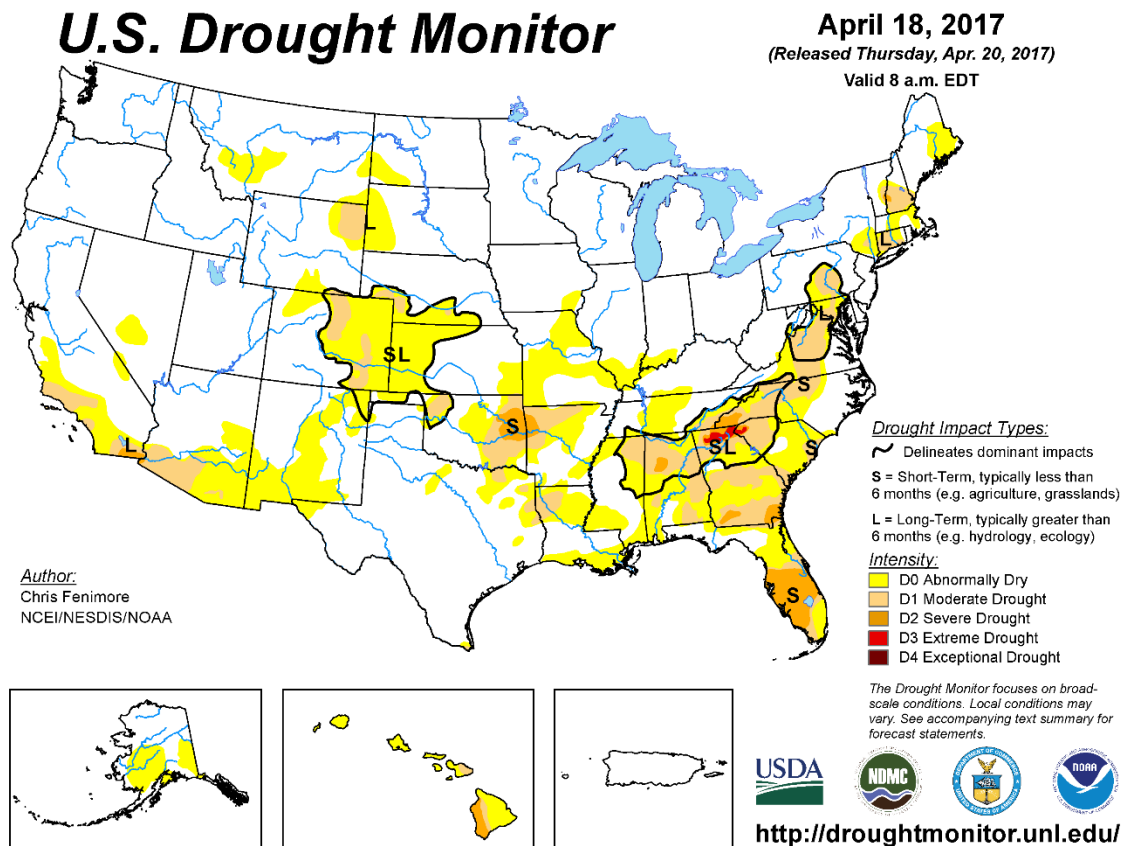


Figure 3.25 – U.S. Drought Monitor

Source: Oklahoma Climatological Survey

At the other extreme, several flooding events within short periods of time also affected outdoor recreation and related resources

during the past few years. In particular, the Illinois River and the Mountain Fork River showed the effects of extreme weather events. Beavers Bend State Park was forever changed by flooding on the Mountain Fork River (Figure 3.26).

Figure 3.26 – Flooding on Mountain Fork River

Source: ttu.edu and Wildlife Federation



Environmental Health and Outdoor Recreation

At the time of the preparation of the 2001 SCORP, a newly identified exotic disease had made its appearance on the east coast of the United States. West Nile virus had been found in dead birds in the northeast. The authors of that SCORP contacted the Centers for Disease Control in Atlanta, Georgia, regarding the rate of advancement of West Nile virus. Upon receiving assurances that it would take more than five years for the virus to reach the Mississippi flyway, West Nile virus was not included in the 2001 SCORP. Unfortunately, by the summer of 2002, West Nile virus was affecting birds, horses and humans in Oklahoma. Since that time, numerous cases of West Nile virus have occurred in Oklahoma resulting in management practices to reduce likely occurrences, increased awareness of diseases contracted through outdoor activity, and, in some cases, reduced desire to go out-of-doors.

The trending current concerns related to Zika virus expanded in 2016 and continued into 2017, although there has been no evidence of mosquito-borne Zika in Oklahoma. Health officials have issued warnings for Texas and other gulf-coast states. The speed at which some exotic diseases can move has surprised the health community. Equally surprising is the lack of knowledge regarding many of these public health concerns for participants in outdoor recreation.

Public health concerns related to outdoor recreation are commonly separated into two broad categories: (1) accidents and injuries, and (2) environmental hazards. Among the accidents and injuries that occur in outdoor recreation involvement in Oklahoma are drowning, submersion injuries, boating accidents, traumatic brain injuries (TBI), and spinal cord injuries. The environmental hazards encompassed such concerns as amoebic meningitis, giardia (Beaver fever), fecal coliform, E. coli, cryptosporidium, Rocky Mountain spotted fever, Lyme disease, Tularemia, European milfoil, zebra mussels, and toxicity of blue-green algae. Some of these are extremely serious for human health; some are extremely serious for the health of the ecosystem.

Considerable attention has been focused on phosphorus and nitrogen loading in Oklahoma lakes and streams as many bodies of surface water in the state are already over-loaded with nutrients and exhibit the characteristics of a eutrophic state. These characteristics include nutrient rich waters that appear dark or green in color and support high levels of plant life or algae blooms. Eutrophic waters and hyper-eutrophic waters are undesirable for most outdoor recreation and may include some life forms that are hazardous for Primary Body Contact Recreation. Almost every summer in Oklahoma includes closing of some beaches and portions of lakes due to algae blooms. Such closings have adverse economic impacts, but have become necessary to avoid serious public health concerns.

The health of the Oklahoma environment is directly linked to the health of the Oklahoma people and the health of the Oklahoma economy.

Summary of the Health of the Oklahoma Environment

In summary, Oklahoma presents a landscape in which private property dominates. As a result, there is limited public recreation space. The percentage of property managed by the Federal government within Oklahoma is well below that percentage represented

across the nation. However, Federal agencies are managing and protecting some of the premier grassland, forest, and water resources in the state. Similarly, the percentage of property managed by state agencies is about one-half of that represented in other states. Most dramatically, properties managed by cities and counties for recreation are a fraction of similar properties managed in other states. Therefore, there is a premium placed upon the value of the limited public resources in Oklahoma.

The value of these resources is belied by the allocations of fiscal resources from state and municipal agencies for park and recreation resources. Economic stress in recent years has reduced the number of state parks, forced some cities to reduce maintenance of public parks, delayed or eliminated acquisition of public properties that could become parks and recreation spaces, and limited programs and services. In addition, only three cities in Oklahoma have park dedication ordinances mandating dedication of percentages of properties in developments for public use.

Despite these stresses on the economy and quality of life, the people of Oklahoma value their parks and the experiences associated with them. Parks and trails are most assuredly important to residents of Oklahoma and visitors from out of state.

The past five years has heightened concerns for the recreational environment in Oklahoma. These concerns are reflected in reduced water quality, particularly with adverse impacts upon water-based recreation. Extremes of weather have produced drought conditions, followed closely by flooding. Both extremes have adversely affected recreation resources and experiences.

More recently, human-caused seismic activity has increased with corollary damage to properties and quality of life. The effect of that seismic activity on recreation has not been determined, but concerns remain for safety of individuals in recreation activities and in travel on potentially damaged roads and bridges. Of equal concern are possible damages to historic and cultural resources in areas subject to seismic activity.



**THE HEALTH OF THE OKLAHOMA
ENVIRONMENT IS DIRECTLY LINKED TO
THE HEALTH OF THE OKLAHOMA
PEOPLE AND THE HEALTH OF THE
OKLAHOMA ECONOMY.**

Focus of the 2017 Oklahoma SCORP

Oklahoma has not prepared or officially updated a trails plan since 2001. Much has changed in Oklahoma related to trails since that plan was prepared. Those changes have included fluctuations and reported trends in the population, changes in recreation behavior, changes in technology available for accessing and using trails, and changes in the political climate related to trails. Four conclusions from that 2001 plan remain valid as of 2017. These include:

- Demand for trails is increasing in Oklahoma as identified by representatives of cities and towns and present trail users. The diversity of trail use is increasing as well, and trail users prefer a separation of motorized and non-motorized use by design of the trails.
- Trails are an important consideration for community development as alternative transportation routes, green space and linkages, properties offering positive economic benefit, and properties that improve quality of life for residents.
- Oklahoma is fortunate at this point to have relatively few conflicts between use groups on trails. Such conflicts are occurring in surrounding states and are likely to increase as demand for trails increases.
- Information regarding Oklahoma trails is difficult to locate and inadequate when found. Recreational trail users must make considerable effort to locate and verify the available information regarding trails.

Trails are an important consideration for community development as alternative transportation routes, green space and linkages, properties offering positive economic benefit, and properties that improve quality of life for residents.

Trails were again a topic in the 2007 SCORP, addressed in discussions at Recreation Rallies associated with preparation of that plan. In these discussions leading to the 2007 SCORP, recreation professionals and members of the public concluded:

- Oklahoma is not a walker-friendly or bicycle-friendly state.
- Previous research and on-going local input indicates that trails are the #1 most highly desired outdoor resource among Oklahoma citizens. Paved trails tend to be used while unpaved trails receive little use, little attention, and tend to deteriorate.
- Some conflict in use is beginning to occur on Oklahoma trails between bikers and walkers, hunters and equestrian riders, and other special interest groups.
- The Executive Order against state agency involvement in rail-to-trail conversion needs to be revisited. That Order, or its legacy, has been in place for more than two decades and has seriously limited development of longer connective trails.

Oklahoma is not a walker-friendly or bicycle-friendly state.

- Several cities have plans to develop loop trails with connectors into neighborhoods. These trails are eligible for grant assistance and promote multiple uses. However, Oklahoma needs connector trails from community to community.
- Trails are important components of healthy living and healthy communities in Oklahoma, but there are social impediments to consider. These include cultural issues related to trails, the NIMBY (Not in My Back Yard) mentality, perceptions of trails as security problems, and reduction in number of children who ride bicycles.
- Oklahoma needs to improve its educational effort related to trails. These efforts should include trail etiquette, conflict management, volunteer management and trail adoption, and interpretive programming. Dogs and dog waste are an increasing concern on most trails and should be addressed through educational programs.

The next cycle for the SCORP in 2012 also included over-whelming public demand for and professional acknowledgement of the need for more trails in Oklahoma. The 2012 SCORP commented “the Oklahoma Recreational Trails Plan is dated and no longer reflects needs or expectations of the population. Urbanization of populated areas has produced some local trails showing coordination through local councils of government. However, the state lacks trails or a plan for trails to link communities or populations to outdoor recreation resources. The diversity of interests related to trails – hikers, joggers, bikers, equestrians, ATV riders, ORV riders, canoeists, kayakers, and more – continues to

The Oklahoma Trails Advisory Board and the Oklahoma Tourism and Recreation Department should develop a new statewide recreational trails plan.

grow and will likely expand. Technology of alternative transportation has changed, as have the standards related to accessibility, specifically related to “other power-driven mobility devices” (OPDMD).” This need for trails led to a recommendation that “the Oklahoma Trails Advisory Board and the Oklahoma Tourism and Recreation Department should develop a new statewide recreational trails plan.”

Since the latter part of the 20th century, numerous surveys of public needs and desires in Oklahoma have placed “trails” at or near the top of the recreation facilities desired by the populace. Primary trail development during the same period has occurred within individual cities or within properties managed by a single agency. Some inter-jurisdictional trail development has occurred in the urban areas of Oklahoma City and Tulsa, permitting access along trails from one city to another. Some trail development has occurred within Oklahoma State Parks and on some federal recreation properties.

The Oklahoma Tourism and Recreation Department cooperates with the Federal Highway Administration for the administration of the Recreational Trails Program (RTP). Under this program, Oklahoma has granted over twenty-six million dollars for statewide trail projects, most of which has aided cities and towns in development of trails at the local level. In addition, during the past two decades, communities in Oklahoma have received

Oklahoma has granted over \$26 million for 300 statewide trail projects.

“Leave all the afternoon for exercise and recreation, which are as necessary as reading. I will rather say more necessary, because health is worth more than learning.”
Thomas Jefferson

more than \$161 million in funds through Transportation Enhancement Projects supported by the Federal Highway Administration. Many of these enhancements are associated with trails, while all are associated with transportation.

Since 1990, the political atmosphere in Oklahoma has limited the involvement of the state – through OTRD – in rail-to-trail conversions. Several cities have been active in local rail-to-trail development,

resulting in six trails for a total of approximately 70 miles. One such trail is the Osage Prairie Trail linking Tulsa, from OSU-Tulsa campus, to Skiatook along the old Midland Valley Rail for a distance of 14.5 miles.

The demand for trails represents the voices of a wide range of interests: hikers and walkers; recreational bicyclists and mountain bikers; equestrians and off-road-vehicle enthusiasts; and, more recently, those seeking waterway and boating trails. As the oversight agency for the RTP, Oklahoma has established the Oklahoma Trails Advisory Board consisting of nine members, seven of whom represent these various types of trail use with two at-large members.

The most recent state recreational trails plan was produced in 2001, although updates and modifications to this plan have been communicated through newsletters, online, and through other means. However, significant changes in the population, in demand, and in expectations related to trails are indicators that Oklahoma needs to prepare a new statewide recreational trails plan.

March 15, 2011, the Department of Justice ruled that “other power-driven mobility devices” (OPDMD) could be used on trails by individuals with mobility limitations. As a result, policies must now address new technologies for motorized mobility.

The League of American Bicyclists (<http://www.bikeleague.org/index.php>) has recognized Norman, Stillwater, and Tulsa as “bronze level” bicycle friendly communities. States and universities are eligible for recognition, incentives, and assistance in similar programs, leading to “bronze level” designation for the University of Tulsa, the University of Oklahoma, and Oklahoma State University. In addition, eight businesses have been cited as being bicycle friendly. Applicants are evaluated in five categories: engineering, education, encouragement, enforcement, and evaluation/planning. The League of American Bicyclists ranked Oklahoma as #45 among the fifty states related to bicycle-friendly policies and facilities.

Recent Legislative Efforts

Two pieces of legislation related to trails were introduced in the Oklahoma House of Representatives in 2016. Representative Moore introduced two bills to address issues that affect rail-to-trail conversions, HB 1724 (“An Act relating to bicycles; authorizing bicyclists to yield at stop signs and proceed through red lights under certain circumstances; providing for codification; and providing an effective date”) and HB 1725 (“An Act relating to railroads; identifying purposes; permitting discontinuance of railroad service; permitting certain recreational uses of railroad rights-of-way; clarifying that

certain uses not be considered abandonment of such rights-of-way; authorizing certain agreements between certain public and private entities for certain purposes; authorizing the establishment of certain rules; identifying agreement administrator; exempting certain entities from certain liability; requiring removal of certain structures; requiring certain structures be left in place; prohibiting alteration of grade and route; providing exception; requiring certain approval of improvements; assigning certain improvements and maintenance costs; specifying what recreation activities are permitted in certain locations; prohibiting certain activities in certain locations; permitting railroads authority to allow certain recreation activities in certain locations; assigning risk and liability when notices have been posted; clarifying right of certain landowners to purchase certain property; providing for codification; and providing an effective date”). Both bills failed in committee and were not advanced to a full vote.

As reported by Molly Fleming (<http://journalrecord.com/author/mollyfleming/page/4/>) in the Journal Record, “Moore’s bill outlined instructions for how railroad companies would handle rail lines, but White said that language isn’t necessary. He said if Moore was interested in developing railroad lines into trails, the bill’s language should give more protection for trail groups. . . . Developing railroad lines into bike trails can be a complicated process. If the line is legally abandoned in Oklahoma, then Oklahoma City and Tulsa get first rights to the line because they satisfy the state-required minimum population. In rural areas, the line would go back to the property owner.” As a result, policies related to rail-to-trail conversions in Oklahoma remain as they have been for more than 20 years.

Surveys of Recreational Trail Users

As stated, multiple opportunities for public input over more than a decade have shown demand for and lack of supply of recreational trails in Oklahoma. There is a consistent message from these various studies.

The 2007 SCORP included opportunities for public input. Even the Oklahoma State Board of Health placed trails among the best investments to improve the health of citizens allowing people opportunities to “walk, cycle, jog, skate, play, dance, and swim.” A specific suggestion from the Department of Health was for communities to develop walking trails in and around public outdoor recreation areas. Among the recommendations from the 2007 SCORP was “The Oklahoma Trails Advisory Board and other trails advocates should seek opportunities for connector trails from community to community.”

Oklahoma citizens need opportunities to walk, cycle, jog skate, play, dance, and swim. (Oklahoma State Board of Health, 2007)

A 2011 study authored by Chalkidou & Caneday (2011) reported in the 2012 SCORP provided an opportunity for public input required by Section 3134 of the Water Resources Development Act (WRDA) of 2007 and implemented for the Tulsa District of the U.S. Army Corps of Engineers (USACE) regarding preferences for lake usage and development in Oklahoma. While that survey did not focus on trails, trails were high in demand among respondents. The survey revealed that the changes related to facilities desired by respondents ranked by level of importance from most important to lesser

Oklahoma lake areas need hiking trails, bike trails, equestrian trails, canoe trails. (2011 survey of visitors to USACE recreation areas)

Oklahoma cities and town need trails within existing parks, trails connecting neighborhoods to other trails, and trails extending beyond the community. (2012 survey of the Oklahoma Municipal League)

importance were: (1) hiking trails, (2) swim beaches, (3) bike trails, (4) playgrounds, (5) campgrounds, (6) equestrian trails and canoe trails, and (7) marinas. Clearly trails for specific markets are in demand.

Another survey conducted for the 2012 SCORP requested input from municipal park and recreation directors or supervisors. This survey was sent to Oklahoma towns and cities through the Oklahoma Municipal League. Three items on the survey were grouped around trails, and each of these items received significant expression of “need.” Trails within existing parks were needed by 49.5% of the respondents, while 46.1% indicated their community needed trails connecting neighborhoods to other trails. Somewhat lesser among the expressed needs were trails extending beyond the community (32.2%).

2017 Survey of Recreational Trail Users

As a part of the 2017 SCORP and an attempt to gather up-to-date input from recreational trails, the authors conducted a survey focused on recreational trail users during early 2017. The complete survey with responses and comments is included in Appendix C. This survey was available on-line, permitting electronic access from a variety of instruments including computers, tablets, smart phones, and similar devices. The URL and QR code permitting access to the on-line survey was provided to trail clubs throughout Oklahoma with requests that the invitation be posted on their respective websites, Facebook® pages, via email, and other social media outlets.

As a result of the efforts of numerous club members and advocates, 413 respondents completed the survey. Those responses are included in detail in Appendix C and summarized as follows. The respondents represented the diverse population of Oklahoma showing the following characteristics.

- Ages of respondents ranged from 20 to 75 years of age (median = 50 years);
- Response group was equally split between males and females;
- Diverse ethnic groups responded and represent the population of Oklahoma, although African Americans are under-represented in the response pool;
- Diversity, representative of the population of Oklahoma, was shown in the education levels of respondents, their employment status, and income levels;
- Walkers, hikers, backpackers, bicyclists, mountain bikers, equestrians, ORV/ATV operators, and other trail users were well represented in the responses.

Respondents indicated that the most important issues presently facing trail users and the provision of trails include (1) lack of funding, (2) lack of maintenance resulting in trash, erosion, and deterioration of trails, (3) lack of trail etiquette among trail users, and (4) lack of trails near the homes of trail users. Looking to the future, these same trail users



Figure 4.1 – Trails in Oklahoma State Parks

Upper left: McGee Creek

Left: Lake Thunderbird

Above: Greenleaf

and advocates believe that the most serious issues to be addressed are lack of funding for trails and continued deterioration of existing trails.

These experienced trail users recognized that the most serious issues facing resource managers are maintenance of existing trails and prevention of continued deterioration. However, 98% of these respondents also believe that their home communities need more trails.

Survey responses and open-ended comments placed emphasis upon the need for longer trails, linking residential areas to recreational areas, permitting longer trail experiences. The respondents revealed their knowledge of trails in surrounding states through recognition of economic benefits associated with Rail-to-Trail conversions and events which attract trail users and tourists.

Heart Healthy Trails

Oklahoma State Parks has developed a program, “Heart Healthy Trails,” to brand trails within state parks by level of experience provided. This reflects trail surface, change in elevation, length, level of energy expended, and other factors. The intent is to encourage visitors to utilize trails that will provide the most enjoyable and appropriate experience.



The SCORP is required of each state as specified in Section 6(d) of the Land and Water Conservation Fund Act of 1965, as amended. Within the law and resulting policies, there are specific requirements to be included in a SCORP. The 2017 Oklahoma SCORP, **Oklahoma’s State of Health: the People, the Economy, and the Environment**, presents –

1. The Oklahoma Tourism and Recreation Department as the state agency with authority to represent and act for the State of Oklahoma in dealing with the Secretary of the Interior for purposes of the LWCF Act of 1965.
2. An evaluation of the supply of and demand for outdoor recreation resources and facilities in Oklahoma as of 2017.
3. The following plan for 2018 through 2022.

The Oklahoma Issues and Recommendations

As is true of every state, Oklahoma is facing numerous daunting challenges. However, the creativity of its citizens and the resolve that have been demonstrated in the first hundred years of statehood has provided an excellent foundation with promise to address these challenges.

Issue 1: Water quality and quantity

Water quality and quantity has been a concern in several recent generations of SCORPs for Oklahoma. Water rights and the value of freshwater for recreation and tourism, as well as other uses, will continue to be increasingly sensitive topics. Oklahoma developed a water plan in 2012 and has implemented that plan over the past five years. The public has become much more aware of the value of water through warnings regarding quality of surface water, hazards of recreation activity in surface water, and public education by various groups. However, water quality and quantity will continue to be extremely sensitive topics for the next five years.

1. **Recommendation 1** – Laws and regulations are in place regarding water usage and run-off. However, public recreation managers should be premier examples of proper resource management. Best Management Practices (BMPs) should be implemented on all state and municipal properties regarding water use, disposal, and run-off.
2. **Recommendation 2** – Recreation resource managers must be present at and active in discussions regarding water quality, quantity, and allocation as the water plan is implemented.
3. **Recommendation 3** – Recreation resource managers must take an active role in educating the public regarding the effect of personal and recreation behaviors on water quality and quantity. This includes introduction and transport of invasive species and adverse impacts on water quality through everyday activities.

Issue 2: Loss of accessible public recreation space

In response to recent economic pressures, an already-miniscule local public recreation estate has been reduced. The local neighborhood park has been perceived as being expensive to maintain and difficult to monitor for security. As a result, many Oklahoma residents have lost the opportunity to walk to a local park for an outdoor recreation experience. The state and federal agencies have closed several properties and transferred others to different management entities. As a result, Oklahoma has experienced a loss of local green space, a loss of local and accessible recreation space, a loss of social connection, a loss of sense of place, a loss of stimulation for health and quality of life, and a loss of economic stimulation. The urbanization of Oklahoma is likely to continue and planning for accessible public recreation space must precede that growth.

“Many people believe that dealing with overweight and obesity is a personal responsibility. To some degree they are right, but it is also a community responsibility. When there are no safe, accessible places for children to play or adults to walk, jog, or ride a bike, that is a community responsibility.”

David Satcher
Surgeon General

4. **Recommendation 4** – The Oklahoma Recreation and Park Society and the Oklahoma Municipal League must seek solutions to the reduction in access at the neighborhood level to parks and open space.
5. **Recommendation 5** – The Oklahoma Recreation and Park Society and the Oklahoma Municipal League must open discussions and improve education regarding mandatory park land ordinances and other creative tools for property acquisition.

Issue 3: Education for a life of health and quality

“Education has no more serious responsibility than the making of adequate provision for enjoyment of recreative leisure not only for the sake of immediate health, but for the sake of its lasting effect upon the habits of the mind.”

John Dewey

Recreation, physical activity, and health are intricately connected. The Oklahoma Department of Health has given the state a failing grade on numerous health measures as documented in *Oklahoma – the Health of the People*. Those health measures are dependent upon recreation and physical activity. Recreation and physical activity are dependent upon education. Truly, it is education in Oklahoma that has failed its citizens resulting in the failure in Oklahoma health.

That situation must be changed!

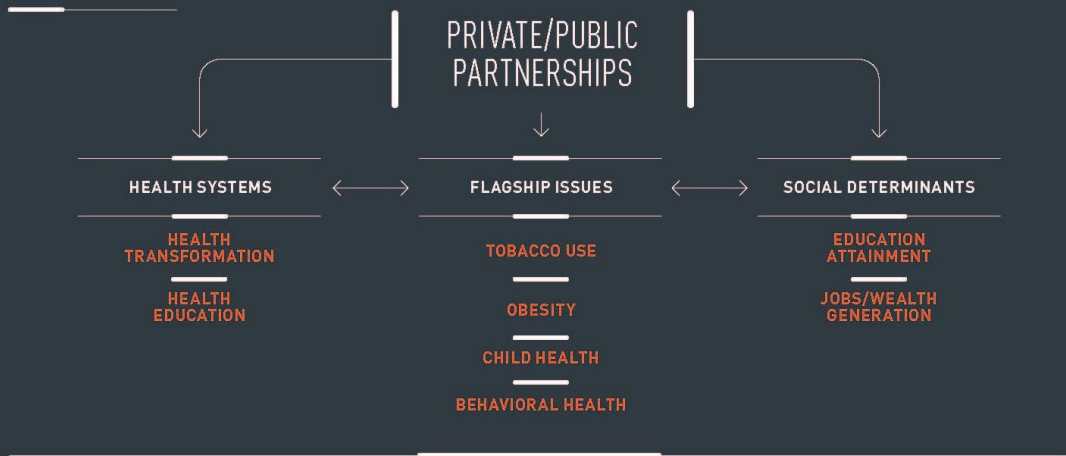
6. **Recommendation 6** – The Oklahoma State Department of Education, the Department of Health, the Oklahoma Tourism and Recreation Department, and other interested public, private, and non-profit organizations must initiate discussions as to how cooperative educational activities, such as the Oklahoma Health Improvement Plan (OHIP), can better prepare the Oklahoma citizenry regarding recreation, physical activity, and healthy lifestyles.

OKLAHOMA HEALTH IMPROVEMENT PLAN

20/20: BRINGING OKLAHOMA'S HEALTH INTO FOCUS

The Oklahoma Health Improvement Plan (OHIP) was developed by health leaders, representatives of business, labor, tribes, academia, non-profit health organizations, state and local governments, professional organizations and private citizens.

OHIP Framework

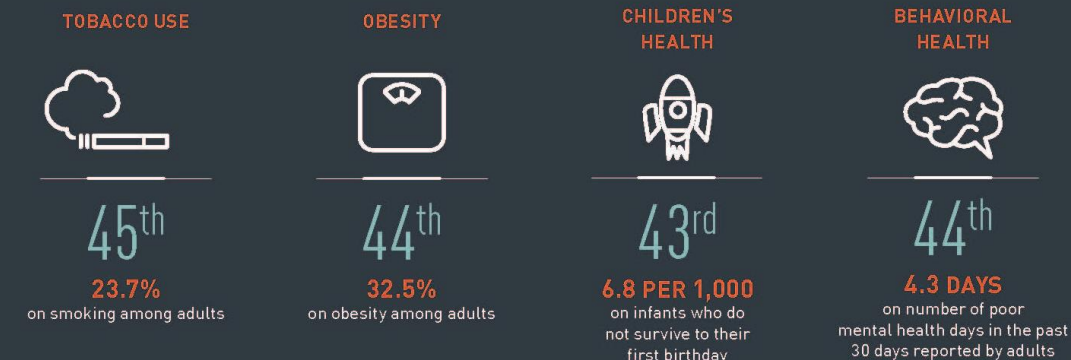


Making the Connection: Social Determinants, Personal Behaviors and Health Outcomes



Figure 5.1a – Oklahoma Health Improvement Plan

FLAGSHIP ISSUES



CORE MEASURES

- Reduce adolescent smoking prevalence from 15.1% in 2013 to 10% in 2020 for high school-aged youth and from 4.8% in 2013 to 2% in 2020 for middle school-aged youth (2018 data).
- Reduce adult smoking prevalence from 23.7% in 2013 to 18% in 2020 (2019 data).

CORE MEASURES

- Reduce adolescent obesity prevalence from 11.8% in 2013 to 10.6% in 2020 (2019 data).
- Reduce adult obesity prevalence from 32.5% in 2013 to 29.5% in 2020 (2019 data).

CORE MEASURES

- Reduce infant mortality from 6.8 per 1,000 live births in 2013 to 6.4 per 1,000 live births by 2020 (2018 data).
- Reduce Maternal Mortality from 29.1 per 100,000 live births to 26.2 per 100,000 live births by 2020 (2018 data).
- Reduce Infant, Child and Adolescent Injury Mortality from 15.2 per 100,000 in 2013 to 13.9 per 100,000 by 2020 (2018 data).

CORE MEASURES

- Reduce the prevalence of untreated mental illness from an 86% treatment gap to 76% in 2020 (2018 data).
- Reduce the prevalence of addiction disorders from 8.8% to 7.8% by 2020 (2018 data).
- Reduce suicide deaths from 22.8 per 100,000 in 2013 to 19.4 per 100,000 by 2020 (2017 data).

HEALTH SYSTEMS

In order for Oklahoma to achieve demonstrated improvement in health outcomes, systems that support health must be high quality, accessible and value-based. These systems should create an environment in which the healthy choice is the easy choice for Oklahomans. OHIP 2020 addresses health systems through two major focus areas – Health Transformation and Health Education.

HEALTH TRANSFORMATION

- Efforts are focused on creating a high-functioning health system that improves population health, health quality and access to care while bending the healthcare cost curve.

HEALTH EDUCATION

- Efforts are focused on empowering people to take action by increasing knowledge and skills, while also focusing on systems, environments and policies that affect health.

CALL TO ACTION

All Oklahomans are asked to do their part and participate in creating a culture of health through the following actions:

- Adopt recommended healthy lifestyle changes and encourage your friends and family.
- Get connected with a local Turning Point or other community partnership to plan and implement local community health improvement efforts.
- Encourage local businesses, schools, communities, and congregations to apply for and achieve Certified Healthy Oklahoma recognition.
- Visit www.health.ok.gov for a complete listing of Turning Point Coalitions in Oklahoma.
- Go to OHIP2020.com to learn more about the Oklahoma Health Improvement Plan.

OHIP2020.com

Figure 5.1b – Oklahoma Health Improvement Plan

7. **Recommendation 7** – The Oklahoma State Regents for Higher Education must re-evaluate their policy related to exempting “physical education activity courses” from credit toward degrees at public colleges and universities in Oklahoma. In the same manner, the State Department of Education and common schools across Oklahoma need to review education for active lifestyles. Active, outdoor lifestyles continue into adulthood and skills and knowledge are essential to improve Oklahoma’s health scorecard.
8. **Recommendation 8** – Several states (e.g., Oregon, Washington, and others) have negotiated agreements for lower health insurance premiums or other financial benefits for those individuals who can document regular outdoor physical activity. The evidence is clear: regular outdoor physical activity improves health! OTRD, local recreation providers, and the Oklahoma Department of Health should investigate opportunities to reward persons participating in regular outdoor physical activity. The passport program in Oklahoma State Parks is an excellent initial effort supporting this recommendation. While reduced premiums may be a motivator, the real benefits are reduced healthcare expense, improved quality of life, a healthier citizenry, and a healthier economy.

“Patients may get a surprise at their doctor’s office when their doctor prescribes a ‘walk in the park’ or outdoor exercise to help alleviate their symptoms. ‘Park prescriptions’ is a concept that links the healthcare system and public lands, such as local parks, to create healthier people.”

- Zarnaaz Bashir, NRPA
- Director of Strategic Health Initiatives

Issue 4: Funding and valuation of public recreation

A number of studies in recent years have shown that Oklahomans under-value public recreation. Among municipal governments, pricing for services has been rare; and, in those cases where there has been a fee for service, the price has been heavily subsidized with other public funds. The same has occurred with Oklahoma State Parks, Oklahoma State Lodges, and Oklahoma State Golf. In order to keep the recreation experience and facility available to all, the public providers have subsidized operations and capital expenses with tax revenues. As a result, Oklahoma citizens misunderstand the costs associated with recreation services and facilities; Oklahoma citizens under-value the services and facilities that are provided; and boards, councils, commissions, and legislators have struggled with funding, self-sufficiency, and revenue generation.

9. **Recommendation 9** – The Oklahoma Recreation and Park Society, the Oklahoma Municipal League, the Oklahoma Tourism and Recreation Department, and other interested public providers should hold workshops and engage in discussions regarding pricing of public recreation services.
10. **Recommendation 10** – In principle, and given the current economic and political climate, OTRD as the statewide leader in outdoor recreation should work toward self-sufficiency in provision of services, while providing access to parks as a subsidized right of residence.
11. **Recommendation 11** – Public providers of outdoor recreation services in Oklahoma should openly disclose costs for those services as an educational effort to establish proper perception of value.

Issue 5: Collaboration, cooperation, and communication

As documented in the 2012 and 2017 SCORPs, recent years have introduced a number of new management agencies into the marketplace of public recreation resources in Oklahoma. In particular, the expansion has brought in colleges, universities, and American Indian nations. The trend toward diversity in management agencies is likely to continue as governmental units seek partners for contractual management of public properties. These new entries into outdoor recreation resource management can benefit greatly from collaboration, cooperation, and communication with experienced managers.

12. **Recommendation 12** – OTRD, as the lead state agency in recreation resource management, should host an annual recreation rally to encourage collaboration, cooperation, and communication with federal, state, sub-state, municipal, and non-governmental recreation resource managers. These recreation rallies should also include representation from the public and interest use groups.

Issue 6: Statewide trails plan

The Oklahoma Recreational Trails Plan is dated and no longer reflects needs or expectations of the population. Urbanization of populated areas has produced some local trails showing coordination through local councils of government. However, the state lacks recreational trails or a plan for trails to link communities or populations to outdoor recreation resources. The diversity of interests related to trails – hikers, joggers, bikers, equestrians, ATV riders, ORV riders, canoeists, kayakers, and more – continues to grow and will likely expand. Technology of alternative transportation has changed, as have the standards related to accessibility, specifically related to “other power-driven mobility devices” (OPDMD).

13. **Recommendation 13** – The Oklahoma Trails Advisory Board and the Oklahoma Tourism and Recreation Department should develop a new statewide recreational trails plan. That planning process must include the range of recreation resource managers addressed in Issue 5.

Issue 7: Open Project Selection Process

The Open Project Selection Process utilized by OTRD has been available and functioning for several years. Access is available online (<https://otrd.ok.gov/OkTourism/Federal%20Grants/Default.aspx>), although the web link is difficult to track. Available funding through LWCF has been reduced significantly in recent years, making it less attractive for many potential applicants. However, the application process is clear and available to interested parties. The plan has an implementation program that identifies the State’s strategies, priorities, and actions for the obligation of its LWCF apportionment. The implementation program is established on project selection criteria that will permit implementation of the SCORP.

14. **Recommendation 14** – The online information related to the Open Project Selection Process (OPSP) should be reviewed for ease and clarity of access, electronically and for persons with disabilities.

The Oklahoma Priorities

The issues and the recommendations provide the foundation for the Oklahoma Statewide Comprehensive Outdoor Recreation Plan for 2018 – 2022. Implementation of those recommendations will be the responsibility of agencies and individuals, but ultimately rests with the people of Oklahoma.

Several priority issues remain unresolved from prior SCORPs. The leadership of the present SCORP thought it wise to focus on fewer issues with achievable recommendations on a focused timeline. The Oklahoma Priorities can be achieved – and the state and its citizens will be healthier and better for that achievement.

Table 4.1a – Implementing the Oklahoma Priorities

Priority Issue	Action	Responsible agent	Timeline
Water quality and quantity	BMPs on all state and municipal properties	OTRD Cities and towns	Immediate and on-going
	Recreation managers active in water planning	OTRD Cities and towns OWRB ODEQ	Immediate and on-going
	Education of public regarding water issues	OTRD Cities and towns OWRB ODEQ	Immediate and on-going
Loss of accessible public recreation space	Develop solutions to reductions of neighborhood parks	ORPS OML	Immediate and on-going
	Educate communities on value of land ordinances	ORPS OML	Immediate and on-going
Education for a life of health and quality	Cooperative educational programs of physical activity	Dept. of Education Public college & universities Dept. of Health ORPS OTRD	Immediate and on-going
	Encourage education in physical activity to improve quality of life	OSRHE Dept. of Education Public colleges & universities	Immediate
	‘Park prescriptions’ and healthcare	OTRD Cities and towns Dept. of Health	Immediate

Table 4.1b – Implementing the Oklahoma Priorities

Priority Issue	Action	Responsible agent	Timeline
Funding and valuation of public recreation	Workshops to address pricing and economics of public recreation services	ORPS OML OTRD Others interested	Fall 2017 and on-going
	Goal: self-sufficiency in service	OTRD	Concept at present; includes numerous repercussions
	Open disclosure of cost of public recreation service	OTRD Cities and towns	Immediate and on-going
Collaboration, cooperation, and communication	Annual recreation rally	OTRD Cities and towns State agencies Federal agencies User groups General public	Annually or more frequently as needed
Statewide Trails Plan	Prepare a new statewide trails plan	OTRD Trails Advisory Bd. Cities and towns User groups General public	Goal: summer 2019
Open Project Selection Process	Review and revise online OPSP site	OTRD	Immediate

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Appendices



OKLAHOMA TOURISM AND
RECREATION DEPARTMENT



Appendix A – Municipal Survey



SCORP Provider Survey

1. Please select the level of government you work in:
 ___23___ City ___0___ County ___1___ State ___0___ Federal ___3___ Other (please specify)
2. What is the primary community your agency serves?
 ___3___ statewide
 ___2___ regional (cities, towns and rural areas)
 ___2___ large city (100,000+ population)
 ___2___ small city (35,000 to 99,999 population)
 ___15___ small town (34,999 or less population)
 ___2___ rural area
 ___1___ suburb
 ___0___ tribe(s)
 ___0___ other
3. How long have you been working for your current agency? Range less than a year to 35 years
4. What is the zip code of your community, town or city office? _____
5. For the following items please indicate the level of concern for that topic within your community at this time, from 1 = “No concern at all” to 5 = “Extremely high concern”.

	No concern at all	Limited concern	Some concern	High concern	Extremely high concern
Visitor safety and protection	0	10	6	4	7
Ability of the town or city to pay for parks and recreation services	1	1	8	11	6
Maintaining existing recreation infrastructure or resources	1	3	3	8	12
Providing access and opportunities for people with disabilities	2	0	7	13	5
Capacity to serve a growing population	3	5	4	12	3
Capacity to serve an aging population	1	3	11	8	4
Capacity to serve an ethnically diverse and changing population	5	5	7	6	4

6. If funding for parks and recreation areas were available, how would you prefer it to be used? Please rate them based on priority from “Not important at all” to “Extremely important”.

	Not important at all	Somewhat unimportant	Neither	Somewhat important	Extremely important
Operational costs for existing facilities	0	1	1	9	16
Maintaining existing levels of recreation and interpretive education programs	0	1	1	14	11
Habitat preservation or restoration	0	2	6	13	6
Training for staff, volunteers and friends groups	1	1	6	14	5
Monitoring of prehistoric & historic sites	1	3	9	10	4
Developing new recreation and interpretive education programs	02	0	2	15	10
Environmental or cultural studies, clearances and permits	1	3	5	16	2
Developing new outdoor recreation facilities	0	1	1	13	12
Acquiring land for more parks, open space, natural areas and recreation areas	3	1	5	4	14
Improving technology at outdoor recreation facilities	1	3	3	11	9

7. Please rate your level of agreement with the following statements regarding recreation use conflicts.

	Strongly disagree	Somewhat disagree	Neither	Somewhat agree	Strongly agree
Overcrowding/overuse of recreation areas is a problem at the sites my agency manages	2	6	11	4	4
Conflicts between different recreation uses/activities is a problem at the sites my agency manages	2	10	7	6	2
Conflicts between motorized and non-motorized uses is a problem at the sites my agency manages	3	3	13	7	1
Conflicts between traditional recreational uses and new recreational uses is a problem at the sites my agency manages	3	7	12	3	2
Conflicts between residents/ homeowners and recreation users is a problem at the sites my agency manages	4	8	10	4	1
Conflicts between local recreation users and non-local (visiting) recreational users is a problem at the sites my agency manages	5	7	11	3	1

8. Please rate your level of agreement with the following statements regarding law enforcement and safety issues.

	Strongly disagree	Somewhat disagree	Neither	Somewhat agree	Strongly agree
There is a need for user education of laws and regulations regarding recreation activities on the parks and recreation areas that my agency manages	1	5	6	10	5
Vandalism is an issue in parks and recreation areas my agency manages	2	2	2	13	8
Too much trash or litter impacts visitor enjoyment in the parks and recreation areas my agency manages	0	7	2	13	5
Law enforcement for illegal activities is an issue in parks and recreation areas my agency manages	2	7	6	7	5
My agency adequately enforces the protection of park and recreation resources in the areas that my agency manages	2	3	6	14	2

9. To what extent do you agree or disagree with the following seven statements concerning resource protection?

	Strongly disagree	Somewhat disagree	Neither	Somewhat agree	Strongly agree
One of the goals of my agency is sustainability of natural and cultural resources	0	3	4	12	8
My agency has adequate laws or policies to protect natural and cultural resources	1	3	5	16	2
My agency limits recreation development to protect natural and cultural resources	1	5	12	8	1
My agency limits recreation use to protect natural and cultural resources	1	7	11	8	0
Natural and cultural resources are being degraded or impacted by recreational uses at the sites my agency manages	4	7	10	6	0
My agency believes that providing for recreation use is more important than resource protection	1	11	9	6	0
My agency believes that providing for revenue generation is more important than resource protection	1	9	10	6	1

10. Please rank the helpfulness of the following types of assistance strategies from most helpful to least helpful.
- 1.26 funding and grants
 - 2.81 cooperative efforts/collaboration
 - 3.11 friends groups/volunteer groups
 - 4.22 political support/lobbying
 - 4.00 training and educational support
 - 5.59 other (please specify)
11. What type of technology does your agency use to recruit and provide outdoor recreation opportunities for the public?
- 21 social media
 - 5 self-serve kiosks
 - 2 apps (for cell phones or hand-held devices)
 - 3 QR codes
 - 1 audio tours
 - 19 websites
 - 0 other
12. What types of data would be helpful to have to understand the outdoor recreation needs of the public?
- 18 economic benefits
 - 20 demand for outdoor recreation opportunities
 - 12 needs of diverse populations
 - 9 baseline information on natural and cultural resources/land
 - 13 public's willingness to pay
 - 20 outdoor recreation trends
 - 13 comparative information from land managers and recreation providers
 - 2 other (please specify)
13. What are other issues related to recreation and parks that your city/town faces in planning for the future?
- _____

Comments:

- WAYS TO PAY FOR IT
- Difficulty connecting parks and open space with trails and sidewalks so people can actually walk to a park instead of drive.
- useful SCORP that includes local needs
- The major problem with small towns is that the governing body frequently has neither the expertise nor the capacity [financially] to support the conservation of and wise use of its natural resources.
- Large amount of land that must be taken care of continually on a limited budget.
- Funding for renovation of old/dilapidated facilities.

- corporate encroachment
- Adequate parking facilities.
- Need grants of 100% for city-owned recreational venues: need funding to support law enforcement of the rules and regulations governing the use of in-town & remote recreational areas.
- Our small town has no problems with our parks. The Great Salt Plains is another story. We as a small town need the revenue that it provides us to survive. The Park is used year round.
- Sales of hunting and fishing licenses
- Lighted boat ramps and trash cans
- Small towns struggle to have the money for parks. It's very important when we can get help.
- FUNDING ISSUES, DECLINE IN POPULATION ISSUES, AND THE BREAK UP OF THE TOWN.
- Prioritizing needs in various parks. They can't all be treated equally. We need to provide disabilities parks facilities in one place, a dog park somewhere else, ATV usage, splash pads, etc.



OKLAHOMA TOURISM AND
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Appendix B –Survey of Oklahoma Residents

SCORP General Public Survey


Outdoor recreation is any leisure time activity engaged in while a person is in the outdoors.

1. Have you participated in outdoor recreation activities in Oklahoma in the past 12 months? __478__ Yes (go to Q2) __7__ No (go to Q6 and then demographics)
2. How often do you participate in outdoor recreation activities?
 __65__ Once a week or less
 __218__ Few times per week
 __195__ Few times per month or more
3. For your most frequent outdoor activity, what type of area do you usually visit?
 __51__ Our own property or some other private property
 __131__ A local public park, city streets, sidewalks, trails
 __246__ One of Oklahoma's state parks
 __50__ A federal property such as an Army Corps lake or national park
4. In general, how important is outdoor recreation to you personally?
 __0__ Extremely Unimportant
 __1__ Somewhat Unimportant
 __3__ Neither Unimportant nor Important
 __63__ Somewhat Important
 __411__ Extremely Important
5. What are the MOST IMPORTANT reasons you participate in outdoor recreation activities in Oklahoma. (Check all that apply)
 __320__ For my physical fitness
 __408__ For my mental well-being
 __377__ To be with family and friends
 __171__ To spend time by myself
 __414__ To enjoy the scenery
 __415__ For relaxation
 __105__ For the challenge
 __262__ Recovery from stress
 __265__ Positive emotions
 __382__ To be close to nature
 __328__ It is affordable
 __28__ Other (please specify)

6. What barriers do you face that limit your participation in outdoor recreation? Please rate how strongly you agree or disagree with the following statements.

Barriers to outdoor recreation	Strongly disagree	←————→			Strongly agree	Mean
	1	2	3	4	5	
Parks, trails, historic and cultural sites are too crowded	105	165	135	70	10	2.41
The weather is not comfortable outside	101	117	132	120	15	2.65
Fees are too high (for admission, camping, etc.)	158	149	108	62	8	2.20
Parks, trails, historic and cultural sites are too far away	126	121	115	108	15	2.52
Too busy with other activities (work or leisure)	75	83	100	203	24	3.04
Areas have too many rules	209	150	98	24	4	1.89
Lack of information	112	110	112	130	21	2.67
Don't know where parks, trails, historic and cultural sites are	166	125	77	103	14	2.33
Lack of organized programs and events	117	132	137	87	12	2.47
Parks, trails, historic and cultural sites are not open at the right hours	146	157	126	52	4	2.20
Staff are not available to provide services	137	124	138	76	10	2.40
Don't have the skills or physical ability	239	117	93	29	7	1.86
Don't have the necessary equipment	209	130	110	32	4	1.95
Activities I am interested in are not provided or are prohibited	215	113	121	31	5	1.96
Don't have companions/people to go with	233	99	82	60	11	2.00
Don't feel welcome	335	84	54	11	1	1.47
Lack of interest	349	76	52	5	3	1.43
Limited accessibility for people with disabilities	164	92	186	30	13	2.25
Afraid of getting hurt or sick (by animals, other people, weather, etc.)	323	89	43	28	2	1.55

7. What are your concerns and issues for participation in outdoor recreation activities?
Please rate how strongly you agree or disagree with the following statements about outdoor recreation issues.

Level of agreement with issue statement	Strongly disagree				Strongly agree	Mean
	1	2	3	4	5	
The parks and recreation areas in my community are generally well-maintained	19	70	29	226	134	3.81
Recent budget cuts to parks and recreation providers have had a negative impact on outdoor recreation experiences in my area	15	26	119	168	150	3.90
Access to the public outdoor recreation lands in my area is adequate	30	108	79	196	65	3.33
I am satisfied with the number of parks, open spaces, natural areas and playgrounds in my community	67	143	63	153	52	2.96
My outdoor recreation experiences are often negatively impacted by other recreation users	88	164	116	96	14	2.55
There is a lack of recreation opportunities in my area for people with special needs	60	78	252	74	14	2.80
Conflicts between homeowners and recreation users are a problem in trails/lakes	114	109	214	35	6	2.39
Providing recreation activities is more important than protecting natural and cultural resources	190	150	105	27	6	1.97
In general, people have sufficient knowledge and awareness about the natural environment	106	219	72	64	17	2.30

8. If funding for parks and recreation areas was available, how would you prefer it to be used? Please rank them based on priority (from 1 to 10).

- ___308___ Improve/enhance existing parks and recreation areas and facilities
 ___33___ Invest in new parks and recreation areas
 ___45___ Acquire more land for parks and open space
 ___40___ Build bike and pedestrian pathways between places of work, schools, shopping areas, and neighborhoods
 ___20___ Increased outdoor recreation opportunities for children and youth
 ___14___ More information about facilities and opportunities
 ___6___ Better security within facilities
 ___2___ Increased accessibility for persons with disabilities
 ___8___ Increased outdoor recreation opportunities for senior citizens
 ___2___ More opportunity to participate in organized activities/programs

Funding preference	Mean	Std. Deviation
Improve/enhance existing parks and recreation areas and facilities	1.67	1.183
Invest in new parks and recreation areas	4.60	2.861
Acquire more land for parks and open space	4.98	2.969
Build bike and pedestrian pathways between places of work, schools, shopping areas, and neighborhoods	5.03	2.731
Increased outdoor recreation opportunities for children and youth	4.61	2.001
More information about facilities and opportunities	5.85	2.200
Better security within facilities	6.68	2.312
Increased accessibility for persons with disabilities	6.72	2.039
Increased outdoor recreation opportunities for senior citizens	7.19	2.199
More opportunity to participate in organized activities/programs	7.67	2.496

9. Thinking about the public outdoor recreation area you visit most frequently, what are the main reasons you choose this area? (Check all that apply)

- ___333___ Live close by
 ___53___ Work close by
 ___70___ No other parks in the area
 ___232___ Aesthetics/like the look of it
 ___270___ It has facilities for activities of interest
 ___128___ It has facilities for children
 ___98___ It has convenient hours
 ___37___ It has facilities for senior citizens
 ___144___ Friendly/knowledgeable staff
 ___221___ Cleanliness
 ___233___ Safe
 ___49___ Other (please specify)

10. How do you usually get to the outdoor recreation area that you visit most frequently?

- ☐ 53 Walk/Jog
- ☐ 8 Bike
- ☐ 402 Automobile
- ☐ 2 Motorcycle
- ☐ 2 Public transportation
- ☐ 11 Other (please specify)

11. Which of the following are obstacles for you to walk, jog, or ride a bike to any park and/or outdoor recreation areas near where you live? (check all that apply)

- ☐ 104 Poor maintenance of sidewalks, bike trails, and bike lanes
- ☐ 191 Lack of sidewalks, crosswalks, and/or pedestrian signals
- ☐ 139 Lack of bike trails or designated bike lanes
- ☐ 175 Traffic/dangerous roads
- ☐ 49 Fear of crime
- ☐ 235 Too far away
- ☐ 35 Physically unable to walk, jog, or a ride a bike to the area
- ☐ 52 Other (please specify)

12. How do you or members of your household obtain information about recreational areas in your community? Please check all that apply.

- ☐ 33 Received no information
- ☐ 208 Travel Guide/Tour Book
- ☐ 251 Previous visits
- ☐ 119 Maps
- ☐ 250 Friends or relatives
- ☐ 145 Brochures
- ☐ 75 Magazine
- ☐ 45 Newspaper
- ☐ 62 TV/Radio
- ☐ 20 Telephone/written inquiry to park or agency
- ☐ 85 Road signs
- ☐ 391 Social media (Internet, Websites, Facebook, etc.)
- ☐ 28 Other (please specify)

13. Have you used technology while participating in outdoor recreation activities?

- ☐ 409 Yes (go to Q14)
- ☐ 69 No (go to Q15)

14. What type of technology did you use while participating in outdoor recreation activities?

- ☐ 218 Maps (please specify)
- ☐ 151 Apps (please specify)
- ☐ 162 GPS units
- ☐ 335 Smartphone
- ☐ 53 iPad
- ☐ 214 Social media (please specify)
- ☐ 12 QR codes

15. Overall, how would you rate the facilities available to you in YOUR COMMUNITY for participating in outdoor recreation activities?

- ☐ 59 Excellent
- ☐ 181 Good
- ☐ 176 Fair
- ☐ 56 Poor
- ☐ 6 Don't know

Demographics: The following items aid in our understanding of the residents of Oklahoma and respondents to this survey. This information is helpful in identifying how well responses represent the citizens of the state. The information is not personally identifiable.

1. Are you a resident of Oklahoma? ☐ 460 Yes ☐ 25 No

2. What is the 5-digit zip code for your permanent home? _____

3. What is your age? ☐ 46.33 years old Range 18 to 91, Median = 44

4. Are you? ☐ 147 Male ☐ 338 Female

5. Are you of Hispanic, Latino, or Spanish origin? ☐ 15 Yes ☐ 470 No

6. What is your race?

- ☐ 409 White ☐ 4 Black/African American ☐ 52 American Indian/Alaska Native
- ☐ 3 Asian ☐ 9 Pacific Islander ☐ 8 Mixed race ☐ 0 Other

7. What is your highest level of education?

- ☐ 0 Less than high school
- ☐ 101 High school or equivalent
- ☐ 73 Associate's degree
- ☐ 179 Bachelor's degree
- ☐ 84 Master's degree
- ☐ 11 Professional degree
- ☐ 18 Doctorate
- ☐ 19 Other (Please specify _____)

8. What is your current occupation?

- ☐ 73 Retired
- ☐ 19 Unemployed
- ☐ 204 Employed Full-time
- ☐ 32 Employed Part-time
- ☐ 43 Salaried professional
- ☐ 33 Educator
- ☐ 45 Self-employed (non-incorporated business)
- ☐ 36 Other

9. What is your annual household income level?

- ☐ 33 Less than \$25,000
- ☐ 99 \$25,000 – \$49,999
- ☐ 105 \$50,000 – \$74,999
- ☐ 87 \$75,000 – \$99,999
- ☐ 63 \$100,000 – \$124,999
- ☐ 45 \$125,000 or more
- ☐ 53 Prefer not to respond

10. Do you or any member of your household have a disability?

- ☐ 91 Yes (go to Q11) ☐ 393 No (Exit survey)

11. What type of disability do you or any member of your household have?

- ☐ 16 Hearing ☐ 5 Speech ☐ 16 Mental
- ☐ 9 Visual ☐ 72 Mobility ☐ 7 Chemical sensitivity



Appendix C –Survey of Recreational Trail Users

SURVEY OF RECREATIONAL TRAIL USERS

1. When you use a trail, do you prefer that the trail be designated for – (check one only)

136	A single type of recreational use? (walking OR riding, not both)
266	Multiple activities separated for motorized or non-motorized use?
9	Multiple activities with motorized and non-motorized use combined?

2. Is your most frequent trail activity – (check one only)

3	Motorized (not including wheelchair)?
224	Non-motorized, but mechanized (for example, bicycle, wheelchair)?
73	Non-motorized (for example, walking, hiking)?
111	Non-motorized, but assisted by animal (for example, horse)?

3. What trail do you use most frequently (name, location) for that activity?

Trail used most frequently

4. What are your most frequent activities when you use a public trail? Rank these activities from most frequent to least frequent.

	Min	Max	Mean	Std. Deviation
4WD driving	1	12	8.50	2.786
Walking	1	9	3.32	1.495
Hiking, backpacking	1	11	4.13	1.730
ATV riding	1	12	8.59	2.450
Bicycling	1	12	3.67	2.582
Mountain bicycling	1	12	4.66	2.959
Running, jogging, exercising	1	12	4.89	2.381
In-line skating, roller-blading, roller skating	4	12	8.72	1.752
Horseback riding	1	12	7.16	3.973
Commuting to work or school	1	12	8.05	2.892
Family outings	1	12	5.58	2.720
Motorcycle	2	12	10.74	1.953

5. What level of difficulty do you prefer for your most frequent activity on a trail? – (check one only)

26	Easy trail
265	Moderate trail
63	Hard trail
49	Challenging trail

6. Following are several types of trails based upon design and purpose. Please indicate those trails that you use or would use if they were available – Check all that apply.

Type of trail	Non-motorized Activity	Motorized Activity
Exercise trail with aerobic/work-out stations	323	10
Interpretive trail (educational, environmental)	294	15
Interpretive trail – self-guided with signs	332	23
Interpretive trail – self-guided with brochure	284	24
Short-linkage trails (branches to other trails)	346	28
Interconnected trail network within city/urban area	341	32
Long-distance trail	373	41
Loop trails (circular route from common trailhead)	392	25

7. Please use the following guide to indicate the importance of the following issues.
- First, rate the importance of each issue by circling the number that best describes the current importance of that issue.
 - Second, indicate whether the importance of that issue has increased, decreased, or remained the same in the past ten years.
 - Third, indicate whether the importance of that issue will most likely increase, decrease, or remain the same over the next five years.

Issue	A. Current Importance			B. Change in Importance over the past decade			C. Future Importance		
	Not Important	Undecided	Very Important	Decrease	Same	Increase	Decrease	Same	Increase
Lack of trail etiquette or ethics	22	61	326	49	189	168	50	163	188
Too much litter or trash along trails	26	61	321	55	205	145	40	170	192
Erosion or deterioration of trail	12	61	337	39	200	168	31	148	222
Lack of support amenities along trail	147	132	128	39	292	75	38	241	121
Too many different users on trail	127	143	140	14	245	147	21	206	175
Conflict in type of use on trail	85	123	200	19	224	155	23	199	180
Lack of trails close to home	36	58	313	71	218	116	69	183	148
Security at the trailhead	93	121	192	35	309	59	35	254	112
Accessible or barrier-free trails	91	143	175	60	275	68	36	264	101
Inadequate information on trails	70	116	220	64	258	84	60	230	111
Lack of directional signs to trails	69	81	260	59	135	209	58	221	122
Lack of funding for trails	2	28	378	61	192	153	48	113	240
Lack of maintenance on trails	16	62	332	50	163	188	52	151	200

8. From your perspective, what is the most important issue to be addressed regarding recreational trails in the state of Oklahoma?

9. Please rank the top trail management needs from your perspective.

Management need	Min	Max	Mean	Std. Deviation
Keep trails clean of litter and trash	1	13	4.51	2.804
Maintain the existing trails	1	11	2.61	1.754
Enforce rules and regulations on established trails	1	13	6.75	3.238
Renovate deteriorated trails	1	10	4.56	2.295
Provide education and safety information for trail users	1	13	7.35	2.732
Provide trail information, maps, etc.	1	13	6.78	2.606
Develop support facilities along trails	1	13	8.92	2.413
Provide law enforcement	1	13	10.03	2.656
Acquire land for trail access	1	13	6.68	3.199
Acquire land for new trails	1	13	6.28	3.675
Develop new trails	1	12	5.35	3.694
Provide landscaping along trails	2	13	11.83	1.848
Develop support facilities at trail heads	1	13	9.33	3.303

10. Please indicate the trail support facilities that you presently use or would use, if available, during your trail visits. (Check all that apply)

Presently Use	Would Use	Trail support facility
355	134	Trash cans/dumpsters
183	255	Drinking water
286	204	Rest rooms
353	143	Parking lot, parking space
169	195	Picnic facility
175	219	Shade structure
269	186	Trailhead/staging area
285	191	Trail signs
93	248	Interpretive or educational materials
118	249	Shelters

11. Please indicate your reasons for using a trail for your most frequent recreation activity on a trail. Check all that apply.

320	Observe the scenic beauty
251	Be away from crowds
355	Improve physical health
279	Reduce/release built up tensions
299	Be with others who enjoy the same things I do
359	Enjoy nature
259	Experience adventure/excitement
159	Do things on my own
196	Develop skills and abilities
247	Challenge or sport
62	Test equipment
106	Experience self-reliance
61	Other: (Please specify)

12. Do you believe that your community needs more trails?

393 Yes 8 No 12 Undecided

13. Would you use your car less if you had more trails near your neighborhood?

296 Yes 55 No 62 Uncertain

14. When making vacation plans, are areas with trails more attractive to you than those without trails?

386 Yes 10 No 16 Uncertain

15. Do you favor the establishment of a national network of trails through the United States, based on rail-trails, so that people could walk, ride, or bicycle around the country?

369 Yes 7 No 36 Undecided

16. Do you believe that spending money on building and maintaining trails is a legitimate use of government funds?

393 Yes 3 No 15 Undecided

17. If you answered "yes" to question 16 what level of government should manage these funds?

17 Federal government 48 State government 35 Local government
291 Multiple levels

18. Would you be willing to pay more for a home near a trail than for a home without access to a local trail?

344 Yes 22 No 46 Undecided

19. Based upon your experience, what region of the state is most in need of additional trails?

35	Northwest (west of I-35 and north of I-40)
40	Southwest (west of I-35 and south of I-40)
86	Northeast (east of I-35 and north of I-40)
37	Southeast (east of I-35 and south of I-40)
104	Oklahoma City metropolitan area
46	Tulsa metropolitan area
51	Other: (Please specify)

20. Based upon your experience, which state park is most in need of additional trails?

--

The following items help us to understand more about the demographics of trail users in Oklahoma. Your responses to these items will be reported in aggregate form only and cannot be personally identified.

21. Are you a resident of Oklahoma?

Yes	406
No	7

22. What is the 5-digit zip code for your permanent home? _____

23. What is your age? __49.04__ Years old Range 20 to 75, Median = 50

24. Are you?

Male	206
Female	207

25. Are you of Hispanic, Latino, or Spanish origin?

Yes	8
No	402

26. What is your race?

White	351
Black/African American	2
American Indian/Alaska Native	29
Asian	3
Pacific Islander	18
Mixed race	8
Other	0

27. What is your highest level of education?

Less than high school	1
High school or equivalent	58
Associate's degree	79
Bachelor's degree	135
Master's degree	80
Professional degree	16
Doctorate	30
Other	13

28. What is your current occupation?

Retired	61
Unemployed	3
Employed Full-time	182
Employed Part-time	17
Salaried professional	68
Educator	21
Self-employed (non-incorporated business)	43
Other	17

29. What is your annual household income level?

Less than \$25,000	13
\$25,000 – \$49,999	52
\$50,000 – \$74,999	72
\$75,000 – \$99,999	63
\$100,000 – \$124,999	83
\$125,000 or more	81
Prefer not to respond	48

Please share any other comments you may have related to trails and planning for trails in Oklahoma. Thank you very much for your time and assistance.

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Question 8 – From your perspective, what is the most important issue to be addressed regarding recreational trails in the state of Oklahoma?

Responses (includes errata):

That we get to keep them so that we can have escapes from the cities.
Long distance, rails-to-trails type facilities. Too much focus on loop/circular trails you drive to use.
Funding to build more trail quickly
Ethics and user conflict
Lack of funding to the Oklahoma state parks.
Funding for the state and local parks.
We need to keep the trails in Oklahoma so that people can get out to enjoy the great outdoors. If we don't have nature and wildlife, then we won't have anything at all.
As measured State-wide, having nearby access to a recreational trail.
Mile markers on all the trails. When an injury occurs it's difficult to tell emergency crews where to go or where you are without them
Keep our trails open
The state needs recreational trails. The horse riders help maintain the trails and we need to be sure that they all stay open as horse trails. It's not a good idea to have motorized vehicles or bicycles on the same trails. I do think horses and hikers can share the same trails.
Advertise where trails are available. Hard to find where we can ride. Then hard to find actual location.
Keeping people safe.
Erosion caused by motorized trail users.
Oklahoma is the horse capital. We must keep out existing equestrian trails open and create new ones if possible. Horse people from other states will bring in revenue if we have great trails for horses.
Funding!
Keeping them open for usage. And maintenance
Lack of funding
Funding to keep them open.
Funding. After that trying to get all the users to get along. Bike riders seem to hate horse riders. No one wins if everyone is fighting each other.
I feel like we have an amazing trail system and feel like we should not become over committed to the point that we lose what we already have.
Increasing total mileage & linkage of both city & state multi-use trails
Lack of good trails for cycling.
Access to trails.
Um, that the state of Oklahoma is bankrupt? And abandoning its state parks? The Department

of Tourism is hardly robust and invested in future growth. It's a really depressing time to be an advocate for the environment overall, much less with regard to outdoor recreation, fitness, or public transportation.
More bike trails
Lack of Trails.
Still placing too heavy if an emphasis on vehicular traffic by using new trails like a glorified sidewalk that has to cross numerous entryways (more dangerous than riding with traffic on the road)
We need exponentially more trails which are protected from vehicles.
We need more bike trails that are SAFE to ride. Wider bike shoulders or more dedicated bike trails. More tourists would come for something like a Rails to Trails system like they do in Missouri and other states. It would cut down on pollution and make a healthier Oklahoman. I know my family travels to other states to just ride their trails.
Connectivity and long distance trails between towns.
The lack of funding for trails and information on how to get to the trails.
Lack of funding and possible closure of beautiful state parks.
We need more trails. Statewide organizations like the Oklahoma Earthbike Fellowship (OEF) are excellent resources to tap for input on Oklahoma's trails. This organization is a partnership of volunteers across the state that are dedicated to building and maintaining excellent trails for multiple user groups. I would like to see the state tap into its community partner more. OEF has been working diligently on rolling out a comprehensive set of trail etiquette rules for the entire state.
Keeping the ones we have and adding more if possible.
Creating more trails.
Access to trails for beginners with good information about the trail.
Volunteers to help maintain and build new trail with active support from the city and state.
Stewardship and general respect for both the trails and users.
We need more of them and they need to be closer to the cities. There are many other cities that have started creating urban hiking/biking trails. There is no reason we could not do this. Funding is going to be key. These trails motivate people to live a healthier lifestyle which is something that Oklahoma needs.
Funding and otherwise acknowledging importance by government leaders
Increasing the number if trails available for use. Equally as important is having these trails maintained. We need more volunteer user groups like OEF stepping up to help build and maintain trails.
Biking
Increased funding for more multi use non-motorized trails is the most important need to be addressed.
I'd just like to see a little more maintenance, such as keeping the Trails we have, free of debris, rocks, and most importantly, glass. There are several areas along the North and South River Trails in Oklahoma City, that appear to be Friday/Saturday night party spots, where broken

glass shows up week after week.. A lot of times, that glass just accumulates, as it appears nobody is cleaning it up, except some of the concerned bikers using the trails.
Trails need to be maintained better. More mountain bike trails need to be built and with multiple levels such as beginner, intermediate and advanced. More pump tracks would be awesome too! We have to be competitive with states around us to attract more visitors and possibly future residents. It makes the state more attractive to live and play in.
Make use of the old railroad beds. Many other states and cities have done it. I have no idea how to pay for it but maybe we can divert some of the trauma system dollars to the project since separating bikes and cars will decrease the trauma costs. The average auto vs bike medical bills can't be cheap.
Making Oklahoma a more health conscious state. Making provisions such as cycling trails so people will have a place to get outside and exercise/commute safely away from vehicular traffic. I would really like to see more trails like the "River Walk" trail. Maybe connecting to Draper lake and Arcadia lake
Need for more trails
The possibilities that some of our parks might be closing
Connectivity and long distance trails. Rails to trails type programs.
Promotion of Oklahoma trail systems as part of Tourism efforts.
Interconnectivity. Trying to designate multi-use by painting bike figures on the road...feels like target practice vs. dedicated bike lanes.
Horse only trails. Horses and bikes/hikers/ATVs don't mix.
Connecting more trails and a safe place to leave your vehicle while you are on the trail.
Keep them open. Keep State Parks open. Have spent over 2000 hours and 17 years building trail at Lake Thunderbird with BLN, Team Warmup, OEF and many other individuals. The clubs have spent 10,000 dollars and 10,000 man hours in labor to build and maintain the trail and would hate to lose it. Especially when the cost to State is extremely low.
We need more trails that are self-contained and do not force you to share the road with cars
Urban and suburban sprawl taking away potential trails, squeezing out existing trails, and creating unsafe trails.
With the increase in bicycling both worldwide and nationally it would be nice to see more trails in Oklahoma via rails to trails programs. Tulsa has done a great deal of work in regards to their trails and Oklahoma City has done little in comparison. It would be nice to see an increase in both areas. How to raise the money for this expansion or creation of trails is something to consider. However as to often in this state money is set aside for certain use and then put into the general fund.
Keep and work on current trails
1. We need more of them. 2. Both users and general public need to be educated on the laws, rules, educate and safety of the trails. 3. We need more signs, especially where safety is concerned. 4. We need EMS stations like they have on college campuses on every trail, and ever few miles on long distance trails. 4. We need security cameras and better lighting on these trails.

Security and parking near the trail heads/entry points
Keeping and increasing access for Non Paved multi-use trails for runners/hikers/bikers.
State government support
To spify Travis for certain types of activities. Currently Bluff Creek is dangerous due to the allowance of runners and hikers on the trail.
No trails on the West side of the metro.
Connecting or linking the existing trail systems.
Dirt Trails: access and user group conflict.
Paved Trails: connections with streets and bike routes should be high visibility and well-marked. 3-foot rule enforcement.
Rails to trails
More options are needed along with a maintenance team
I wish there were more paved trails to ride my bike away from cars. Distracted driving has made riding on the roads with cars extremely dangerous.
Safety for bicyclists and walkers.
Awareness for different users to respect other different users (ie, walkers on the river trail staying to their side so cyclists can pass safely.
I feel the care of our incredible trail system will be dropped with the current state budget issues. I also fear parks will not receive funding under the current administration.
We need more equestrian trails at the state parks. Horses cause less erosion than motorized vehicles. Equestrians are some of the cleanest and most respectful people I know. It draws a lot of money and revenue when there is horse trails, pens and campsites for equestrians. We are improving Foss with the help of OETRA. We have only the one spot in Western Oklahoma. There are many in Eastern Oklahoma. Yet there are many riders in the West. We have riders from New Mexico, Texas and even Kansas.
Funding and proper maintenance
MORE trails! Please
maintaining and expanding trails, especially the Katy Trail (Railroad to Trail)
Protecting and developing equestrian trails
We simply need more options.
State support for more trails and support for those independent groups who volunteer to support and maintain them
Safety, ticks/snakes, directions, courtesy, too many dogs that are very aggressive and dog doo, funding, resources.
Being able to safely get to the trail. Currently a limited number of communities can get to the trails safely without using cars
Respect to all users
Very few trails other than in the major metropolitan areas. Trails are very popular today. It would be great to have many more, but will there be funding for upkeep in the future if we add more.

Keep them open & funded!
Safety for all using the trails. When you have walker/runners with headphones in they often do not here cyclist coming even when they yelling to let them know. Keeping trails open and maintained because our family and many of our acquaintances utilize the trails on a regular basis. Keeping them open and accessible is the highest priority even if it means we volunteer to help maintain and keep them open! This is what we have going for as a state. We must keep them open!
access to abandoned railroad right-of-way for rail trails
Need more trails, more funding, maintenance, singletrack dirt mountain bike trails and long distance paved paths connecting parks and towns. Commuter pathways. Rails to Trails. Grants for towns & communities. Easier understanding of how to implement the process.
Continued expansion and partnership with neighboring communities to connect them via the OKC trails system I.E. a trail that leads from yukon to the West River Trail. Would allow for bicycle commuting in a safe manner and planned family bike trips to stuff in OKC.
Keeping them open and available to the public due to lack of funds
Rails to Trails.
Availability and accessibility to them and the maintenance and upkeep of the trails
Need to build a cross-state network of trails, connecting communities. Perhaps use abandoned railroads for multi-use trails.
Now we are building more trails I'd like to see them taken care of so they can be used for decades to come
Bluff creek has a broken window once a week from thieves. Security at trailhead is really my only concern. The city has addressed walking vs biking only and I've never had a big issue with walkers on a biking trail. Trash has always been minimal consistently in my last 3 years riding. Some trails have been made easier by cutting into tree roots making a smoother ride, which I'm still undecided on whether I approve of it.
The need to continue state funding of recreational trails. Most users wouldn't mind paying a reasonable fee to use, as long as the funds are used for those specific trails.
Better sight for camping while using the trails.
There's not enough mountain bike trails within 1 hour driving distance around Oklahoma City. Additionally, there are not enough mountain bike trails that offer 10 or more miles of singletrack. Trails I frequently ride are Lake McMurtry (Stillwater), Draper (Midwest City) and Arcadia (Edmond). Arcadia is terrible with riders in both directions, erosion and lack of maintenance. Bluff Creek (Oklahoma City) is a great trail but it's too short 3-4miles.
Inadequate focus. Oklahoma is too focused on revenue rather than quality of life. State focus should be on supporting residents rather than milking them. Improved quality of life will attract better employers and better workers. Residents will be happier and healthier which will address revenue issues.
We need more of them.
money
Creating & maintaining safe cycling trails

Multiuser makes using them difficult. Safety is also a concern, while riding alone.
More trails in rural Oklahoma
More trails! I live in Tulsa, OK. I would like to see an increase in trails that are not paved. Pavement/concrete is hard on joints. I also prefer the feel of nature in an urban area if possible.
The MOST important issue regarding trails in the state of Oklahoma is to keep them accessible to the public and to continue to safeguard these green spaces from private development.
Connectivity between trails. The engineering design of many trails are poor. For example, the large bullards in the middle of trails create hazards. Having stop signs for the trail user and the vehicular traffic crossing the trails. Who is supposed to stop? Should it be treated as a four way stop sign? It is not signed as a four way. It doesn't make sense to have bicycles and joggers come to a four way stop on a trail. This all creates confusion for the trail user and the cars.
building more bicycle paved trails
Metro areas need more trails to accommodate the growing number of users, and should be designed for multi-use or separated into specific compatible uses/user groups. Right now there are far too few options for trail recreation and what exists is primarily as a result of mountain bikers over the last 20 years, so those trails were not constructed in ways that accommodate other users safely or enjoyably. More trail mileage/destinations would help with this considerably.
Abandoned railroad right of ways need to be preserved for "rails to trails" status.
Safety. Wide trails to offer pass ability for cyclists and runners. A designated area/trail for speed cycling/peloton.
Safe trails for women and well-marked trails.
To build more of them.
Trails need to be both recreational and transportation. As a stranger bicycles into a town/city, is there going to be signal to available trails that will take him/her where they would want to go with signage to restaurants, hotel/motels, Will the trail take them back to the US/state highway that they need to leave the town. Have showers and camping available in parks. Yes the homeless may use them, but they need showers too!!!!
Just that we build more if them. With the cooperation of OEF and other groups and organizations there is no reason to not expand the trail systems and to ensure the ones we do have are adequately funded and supported. Most people have NO CLUE how much mountain-bikers actually are the ones building and maintaining most of the trails around the metro. Regardless. We need to continue to support our trails! ðŸ™€
Trail maintenance
If you build them we will come. Trail riders ride year around. Where camper, fishermen hikers use during summer month we rid ed all winter
Signage, access, security, defined use, etiquette.
The first and most-important task is to build more trails across the state.
Need more trails and funding!

More mountain bike trails please
Parking is an issue at turkey mountain i know for sure, there are people parking in non-designated areas on nice days and weekends. Also signage on trails is greatly lacking.
Security at the trailheads, as well as along the trails.
Maintenance on and along the trails
The limited amount of public land for mountain biking and hiking trails.
Funding
Lack thereof. Neighbor states have far more
Creation of more trails
Creating quality, accessible, friendly, challenging and affordable trail networks to engage the local population in outdoor activity.
Need more of them
not enough funding
Cuts in funding to maintain, improve or increase available land/trails.
Wide trails & maintained more trails
Funding
Need more of them and better markers
Access to recreational trails near where people live. New developments are not preserving recreational/green space. In the future the relatively small number of trails will see greater use and less land will remain for developing into recreational areas.
Still being able to use trails located in state parks. The recent budget problems have led to proposals to close parks.
Population growth in OKC and safety/security of people
We must do everything we can to keep our recreational trails.
Having three trails preserved for long term use, groups and funding to maintain
Expanding/Connecting trails to allow for maximum separation of bike and vehicular traffic.
Funding
Clean, rideable trails that are close
Having trails that don't have stops, that are safe, well maintained, wide enough for bikers and walkers at the same time
Developing new trails on public land.
Make them accessible for everyone to use
Funding or lack of, however with the current budget situation and not a viable solution I'm not seeing that this will be remedied soon. I do wish our state government would look to states like Arkansas and Colorado- their tourism is thriving and supporting itself- maybe we should mirror what they are doing to ensure proper funding for our parks and maintenance to the trails within our parks.
Closing! Development from outside sources!
We need to develop more trail systems with sustainable design, better amenities and quality signage to attract people to the state.

The existence of Parks and trails.
Increasing interest in use is creating a feeling that there are too many users and not enough trails.
Safe places to ride without conflict between motorized and non-motorized users
Trail etiquette, maintenance and funding
I feel we need more trails available for horseback riding. There are so many people that love trail riding and for a lot of us, we have to trailer for trails to ride. You could collect a horseback fee to use the state trails of offset the cost of offering new trails and maintaining them. We would pay it.
Security
User acceptance.
The popularity of soft trail networks is growing exponentially, the influx of trail users combined with the lack of soft trail systems within the state, especially within our metro cities, is resulting in overcrowding and heavy trail deterioration at the few soft trail systems currently available to our citizens. Funding for restorative work and ongoing maintenance of current networks and the creation of additional soft trail systems is severely needed.
Funding
Public awareness of trail etiquette, not who has the right of way (because that way of thinking has some acting like bullies to others), but to be aware of your surroundings. Trail markings, it would be nice to see running trails, riding /race trails marked so you could ride them year around without getting lost. After weather (rain) signage telling if the trail is open or closed and how to tell.
adding more miles of trails that are maintained
Lack of funding. Big surprise!
We need more and they need to be maintained. So money will always be the issue.
Trails for transportation to connect rural areas or areas within a city.
I feel like we have to keep all of our parks. I happen to love to camp and trail ride on horses, but love to hike too and if all the trails go away and we don't have anywhere to camp with our horses. This is a huge industry and know the place I go in Oklahoma (about 10 different parks) are always full.
I live in midtown Tulsa. There is a patchwork of nice urban trails. There's a good start but there needs to be more interconnectedness among the trails. Trails in state parks and scenic areas are poorly marked and defined.
OKC is spread out. Trails for recreation have different issues than trails for transportation. Make bike commuting and bike use as transportation that speedsters bikes from cars a priority. Bikeable and walkable communities are an important draw for people and businesses.
User information. I think a lot of the etiquette, trash, locations, maps, has to do with people who don't frequent trails being uneducated in the uses, locations of trash cans, directions, etc.
Public knowledge of the trails in general and getting more in a centralized area so that we can see more people getting out and on a bike, walking, hiking and of running
Essential funding to keep trails open is of most concern to me given the legislature and

governor's unwillingness to tax oil and gas and give tax cuts to the wealthy.
Funding and access from city centers
Education of trail etiquette and the ability to merge with various usage groups for trail maintenance. Also, it's critical that the powers-that-be understand that usage of trails in our state vary greatly simply because of location and usage. Each trail must be treated individually and thought given to the type of users of that particular trail.
Too few of them we don't have a problem of too many people on our trails doing different things we simply have so few trails they are crowded
I would like to see trails get funding to get them available for public use and be able to employ personal to maintain trail systems.
More funding
that trails can be easily and safely accessed from multiple areas in the city and that they connect in a logical way
Keeping existing trails in good shape, free from glass and litter and cracks. Developing new trails and linking the trail system together.
There are not enough of them. Long distance trails are important; the initiation of a rails-to-trails program would be great.
Safe paths from neighborhoods to local trails, such as exclusive bike lanes on main streets or trail arteries that branch out from main trail to neighborhoods.
funding to maintain them
More recreational trails needed. In Tulsa. I would like to see the major trails loop
Safety; first aid; being visible; need plenty of water and healthy snacks and rest areas; bicycle racks and bicycle camp grounds; don't forget about Yeshua the Messiah!
Lack of urban trails
They need to remain open and the amount of them increased.
Stay the trail etiquette. Pack out what you pack in.
Keeping them open and maintained.
Many of the trails have broken glass and debris leading to increased instances of flat tires and accidents
Having more of them. We have such vast terrain. More trails like osage prairie connecting cities.
More trails and links between trails. City and county wide access points from roads
Safety and security at trail heads as at some trails the vehicles are stalked and broken in to while out on the trail.
Maintenance and access. Finding a dedicated user base that is also willing to volunteer to maintain and build trail. And equal access for all, to increase that user base.
Need more and or better trail systems
Lack of trails throughout state (average distance between trails is high).
Separate non-motorized and motorized trails.
More urban mountain bike trails

Upkeep and different groups getting associated and organized for a common purpose.
Establishing and maintaining equine trails in western Oklahoma and northwestern Oklahoma is my most important issue.
Development and maintenance of more real systems.
Funding and focus. We have to be willing to pay for improvements. Reducing taxes can NOT be more important than maintaining and improving everything, including trails.
Making trails accessible for equestrians.
Lack of funding to create more.
Funding of tools and equipment to build and maintain trails.
Need far more bicycle trails across the state. Oklahoma ranks at the top for obesity and overweight which causes many major health problems-- particularly diabetes and heart disease. Governing bodies do not support development of biking- walking- jogging trails.
Ensuring appropriate funding and maintenance is available to keep trail systems viable and relevant to the intended users
Funding for more trails and maintenance of the ones we do have.
Lack of state and federal funds for recreation areas is devastating our equestrian trail system in Oklahoma. Without funds entire areas are closing. The result is heavier use on fewer areas deteriorating the existing trails. This also sends riders to trails and campgrounds on private land.
Having the funds to maintain trails
That we are falling behind other states that are really investing in their recreational activities for the citizens. Every state around us is doing better with the exception of maybe Kansas. Colorado, Arkansas Texas and Missouri are all so much further ahead than us. Also, once people do the type of activities these trails can provide, they want to keep doing them so they are better motivated to get/stay healthy! Thank you for taking this into consideration with such a limited state budget.
Add more bike trails, especially for road bicycles
Adequate signage for multi-use trails. If there is an accident due to inadequate signage indicating directions for walkers or riders, one group may lose access to the trail.
Oklahoma does not fund critical infrastructure, so public support for public trails likely to be an extremely low priority. Oklahomans also disproportionately obese, poor, less educated, experiencing chronic pain, and under-employed so NEED benefit of trails but not likely to use them
OEF is very important part of the maintenance & upkeep to the trails & it would be nice to see the state participate in supporting their efforts with matching funds or similar support in their effort. They are one of the main reasons we have very competent trails but they need more support from the state, imo. My survey should reflect their efforts but also the importance of the state to step it up & help more so OEF can support more trails more often. thank you, jeff
New trails need to be built to give bicyclist and walked/runners a safe place to participate in

their activities.
Funding for more trails, especially multi use trail parks
More trails that receive proper maintenance.
Seize opportunities for rails to trails
Ongoing maintenance
Connectivity and coverage
I assume it is lack of adequate funding, for new trails and maintenance of existing. Proper respect though to everyone who helped get the current OKC trail system in place! I am a heavy user of it, mainly cycling. Thank you for asking.
That they stay open and available to future generations.
Making sure the parks have adequate funding to stay open
Trash cans
Keeping them open and maintained. Not only are they quality of life amenities for us, the citizens, but they draw in tourists and encourage business (bike, hike, camping equipment!)
Establishment and maintenance of longer connecting trails which would facilitate safer commuting and more recreational opportunities
Don't let existing trails decline in numbers. We need everything we have. Osage Trails usually has a lot of glass on it. I understand that there are some trails off of 41st W Ave. that I want to check out. (Hiking/backpacking). I ride bicycles on streets or trails and hike on dirt trails. Am long distance bike rider (25+) and usually hike about 4 miles twice a week on Turkey Mountain. So glad we have the trail system. Would like to see the Osage Trail extended Northward. SandSprings resid
Increase funding for trails in Oklahoma
I think any equine trail should be only for equines horses and walkers/bikers/atvs/runners do not miThe horse industry is good in Ok, Tx I don't think Ok knows how many Texans travel to Ok to use our Horse trails and spend the weekend, trails generate money! We need camping sites designated to our trail riders, and we need something done about 4 wheelers illegally using Horse trails. Very dangerous. State parks with Horse trails should all have designated camping sites with corrals, water.
Keeping them clean and well-marked.
To not cut funding for our horse trails along with keeping security for ones that camping is available. Making sure trails are marked and kept free of debris that can harm horse or rider along with broken trails where one can slip or hidden holes.
Lack of funding to maintain trails
Funding to maintain safety and cleanliness
Litter free, wide trails for passing someone moving at a slower pace, Emergency Phone Stations on the trails, Adequate Parking & Turning for a trailer. Restrooms or Porta Potty. Trails that an Emergency Vehicle and get to.
The horse economy to Oklahoma has been one of the biggest around for us to lose our trails that we ride daily that would be a big hit into industry keep Oklahoma trails open all of us

Trail Riders would appreciate it
I am hopeful that everyone who wants to enjoy the trails will be able to but I am concerned about overcrowding on the trails and lack of funds. Also, I am concerned that trails that are dedicated Equestrian will be slowly closed down or made multi-use which can be a concern for Equestrians.
Maintenance and signage. Overall loss of use
Funding. The state doesn't recognize the importance of small, close to home trails. Would rather put its money into flashy big-donor parks like the gathering place. There needs to be recognition of urban wilderness areas and amenities like public transport and volunteer programs for those in need who can't afford the entry fee so that the trails are enjoyed by a greater diversity of people. Then, everyone can have the opportunity to participate in our door activities outside the city.
Larger parking lots, clearing and maintenance of trails, hunting and closing the trails during hunting season (should not), signs,
There needs to be many places to ride out horses with clearly marked trails & they need to keep the current places available & maintained
Funding for maintenance of trails. For example, purchase of signs and markers, on trail maps. Clearing of debris from the trails. Hauling in gravel and sand to fill in eroded areas etc.
Lack of funding and maintenance.1
Lack of trails and funding
Mountain biking is a rapidly growing sport and there are few trails in OK that are suitable for Mt biking. We need more trails and safe parking facilities as well as hygiene facilities (running water, bathrooms). Multi-use trails are getting better (e.g., Riverparks) but mt bike trails must be unpaved & differ from multi-use in that they weave between obstacles such as trees, roots, rocks, etc. and have multiple curves, sharp turns, sometimes jumps/hills & rough terrain unsuitable for jogging.
We need to keep them alive! Also it would be great to have more trails in other parks like Quartz Mountain or Wichita Wildlife Refuge
We need to make our trails more user friendly. I'm not the most directional person, I couldn't dare go on a trail without someone who knew their way around because our trails are not marked very well at all for people like me who are directionally challenged. Something on the ground (like painted paw prints leading to ahs football game) would be awesome!
Lack of funding
ignorance of a few people using our trail systems that vandalize and trash our trails.
Trail Development; both in trail building initiatives, as well as trail experience (marketing; wayfinding.)
Maintenance and funding
Sustainable off road trails that are designed to reduce erosion.
Lack of trails
Not enough awareness and public support. Too much politics.
We need more trails in the metropolitan area for a healthier city as we didn't rank too well on a

national scale! More trails = More opportunity for a Better Healthy lifestyle! Thank you.
We need more trails in Oklahoma. We need more funding to maintain and build trails.
I am seeing an increase in hikers/walkers on bicycle trails. To me this poses a safety risk to all involved. Also I am hearing of increased automobile break ins at some trail heads, this is troubling.
keeping the Parks open, as well as opening new diverse trails with a variety of difficulties and obstacles.
Safety, accessibility, facilities (restrooms, water, trash cans) and maintenance.
More connecting trails providing safe usage by multiple user types - pedestrians and cyclists. Non motorized traffic only. More access to trails that can be family friendly for recreation with wide levels of ability and ages. Marking and signs are important so everyone can happily coexist. The more people using the trails the healthier the state can become.
That the trails stay open, maintained and that new trails are created for as many locations as possible given the geography of the areas. New trails in towns without trails are very important for the whole trail system to become more cohesive and that trail users can visit other trails and learn the beauty and benefits of trails.
Trail etiquette for different user groups. Especially new and infrequent users.
Forming convenient networks of trails that are satisfactorily supported.
Information and maps need to be better and the city trails need to be connected there too many gaps forcing people to ride in traffic the Mountain bike trails are totally maintained by volunteers at their expense this puts a great burden on a few people who grow weary of trying to create good riding parks Denny Beitler Former president and founder of Crosstimbers Riders Association
We need more trails and better maintenance.
Keeping current trails open/accessible while increasing additional trail availability and links between them.
We need more trails and need to do a better job of encouraging folks to get outside!
Lack of public land for family adventure . To many single loop short trails with cement in the middle of neighborhoods.
maintenance and keeping the trails open to all users
There are not enough available recreational trails in the state of Oklahoma. People need to be up and active and if these were more accessible and more of a variety of outdoor activities were available people would use them more.
Oklahoma Tourism and Recreation Department should NOT get a budget cut. I love our state and willing to help/volunteer in anyway to maintain our trails. I wish there was more information on how I can help/volunteer.
We need to increase the number of trails available for non-motorized users.
Trail etiquette by ALL users.

We need more of them, less commercial development.
Educating trail uses to proper trail etiquette
Need more trails
NOT CLOSING OUR STATE PARKS! Continued funding for maintenance and upkeep to allow accessibility to parks and trails for recreational and educational use, including but not limited to, hiking, walking, family outings, school outings, camping, rock climbing, running, biking, mountain biking, etc.
Second, is educating trail users on proper etiquette and safety
The integration of the trails from "recreational trails" to a trail system that can be used for not only recreation and leisure, but commuting and transportation from suburbs into the OKC area. Tulsa has a very nice system of this as well as places like Minnesota and the Rails to Trails system. I live fairly close to the SW trail from Crystal lake to Overholser, but I have to pack my car and drive several miles to park and ride versus being able to simply get on a bike lane and access them.
Litter, unmarked trails, barriers
Recreation is one of Oklahoma's main sources of revenue. It must be protected, so Oklahoma can thrive for our progeny. I'm sure volunteers can be utilized in many cases.
Funding, to support our natural resources.
Safety at the trailhead has been a huge problem with cars being vandalized/broken into, esp at Bluff Creek and Joe Barnes Park in Midwest City.
Sharing the trails we have. Building more trails especially at state parks and lakes. Getting more people using the trails, helping maintain trails, and sharing the trails for multi use. Bike, run, walk. I am talking natural dirt trails.
More needed...
We need trails for biking and trails for walking/running
More trails (non paved) options in the OKC metro. Most locations currently outside the metro outside of Bluff and Draper/ t-bird.
Keeping them open !
Funding
Keeping the trails open and accessible to all. We need these trails and love these trails. We spend personal time on trail maintenance and upkeep. We are proud of the beautiful trails that we have and we want to keep them.
Simply keeping them open and accessible
Availability of trails for road bikers for safety. Need for interconntivity so kids can safely ride or walk to school
Etiquette for cyclist and runners
Safety! Trails tend to have multiple users. Dog walkers with 20' leashes, causal walkers, runners, small children on bikes, adults on bikes, faster bikes, all the above with earphones in both ears. Trails need to have certain rules and/or be segregated at some level.
Safety
Probably signs and postings noting the direction to and from trailhead and noting what trail I

am currently on. Lots of trails are in areas with little or no cell coverage for GPS devices like phones. More signage would help trail users know where they are in case of emergency and in not getting off the designated trail and getting lost.
na
That they stay open!
lack of etiquette, incompatible uses
Maintenance and volunteerism on trails.
The need for more paved and dirt trails to promote healthy lifestyle. Oklahoma is fat!
lack of maintenance funding
Accessibility from home w/use of car
Losing land and resources for these activities.
There is a distinct lack of PAVED and smooth road bicycling trails and paths in Oklahoma within cities and towns and connecting cities and towns. There is a need for paved loop paths and trails and paved connections between various paved trails and paths. Old highways (Route 66?) need to be designated for bicycles and maintained. There is a huge failure bu tourism departments to promote road bicycling in this state. We are forced to go to other states with our road bicycles to enjoy such things.
Inadequate/lack of funding to state parks is an issue. If parks are closed then trails will increase user type: horse trails and motorized trails do not mix. Personnel are already stretched thin to maintain trails. There is a distinct lack of equestrian trails in Northwest Oklahoma! As a member OETRA, I implore the legislators to fully fund state parks so that we can truly say, "Travel Oklahoma"!
funding! Can't keep, maintain or build new without it.
lack of maitnece
Maintenance of existing trail systems throughout the state.
Survey too long
Keep them open and available. Encourage people to move.
Financial Support. Trail maintenance
They are underfunded and there are few of them.
Extension of the trail networks, especially rails-to-trails conversion projects and inter-city connectivity.
Trails near where people live so we don't have to drive hours to use them.
More trails needed.
Easy to find information on available trails, state parks have surprisingly short trails.
We need more and better trails in more cities, in particular paved mixed-use walking/biking trails like those along the Arkansas River inTulsa and the Oklahoma River in OKC.
off street bicycle/walking trails
Citizens making sure that funding for maintenance and promotion of Oklahoma'sTrails and State Parks is not lost.
Need more family friendly teails. Multipurpose trails

Funding and maintenance
Create opportunity for more people to enjoy trails that are maintained
Many trail heads are connected to state parks, and if state parks are closed then trail users may find fewer secure trail heads and facilities.
Besides lack of trails, we lack proper signage and trail amenities.
Availability & trailer parking
More trails are needed.
We need for horse trail
Park security. Supervising and ticketing campers who do not pay. OETRA.com maintains equestrian trails at Robbers Cave, Arrowhead, and now Foss. Our club's stewardship with both manual and financial assistance has helped make these three state parks, places that equestrian trail riders and campers visit more often. We currently have 18 Ambassador locations, including Corps of Engineers camps, and at the Ouachita National Forest. Revenue is higher because of our equestrians.
\$\$\$\$\$\$\$\$ -lack of
Keeping all current trails and parks open to equestrians! Increase number of parks with equestrian trails.
Being maintained
Improve camp sites
Adequate funding and technical support must be available to the multiple agencies that maintain our equestrian trails.
We love to ride trails on our horses. We usually have no issues with other users on the trails. But one of our concerns is that some equestrian trails are being closed to horses and since it's such a large part of our life that's our main concern.
The availability of trails to everyone that wants to use them!
seperate trails for equestrian/walkers
Keep them open and family friendly. Maintain an open line of communication to oetra as to what is needed and expected as trail maintenance. Post where ATV and motorcycles can go, and post warnings about other users on the trails such as horses. Keep motored vehicles oof horse trails and horses off of motor.trails.
Keeping them open and not caving to one special interest group
Keep them open for ALL non moterized isers
Safe use of trails by multiple types of users. We must educate ourselves in order to cooperatively and safely share our trail systems.
Keeping open the trails that are open now and improving those trails.
Not enough people maintains the trails due to lack of funding
Maintain the existing trails.
Maintenance and safety
Continued maintenance of equestrian trails and camp grounds
Not enough help from the park workers. No enforcement of the rules.

Have rangers on site if trails are in state parks. Please don't close our state parks!
trails close to where I live. State discontinued Walnut Creek for horseback riding. was located less than 1 hour drive from my house. Was a nice sandy place to ride and campout for riding several days. Trails no longer maintained. was only place to go ride that wasn't rocky. There are several trails, but they are all rocky and require several hours drive from NE Tulsa area. Oologah is only one close to me, but when lake level is up, then parts of trail are underwater.
we need more to get people outside to exercise
Bicycle trails should be separate from skateboards and rollerblades; it's too dangerous to have everything on wheels without a motor in the same small space.
Trails that dead-end at nothing, no shopping...parking, etc. They just stop for no reason.
Availability and continued maintenance of trails for overnight camping with horses. So many good people volunteer countless hours to help keep these parks & trails maintained. Their work should not be in vain.
Access across the city.
We need more gateway (beginner/Intermediate) trails for newcomers to the sport and benefits of cycling. Clear signage and mapping for trails will ensure they're used properly - a regional mapping system (trail head and on trail signage) would tie trail systems together nicely.
Recreational trails should also provide alternative means to travel around an area and city. Dual purpose.
Subjecting horseback riders to other kinds of traffic is an accident looking for a place to happen. Horse trails should be left as horse trails and NOT forced to be multi-functional trails. There are already far more other types of trails and opportunities for other types of outdoor activities. There are very few horse trails. The horse industry is huge in Oklahoma. Please leave us a place to ride and enjoy our horses.
The state budget is a complete nightmare and I fear the trail systems will suffer.
Funding, government support for maintenance and continued development of trails
lack of funding
Access and vandalism
Lack of bicycle trails. We need more!
More info to public on lcb trail for equestrians
I think the most important issue is the equestrian trails are being turned into multi-use trails that are going to become biking trails. Bikers can ride anywhere, streets, neighborhoods, ect, but horses only have a few places to ride. OETRA is a good club for keeping the trails maintained and raising money for admenities.
Maintenance of the trail system so that it is safe to use. (cracks, erosion, debris, poor intersections and crossings)
Trail markers with "you are here" points
They are not well advertised so they are most likely underutilized.
Keeping horse trails and camps open , adding horse camps and trails. Equestrians are treated poorly
Maintenance and concerned with trails closing, such as the one at Walnut Creek.

Keeping our trails clean from litter and well maintained and marked.
Availability of different options and distance to home.
Funding our national parks! In Oklahoma we are lacking in the support of how important our state Parks are to our states livelihood .
I think there should be more. I have seen little to no problems with usage, conflicts among users, trash, vandalism. I think we just need some more. Possibly partnering with the equestrian trails to have them all become multi-purpose. I think we could all learn the proper etiquette that way the multi-purpose trails do not endanger the users.
maintenance and new trails
We need more! Need better marking! Need to remain multi use!
Funding for camps and maintenance. Keeping parks open.
We need more horse trails in central Oklahoma. Lake Arcadia has very little signage and the trails are closed often due to hunting, constructions, etc. Lake Liberty is not well marked.
Lack of public knowledge
The most important issue is keeping the parks open in which the trails are located. Maintaining and improving the trails is a big issue as well.
Funding
Upkeep of basic facilities such as restrooms. Keep horse trails open but not allow bikes or motorized vehicles as this produces unsafe situations for horses.
I Trail Ride and it seems that we have a lot of great places to ride in Oklahoma and I don't want that to go away. I think the biggest issue that I see, is the Park Rangers do the best they can, but they can't cover all the mowing, cleaning bathrooms, picking up trash and etc... They use to bring in the prisoners and that helped, but that changed this last year.

Please share any other comments you may have related to trails and planning for trails in Oklahoma.

Comments related to trails planning:

Thank you for creating this survey. I think the trails creation and maintenance in Oklahoma, and other states are very much needed!
I very much appreciate your efforts with this survey and project. Moving our society to a less motorized, and more physically active model will reap benefits to all.
Horse riders are great people to work with and the horse trails have trail ambassadors and most of the upkeep on the trails is done by volunteers. The trails need to be kept and state parks need to stay open.
Most equestrian people have money to spend on camping and riding equestrian destinations and would pay for any improvements to equestrian facilities. We also have Oklahoma Equestrian Trail Riders Association that help maintain equestrian trails and receive grants from feed companies and hold fund raisers to buy corrals and other equestrian related amenities.
More equine mounting blocks at different locations along the trails
Trails and state parks are vital to our health and to our great state.
I grew up horseback riding, hiking and camping in the state parks of Oklahoma. The time I spent in nature has helped to shape me into the strong, conscientious and self-reliant woman that I am today. I hope that future generations get that same experience.
More horse trails in urban area would be great. But more horse trails in general would be a good start.
While I primarily use OKC trails for running. I also used them for bicycling (including commuting to work before retirement). Linking trails will expand route choices, destinations, & provide for a healthy population. Once again non-motorized trails for runners & bikers will provide a level of protection along with not having to breathe in exhaust fumes.
Trails are also very important for health of this State.
As the pop ages, the need for accessible trails Closer to their homes will be greater. I'm an active Sr, so am able to drive to an area to ride/walk, but for some, if there were trails closer to home, they might ride more often. (I had this experience with my father, whom passed at age 91)...he rode his bike in his n. hood in s. AR, but the terrain was rugged and he ceased riding...if there had been paved trails, he might have continued riding. I've ridden at Mitch Park, but when I learned of the rape a couple of yrs ago, I'm more hesitant to ride there unless with a group..I have to have more time if I choose to ride at Lake Hefner, since I'm a distance from there.
Developing rail-trails could provide a much needed boost to tourism. I would love to travel more by bicycle in Oklahoma.
We spend obscene amounts of tax payer dollars paving the earth for the all mighty car then wonder why we have so much traffic congestion and an overweight population. Trails are undoubtedly expensive, but expenditures on trails are trivial compared to automobile

infrastructure.
I would like a Rails to Trails system that is being done all over the United States and more interconnected trails so you can get from one area to another being protected without having to cross busy streets (like NW Expressway). Look at Arkansas's trail system and Missouri's. Thousands of tourists come every year to ride the trails. Put out a map of trails and promote the new trail systems through the tourism department.
Oklahoma needs to invest in a cycling infrastructure to make cycling safe throughout the state.
OEF has been working on developing and rolling out a cohesive set of trail rules/etiquette for all of our trails in the state. We would love the opportunity to work with the State Parks Department to roll them out for other areas. president@okearthbike.com
the people who volunteer to take care of lake carl blackwell horse trails are awesome and do a wonderful job.
I'm an avid user, trail builder, community advocate, etc. for trails and plan to continue to develop more trails in my home area.
We have a vibrant Mountain biking community that loves our trails. Why not leverage that for new trails and projects in the OKC area?
I use the Trails in Oklahoma City based on how safely I can get to them. I try to stay out of traffic as much as possible, to avoid the possibility of accidents caused by careless drivers. I seldom take my bicycle in my car, as I prefer to ride directly from my driveway to my destination then back home. I actually chose and bought my new home a little over a year ago, because it is located 2 miles North of Lake Overholser, with safe access to the Lake, West, North and South River Trails. I seldom go to Lake Hefner, as there is about 1 mile where a person has to ride on streets used by local traffic.
We need more trails! It doesnt matter where they are. Build it and they will come! Can we please build a trail that replicates Slaughter Pen & Coler Park (located in Bentonville).
We need many more trails in OKC. Doing everything we can to be proactive in getting Oklahoman's off the couch, eating a healthier diet and exercising regularly.
Advertise the trails we DO have so that people can utilize them.
To be able to connect city's through out state and connecting states.
None I can think of. Thanks for asking, and thanks for the survey.
Dirt! For the love of Dirt, don't pave the Dirt/rocks/roots :)
Additional dirt trails will only work if groups like the OEF can maintain membership and manpower to keep up with the trails. Bring in any additional paved/sheltered from the road pathways.
An increase in driver education regarding vehicle-bicycle interaction, greater enforcement of the 3-foot law and harsher penalties for its violation will only improve safety and better our State.
I would love to see Oklahoma have a rails to trail system like the one in Missouri.
I love the direction and progress of okc trails. I just don't want it to stop or slow down.
Please help keep and grow equestrian campgrounds, trails and sites. Having places to ride is

becoming less and less. It is a shame considering Oklahoma is a horse loving state. Equestrians care about nature and keeping it clean. Thank you
Oklahoma should be known and celebrated for their Equestrian Trails and their proximity to so many people
The state must help fund and maintain multi-use trails and work with support groups like the Oklahoma Earthbike Fellowship
Trails are very popular today. Access to trails for cycling and hiking are an important part of the value of an area. Not all trails need to be paved or highly developed. A mix of some paved and unpaved trails is the best option. The most important thing in my mind is making sure we have land and access available for trails for today and in the future. I would rather see money spent on land acquisition for basic trails, than spend a lot on highly developing just a few trails.
This survey should have been more clear if this was for paved trails or not. Paved trails can serve an important purpose of transportation, in addition to recreation. Unpaved, natural trails are for recreation only. Both are important, but I use and expect different amenities along them.
Keep them ALL open!!!
Allowing trains on Amtrak / Heartland Flyer is a huge issue.
the trails plan is great. I think it could be made even greater and more accessible if there was a partnership with the surrounding the suburbs to tie into the trails system and allow passage via the safe trails system to and from the communities. This would enable commuting, short distance travel outings for family and groups, as well as increase the appeal of the area at large.
Non-motorized trails are so important. ATV's are very noisy and extremely hazardous to those of us that ride horses.
To enjoy and spend time with family and friends and doing the things I enjoy doing to improve health.
Social media such as Facebook is powerful for information and awareness. It's where I look to for trail conditions after adverse weather and where I found this survey. I use both dirt trails and city trails. Dedicated bike lanes or sidewalks consistent throughout the city allowing for people to really get somewhere would be great. I can't ride a bike lane safely to really make bike traveling feasible unless I live in paseo type area
Trails are an essential part of any park. They allow access to parts of the park that cannot be seen from the road or from a parking area. They also allow for nature watching, relaxation, exercise, and education. I have used a few of the parks in Oklahoma and hiking the trails is always a highlight.
Trails around lakes and in forests are top for mountain bike riding. The trails should offer at least 10-20 miles of singletrack. Arcadia (Edmond) is a perfect example of a trail that for years has not been maintained. OEF does a great job in maintaining local trails around the state.
When designing a trail network, the paved trails we have in Tulsa, such as those in RiverParks, could easily be doubled in length by creating a soft trail to run along side.
Having connected trails without having to deal with crazy traffic is important. This could

increase commuting by bike. The lack of an extensive and safe route 66 trail system is such a wasted opportunity for local and out of state (or country) tourism.
The Oklahoma bicycle community is growing by leaps and bounds and like other states will be a huge asset for business, tourism, mental and physical health and the enjoyment for all age groups of Oklahomans and visitors.
We have a tremendous volunteer base of people all over the state willing to help build new trails...far less willing to help maintain, but a strong volunteer base nonetheless. It would be wonderful to have more dirt trails for hikers as well as more groomed and/or paved paths for users that enjoy those, including road cyclists such as in Rails To Trails projects, etc. But dirt footpath trails in Oklahoma are much fewer in number than in other states and many are so very short as to not attract users who are not already visiting an area. They require more maintenance but less initial funding and are so good for people. That segment of users in this state has skyrocketed in the last 10 year
I do not feel safe cycling in the streets. However, I enjoy being outdoors. Trails are the safest way for me to enjoy my activity. If the trails are easily accessed to local eateries, I will support them. (I.e. Brick town)
Dogs need to be kept on a leash on not aloud the trails. I know there are good dogs out there but not all are good. a loose dog can take down a biker just by running loose. A big loose dog jumped up on my wife while running at Draper and his paws were on her shoulders, scared her to death. That is not ok under any circumstance. thank you.
need paved trails in metro coming from the outer areas. need one metro to plan trails with their neighboring metro.
All my answers are horse related trails
Build more trails! Trails support healthful activities, edication, and overall wellness. Don't forget to maintain them either.
Harness the wind power!
Accessible and available trails will support improved physical health through exercise and activities, improved emotional well-being resulting from increased activity and hobbies, and improved social and community connections with families and groups using trails.
need better upkeep of bathroom facilities and make them available year round.
Open trails no debris to block view for security & beauty watching
I am military assigned to Tinker AFB. I'm a resident of FI, but own a home in Norman. I commute to work twice a week, and ride mountain bikes on the local trails once or twice a week. My area has well marked bike routes, but few bike paths of any notable distance. None of them connect towns in a meaningful way to allow bicycle commuting between Norman and OKC. Also, the closest mountain bike trail to my house is 15 miles away. Too far, when I could move to Bentonville or Hot Spring Ar and have better trails and paths access.
Increased exposure and accountability of bicyclists and harassment against them is critical in Edmond, Oklahoma. Everytime I ride in the streets, I am harassed and badmouthed by drivers, even when I'm avoiding traffic in the most right hand portion of the road. I see it happen to other cyclists and have had other cyclists complain too.

Great job so far and look forward to seeing continual improvement.
Communities that develop trail systems attract economic development and retain or grow their population. I would like to see Oklahoma put a higher priority on trail development
I trail ride on horseback. There are so many of us in the state that would love to stay closer to home to ride. There are a lot of people that go to other states and ride, simply because there are not enough trails in our state. I would love to keep people in our state and even draw others here. That would help the Oklahoma people. They would buy gas, food, supplies, pay for cabins and so many other things that would help our state.
I feel investing in trails should be a high priority for Oklahoma. The trails we do have has help me a tremendous amount with my health and we'll being. Also I fell that the more convenient and easy access to trails will greatly help the health and we'll being of Oklahomans. I'm an avid cyclists and have been ask several times were I ride and were are the trails. So I see a lot of interest from family's and other's that would like the convenience of trails and maps. Also I see that the trails we do have can be a little hard to navigate through and across roads, intersection. River trails are great and I use them often, but minimizing intersection would help greatly in safety and flow.
There is no better way to see America's vast splendor than at 4 miles per hour from the back of a horse and that's how I intend to spend my retirement years.
Paved trail networks have long been a municipal standard for recreation; however, they need to be designed and installed with the intent of commuting around town as well. Soft trail networks, especially those set in a wilderness environment, is currently demanded by our citizens. Soft trails combined with heavy nature/wilderness greatly improve physical health, mental wellbeing, and our residents perspective of their hometown; all these factors combine to help create a more stable and productive resident base for the municipality.
We need to care of what we have. They are great trails, add a few signs, a permanent bathroom facilities, that are unlocked(the river trail bathrooms are always locked for early morning users).
At a state level, I realize that we will never get a boost or new funding for something like trails. It's sad that it's left up to private philanthropists and NGOs to make trials happen. I think Tulsa and OKC do a pretty good job with their urban trail networks considering the political climate. The rails to trains program is great. I hope it keeps growing and we begin connecting more smaller towns to larger urban areas.
Make many bike commuting trails that separate bikes and cars. More hiking trails in OKC.
I have a lot of comments and ideas. If there were to be some sort of get-together to brainstorm ideas, I'd love to be involved.
Thanks for doing this research! I hope the folks in the capitol get their heads out of the sand and fund parks and trails!
I would like to see more and better up kept trails in Oklahoma. It would be awesome to create a thru hike through the best parts of Oklahoma's natural scenery. In urban areas I would like to see more trails to get around town and have a more bike friendly culture.
Instead of building sidewalks along major streets, build multi-use trails. Link Yukon, OK to Lk Overholser with multiuse trails protected from cars or separate from streets.

OKC has added great trails in the past few years. I would like to see more Rails to Trails conversions. The MKT (aka "Katy") from Altus to Forgan would be great. As would the Kay line from OKC to Bartlesville.
2 things I feel need the most attention: 1) Support facilities along trail systems. i.e.- When I ride from NSU campus in Broken Arrow to Riverside park (15 miles), there is only 1 water fountain along the way that works, which is at Creek Turnpike and Sheridan. The water fountain on the Liberty Trail at TCC campus never works. Additionally, there is not a single restroom along the trail making the side of the trail the only bathroom option. 2) It seems counter-productive to create trails without safe access from local neighborhoods forcing users to drive their cars to their local trails or dodge cars on main streets.
Let's not neglect what we already have, but improve and add to them. People will come.
We run, hike and ride horses. Trails are important but they don't have to be parks. Just a clean well marked trail with good trailer parking
the trails we have are great and maintained well, but need more in the Owasso/Collinsville area.
More trails of tarmac and if dirt
Any ATV trails would be nice going below the dams are not sufficient. Trail riding should be like the trails in MENA Arkansas, Fourche Mountain in Arkansas, Mill Creek in Arkansas. If we had better riding trails in Oklahoma would stay in Oklahoma and spend my money in Oklahoma.
The mountain biking community has been very helpful at building and maintaining trails in many parts of the state. They are mostly inclusive regarding trail use, which is greatly appreciated by non biking groups. Social media has also been an important component to reporting problems and building trail user communities.
Keep Clear Bay Open.
I am VERY willing to pay more to have more trails and to maintain them in a sustainable long-term fashion.
Using mtb best management practices result in more sustainable, better value, and reduces maintenance
Get the land for the trails and build the support facilities. The mountain biking community will build and maintain the trails like we do today. Let's collaborate on this. It's a win/win.
Urban Oklahomans need trails to decrease dependence upon cars and as an alternative to public transportation. Trails protected from car traffic would be a solution. Okies need exercise, better for the environment, and decrease need for parking lots
The need for safe trails in Oklahoma is over due. We as a city (OKC) are lagging way behind in proper trails.
QUALITY of life is becoming more & more important to people. Things that improve health are CRITICAL to OKLAHOMA!!!
The trail system has improved significantly in the last decade and I am thankful. I only wish health and recreation were even more emphasized (I have a physical education degree). I am not concerned about taxes (in general) and believe that nice amenities such as recreational facilities cost money. Thank you.

See tourism opportunities that have been developed in Arkansas! So many people leave our state for a long weekend of riding or hiking their trails. Let's make it so sleepy song states are coming and spending money here for recreation!
I really would love to see a cross state rails to trails project or large extensions on current rails to trails projects.
Bicycle trails are most important to me personally
Equine trails are just as important in a state park as the walking trails, they generate income and draw many out of state riders because Ok has some great equine trails. But all trails are not treated equally. They all need a good entrance with trail map, some marked trails, safety from four wheelers racing around, and dedicated camping sites, with corrals, and or shelters.
Adequate Trailer Parking and Moving Around, Cabins and corrals for equine camping and trail riding.
Need more information on where the trails are...signage...maps
Look at what Arkansas and Missouri are doing. Many horseback riders visit those states
Just want to keep places to ride horses open & enjoyable I enjoy riding in my home state
Thank you for supporting the expansion of the Claremore Mountain Bike trails! We live in Rogers Co. and are deeply grateful for this renovation/expansion! Please keep up the good work and continue improving/expanding the mt bike trails in OK. The projects to extend commuter/road bike trails are greatly appreciated as well and we would utilize them if we could but the ride to Tulsa is 30 miles and there is no trail connecting Owasso/Claremore area to Tulsa but I believe the people would use such a trail if it were constructed.
Our passion and focus is on mt bike trails and we would very much like to see more like in Stillwater (McMurtry) and Tulsa (Turkey Mt & Riverside). Educate the public
Tourism is the third highest income producer for the State of Oklahoma. Increasing the building of trails in Oklahoma will only help increase the number of visitors to our State, which, increases income, which in turn increases investment, which improves the standard of living for all residents of Oklahoma.
The trail crew at Draper do an exceptional job of maintaining the trails. The trails are, in my opinion, the best laid out and marked trails in the city.
There are few open trails in SW Oklahoma. Private land and wildlife management areas are our only other options. Wild life management areas are closed to other activities during hunting season. We need to keep State Parks open for just this reason.
We need more trails!! Auto pedestrian and cyclist accidents are too frequent and motorists have become more distracted and angry sharing the road. Trails provide a safe place for pedestrians and cyclists to coexist and allow pedestrians and cyclists to commute safely as well as exercise safely. We need to encourage and facilitate a healthier lefestyle in OK. Additionally strong trail network is a tourism draw - see Bentonville Arkansas as an example.
Long Distance trails, if built properly can support their own tourism networks. I have experience with these from New Zealand.
This is a very important issue to attract higher level wage earners and to improve the life of all

that live here
In my experience over the last 2 years of trail planning, the red tape volunteer groups and non-profits have to navigate in order to build new trails is monumental. Most municipality officials will put trail proposals on the back burner for years until their hand is forced in some way. Planning and lobbying officials takes far more time and money than actual trail construction. Programs to help groups with funding and guidance would be a boon to trail expansion at the local level.
Oklahoma has so much land out there not occupied by a city.. Yet we are one of the fattest states in the nation.I do believe the lack of quality trail systems in nature has alot to do with it. Just look at the statest with extensive trail systems. Obesity is down and employment is up. Companies don't want to come to a state with nothing to do. Nothing to attract quality employees. This is just one reason Oklahoma will always remain a backward state.
Our state needs our help!
I work in the healthcare profession and see the effects of lack of exercise on the population of Oklahoma. I am encouraged that more people seem to be getting outside and using the trails. Creating more trails will aid in getting our population healthier.
State parks and the trails therein are vital to Oklahoma life. Thank you for working to maintain and improve them. And, most importantly, keep them open to the public.
Good to see progress and hope there is more public support of trails. Would very much like to see the utilization of bike lanes with access to all trails to help make motorists happier that cyclists and runners are not in their lane as well as improve safety for users. There has been a huge increase in the number of accidents and deaths over the past 20 years.
Horses and camping with my horses make my world a better place. I'll travel to other states in order to enjoy that part of my life if I'm unable to do so in my much preferred state of Oklahoma m
I'm the President of Oklahoma Bicycle Society...I'm happy to see us finally doing some of this...but relative to the other states...were a far cry from catching up. You see...I've traveled for the last 39 years...I have been comparing. Thanx...Jeff
Hope to see our beautiful state parks stay open !
Please don't close trails. We love them and need them.
Trails are needed for safety. Safety increases activity. Activity increases health. Health lowers obesity related diseases. Lowe obesity means less private & public funds needed for medical costs. Trails attract residents, visitors & employers who value quality of life.
On this survey some of the questions marked, "Check all that apply" would not allow me to continue after checking just those responses. I would have to check all of the available responses before continuing which will affect the intended outcome of the survey. I think Oklahoma has some awesome trails. Some trails have been closed due to lack of maintenance. For example hiking trails located at Sportsman Lake in Seminole. This is a city owned lake not state owned. Now hikers are forced to use the equestrian trails.

The trails at Clear Bay at Lake Thunderbird are great but they are a little confusing without the use of my phone. The signs are too few leaving you guessing which way to go.
We have started the Stillwater Trail Crew for this very reason in Stillwater. We would love to be involved in trail decisions in Oklahoma. www.stillwatertrailcrew.com
I would contribute to a trail account if tax deductible.
There is a distinct lack of PAVED and smooth road bicycling trails and paths in Oklahoma within cities and connecting cities and towns. There is a need for paved loop paths and trails and paved connections between various paved trails and paths. Old highways (Route 66?) need to be designated for road bicycles and maintained. There is a huge failure by various tourism departments to promote road bicycling in this state. We are forced to go to other states with our road bicycles to enjoy such things. We would spend more money in Oklahoma if they did a better job of providing its citizens with paved paths, routes, trails and loops for road bicyclists (meaning restaurant and hotel spending).
Please fund existing trails and new trails! Outdoor exercise has a direct relationship to the overall health! Good health=less sickness=lower doctor visits=less drain in health care system. It is a no brainer.
I like the railroad right of way ideas. I see it used in other states. I have used some in other states. Birmingham's Red Mountain area is a great example.
Oklahoma has a lack of trails, or at least easy to find information on trails. We have vacationed in different parts of the state and have often found only very short hikes available.
Oklahoma should look at some trails in other states to see how it can be done. (OKC and Tulsa do have some decent trails too.) We recently used a bike trail in Bentonville, AR that was great. We also regularly use a bike trail at Lake Coeur D'Alene in Idaho that is made on an old railway line and it is paved, and about 70 miles long. These trails can also be used by walkers.
More horse friendly trails are needed, and do not mix with motor or mechanical modes of travel
Why don't we build dirt trail first and as usage increases then pave.
Trails at Skiatook Lake needed
I hope Oklahoma City finishes the equestrian park at Stockyard City. You can't really get in and out with a trailer of any size.
Really appreciate all that is done by anyone helping keep our horse trails open
Member of Oklahoma Equestrian Trail Riders Association. We maintain many trails throughout Oklahoma including numerous state parks. Equestrians are a huge part of the trail constituency in Oklahoma and among the least represented.
The State needs to take advantage of all associations that have interest in trail preservation such as OETRA.
Equine related top concern. Obstacles on trail would be nice but over night pens are most important
The equestrian trails are very valuable for quality of life.
The work put into maintenance has been great lately. Please do not close any of our state parks!

I enjoy the trails and look forward to the time that I get to escape to them. PLEASE keep places like Platter Flats open. It is one of my favorite places to ride the trails. Volunteers are the best!
Would like major trails for getting across all of Tulsa.
Again, I believe we need more single use horse trails. There are not enough places to ride and what few there are are being encroached upon by cyclists, dirt bikes, rude hikers, etc. I'm surprised more horseback riders aren't bucked off because of cyclists speeding around a curve, or dirt bikes zooming past or hikers carrying big back packs (horses think they are scary).
Love to have long distance rail trails
Before closing parks, change a day use fee
I am thrilled that Oklahoma has so many nice horse trails. OETRA is a large group of riders that love to maintain and improve the horse trails. We are always looking for trails to improve. Any additional trails would be greatly received and appreciated.
The question about which facilities I use or would use is broken -- it forced me to check all of the boxes, when in fact several of those types of facilities I don't use and probably would not use.
More large trailer equestrian camping areas to access existing trails
I love to walk trails for exercise, but also like to ride horses. Our club has to travel long distances to ride.
I love our State Parks thank you for working towards our maintenance and appreciation of them! Thank you
From what I see lakes are a strong destination for trails. I think we need to focus on making more trails near those lakes who don't have trails, as well as connecting the suburbs and surrounding cities to the larger metropolitan areas. I don't know all of the regulations for rail road corridors but from maps I can see their is ample room to add trails near railroads. For example, a connecting trail from Guthrie all the way to Norman. Trails do not always have to be paved multi-use trails. They can be crushed gravel.
Ticks are the biggest problem in camp and on trail. This is a public health problem. OSU knows how to trap ticks for research.... why not set out traps and eliminate thousands of ticks and tick-borne illnesses!?
Great job so far improving walking riding trails, please please please keep up the good work
I believe that to make our state an attractive place to live and work, we need to have a vibrant trail system. Arkansas, Colorado, and Texas are states that border us and they all have areas that are well developed. Those areas make them more attractive places.
I'm so thankful to live in Oklahoma and take my 4 legged horses to the lakes and state parks of Oklahoma and enjoy the out doors and ride the beautiful trails. By no means will you ever make everyone happy and there is plenty of space for all of us to enjoy what God has created for us. I also realize that funding is a issue no matter what type of business you have or what is trying to be managed on up keep through out our state. We have some wonderful people associated with the equine industry that give over 100% towards trails right now, hopefully that want be taken away since we enjoy going and working and riding in parks we have now.

Many of the Duncan area parks have had little or no up keep in years. These are the closest to my home. I do work and volunteer in my local parks. Please help.



Appendix D – Recreation Rally



Oklahoma's 2017 SCORP Health of the People, the Economy, & the Environment

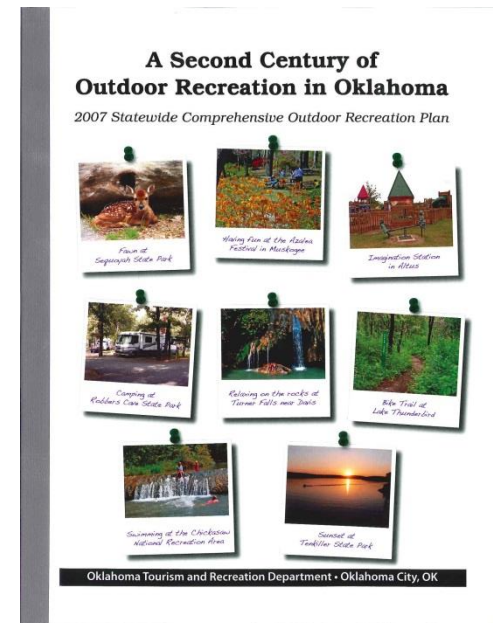
Fatemeh (Tannaz) Soltani, Ph.D. & Lowell Caneday, Ph.D.
Department of Geography

Today's Presentation and Discussion

- ▶ Background of the SCORP process
- ▶ Importance of SCORP and grant funds
- ▶ Focus for 2017: content and rationale
 - ▶ The people of Oklahoma and their health
 - ▶ The economy of Oklahoma and its health
 - ▶ The environment of Oklahoma and its health
- ▶ Your issues, suggestions, and plans
 - ▶ Open discussion!

Background

- ▶ **Statewide Comprehensive Outdoor Recreation Plan (SCORP)**
 - ▶ Initiated in 1965 Land and Water Conservation Fund Act
 - ▶ Required for eligibility of individual states for federal financial assistance
 - ▶ Acquisition or development projects
- ▶ 11th generation for Oklahoma
- ▶ Funding levels – decline, then full
- ▶ Grant programs involved:
 - ▶ Land and Water Conservation Fund
 - ▶ ISTEA, SAFETY-LU, FAST
 - ▶ Recreational Trails Fund



Successes/Current Status

- ▶ Land & Water Conservation Fund
 - ▶ Reauthorized for three years
- ▶ State/Local Assistance Program
 - ▶ Funded at a higher level than in recent years
- ▶ Fixing America's Surface Transportation Act (FAST Act)
 - ▶ Includes biking and walking infrastructure in multi-modal transportation system
- ▶ Transportation Alternatives Set Aside
 - ▶ \$800 million+ (nationally)
- ▶ Recreational Trails Program
 - ▶ \$85 million (nationally)
- ▶ NRPA's 2017 Advocacy Platform
 - ▶ Health & wellness, conservation and social equity

SCORP Content and Value

- ▶ Legislated and administrative requirements
 - ▶ Identity of authorized state agency; evaluation of demand for and supply of outdoor recreation resources; a plan for five year period (2017 – 2021); program of implementation of the plan
- ▶ Reality?
 - ▶ Oklahoma legislature and political pressures
 - ▶ Cooperation/competition/isolation of federal, state, municipal, and private operations
 - ▶ Utilitarian value: applications for funding
 - ▶ Ex. Lake Carl Blackwell, Boat district in OKC
 - ▶ Professional value: cooperation in planning
 - ▶ Ex. Proposed Norman/Lake Thunderbird Trail
 - ▶ Political value: evidence for decisions
 - ▶ Ex. “closure” of seven state park properties
 - ▶ HB 1724 and HB 1725; Representative Lewis Moore > trails

The People of Oklahoma

- ▶ Property patterns
- ▶ Population distribution
- ▶ Demographics and change
- ▶ Disabilities present in the population
- ▶ Health summary



Essential background: Property

Ownership of Property	Oklahoma Percentage	National Average
Private properties	90.2%	58.0%
Federal government	2.9%	33.0%
State government	2.6%	4.5%
Local government	0.1%	2.5%
Indian lands	3.2%	2.0%
Water	1.1%	Included in above

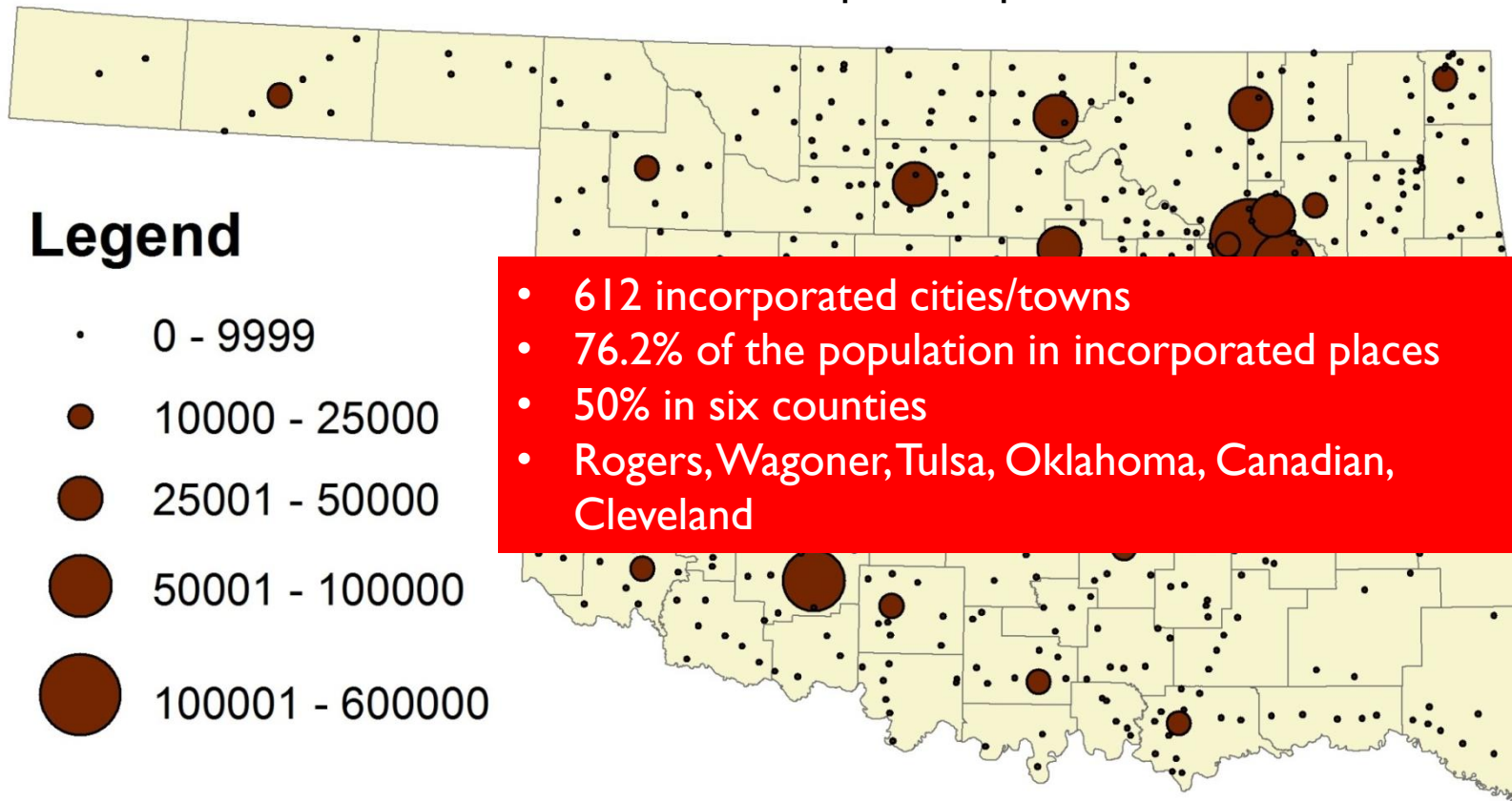
So what?

- Do these percentages make a difference in life?
- Does land ownership affect recreation opportunity?
- Does land ownership affect recreation demand and supply?
- Do land ownership patterns affect the economy?
- Do these percentages affect me, my agency, & my job?

Essential Information: Population

Oklahoma Population Change
2000 – 2010

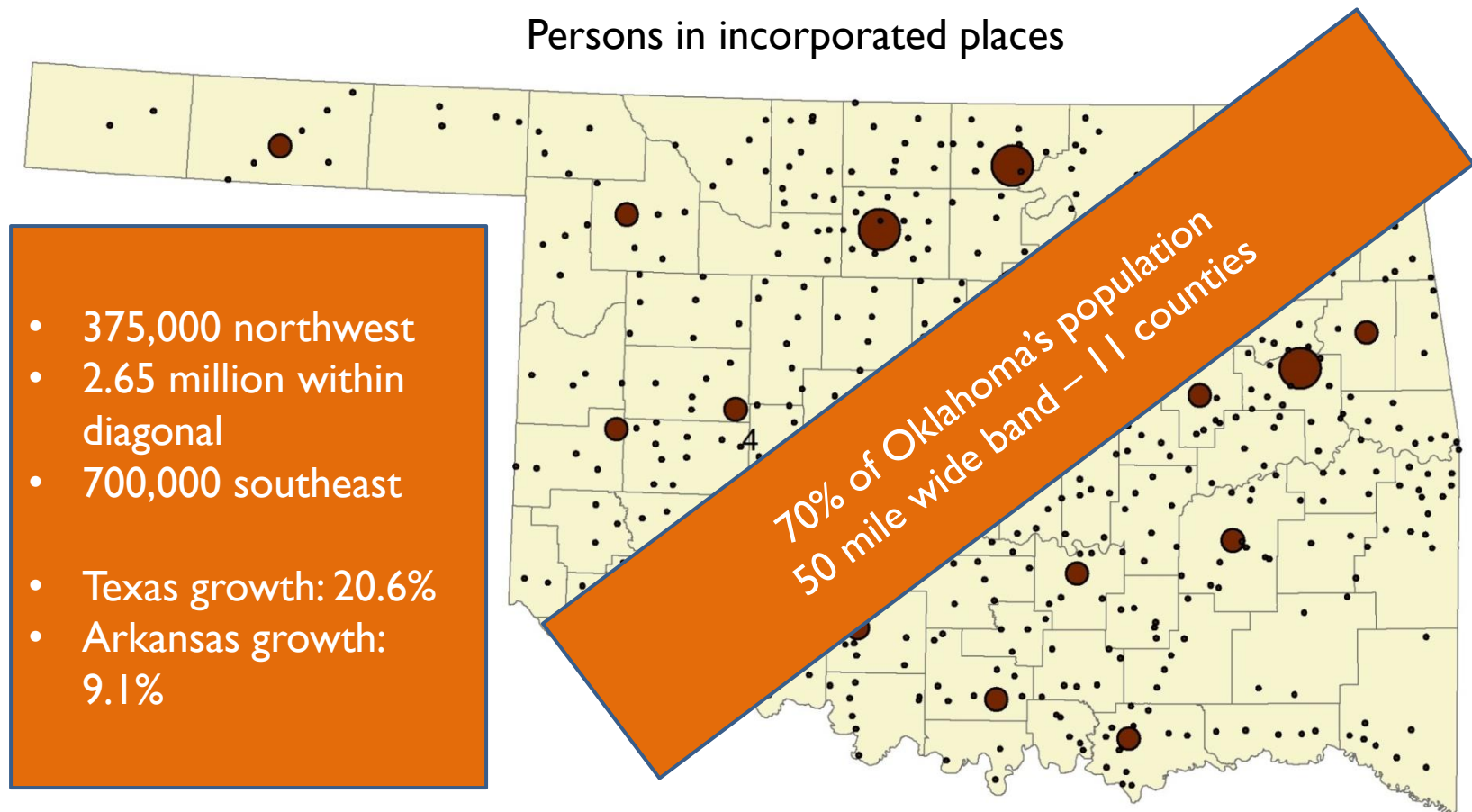
Persons in incorporated places



Essential Information: Population

Oklahoma Population Change
2000 – 2010

Persons in incorporated places



Essential background: Population

Race or Ethnicity	2010 Oklahoma	2010 National	2015 Oklahoma	2015 National
White	72.2%	72.4%	73.3%	73.8%
Black	7.4%	12.6%	7.3%	12.6%
American Indian	8.6%	0.9%	7.2%	0.8%
Hispanic or Latino	8.9%	16.3%	9.4%	16.9%
Two or more races	5.9%	2.9%	7.8%	2.9%
Speak other than English	9.1%	20.6%	9.6%	20.9%

Population composition influences recreation behaviors.
Population composition influences planning.

Essential background: Disabilities

Percentage of Age Group with a disabling condition	Oklahoma	National
Total population	15.7%	11.9%
Under 18 years old	4.4%	4.0%
18 – 64 years old	14.3%	10.0%
65 years old and above	43.2%	36.7%

Disabling conditions are inequitably distributed in the population –

- By age
- By race and ethnicity
- By economic status

Disabling conditions influence recreation choices.

Disabling conditions require accommodation.

Some OK Census Trends

- ▶ Older, rural counties = front line of demographic change
- ▶ “Minority” children = now majority children in 11 Oklahoma counties
- ▶ Suburban growth outpaced rest of state
- ▶ 28% families = a single parent
- ▶ Changing face of OK families:
 - ▶ Single-father household
 - ▶ Grandparents raising grandchildren
 - ▶ Same-sex partners raising children
 - ▶ Traditional, nuclear family = 24.7% (2000) to 21.4% (2010)
 - ▶ % of population

Source: Daily Oklahoman

Oklahoma Health Summary

- ▶ 12th highest rate of *death due to cancer* in the nation
- ▶ 3rd highest rate of *death due to heart disease* in the nation
- ▶ 4th highest rate of *death due to stroke* in the nation
- ▶ Highest rate of *death due to chronic lower respiratory disease* in the nation
- ▶ 4th highest rate of *death due to diabetes* in the nation
- ▶ 50% increase in *death due to unintentional injuries* from 2000 to 2012
- ▶ Next to lowest rate of *fruit consumption* in the nation
- ▶ 44th lowest rate of *vegetable consumption* in the nation
- ▶ 44th *least physically active* state in the nation
- ▶ 6th highest rate of *obesity* in the nation
- ▶ Adult *smoking* rate of 23.3% compared to 19.6% nationally

The Economy of Oklahoma

- ▶ Employment and earnings
- ▶ Poverty

43. Oklahoma (ranked 43rd among states)
> 10-yr. population growth: 12.9% (19th highest)
> 2014 unemployment rate: 4.5% (12th lowest)
> Poverty rate: 16.6% (14th highest)
> Life expectancy at birth: 75.9 years (5th lowest)

Source: Wall Street Journal
<http://247wallst.com/special-report/2015/11/23/most-livable-states/3/>

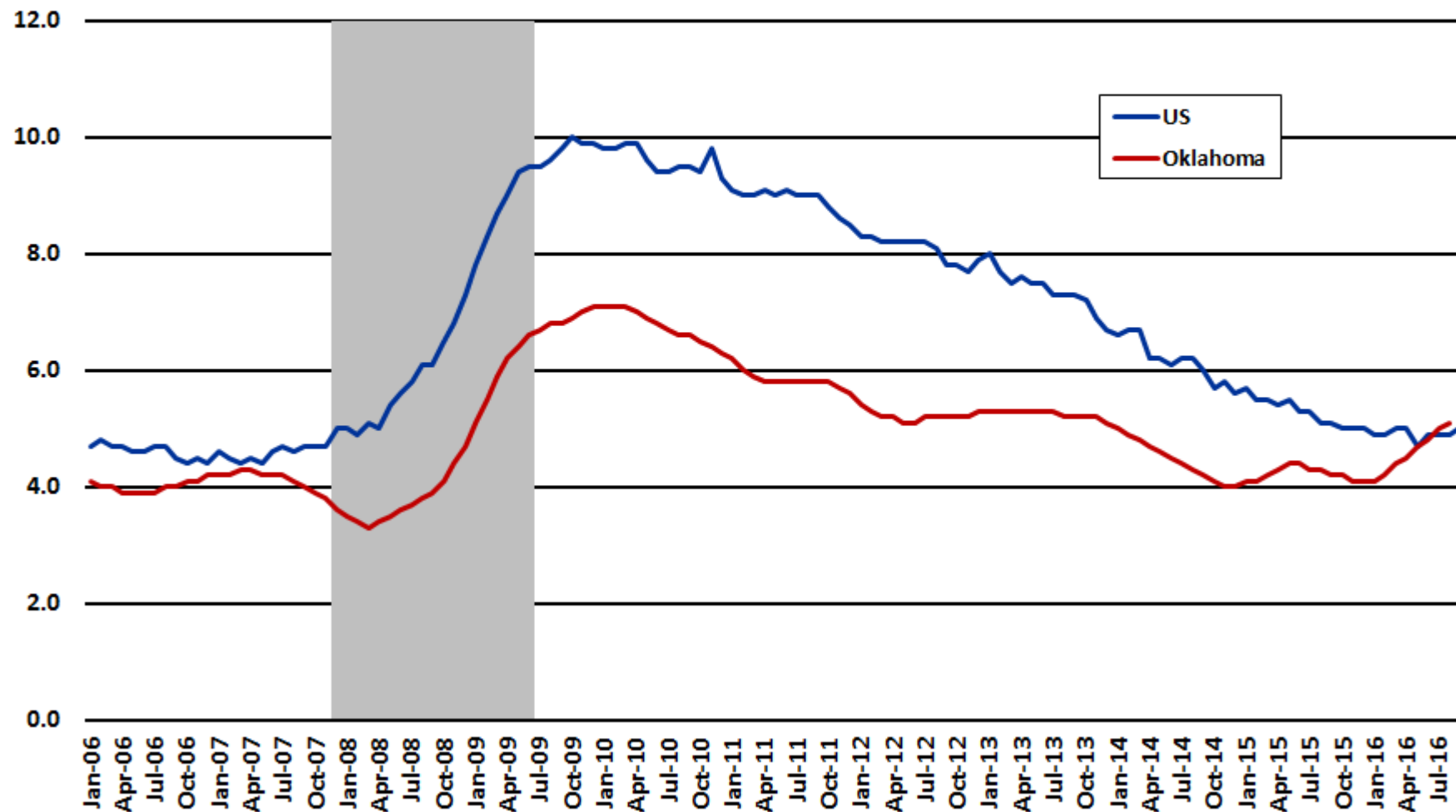
Summary of the Economy

- ▶ **4th quarter 2015** (Source: Oklahoma Employment Security Commission, Economic Research and Analysis Division, and the U.S. Bureau of Labor Statistics)
 - ▶ Gross job gains 79,209
 - ▶ Gross job losses 81,183
 - ▶ Job losses exceeded gross job gains by 1,974
 - ▶ 4th consecutive quarter of negative net change
- ▶ **1st quarter 2016** (Source: Bureau of Economic Analysis)
 - ▶ Oklahoma's real GDP contracted for 4th consecutive quarter
 - ▶ -0.5%, ranked 39th among all other states and D.C.
 - ▶ Oklahoma's GDP was \$176.8 billion in the 4th quarter, down \$2.48 billion from 3rd quarter's level

U.S. and Oklahoma Unemployment Rate (Seasonally Adjusted)

Source: U.S. Department of Labor, Bureau of Labor Statistics

Percent



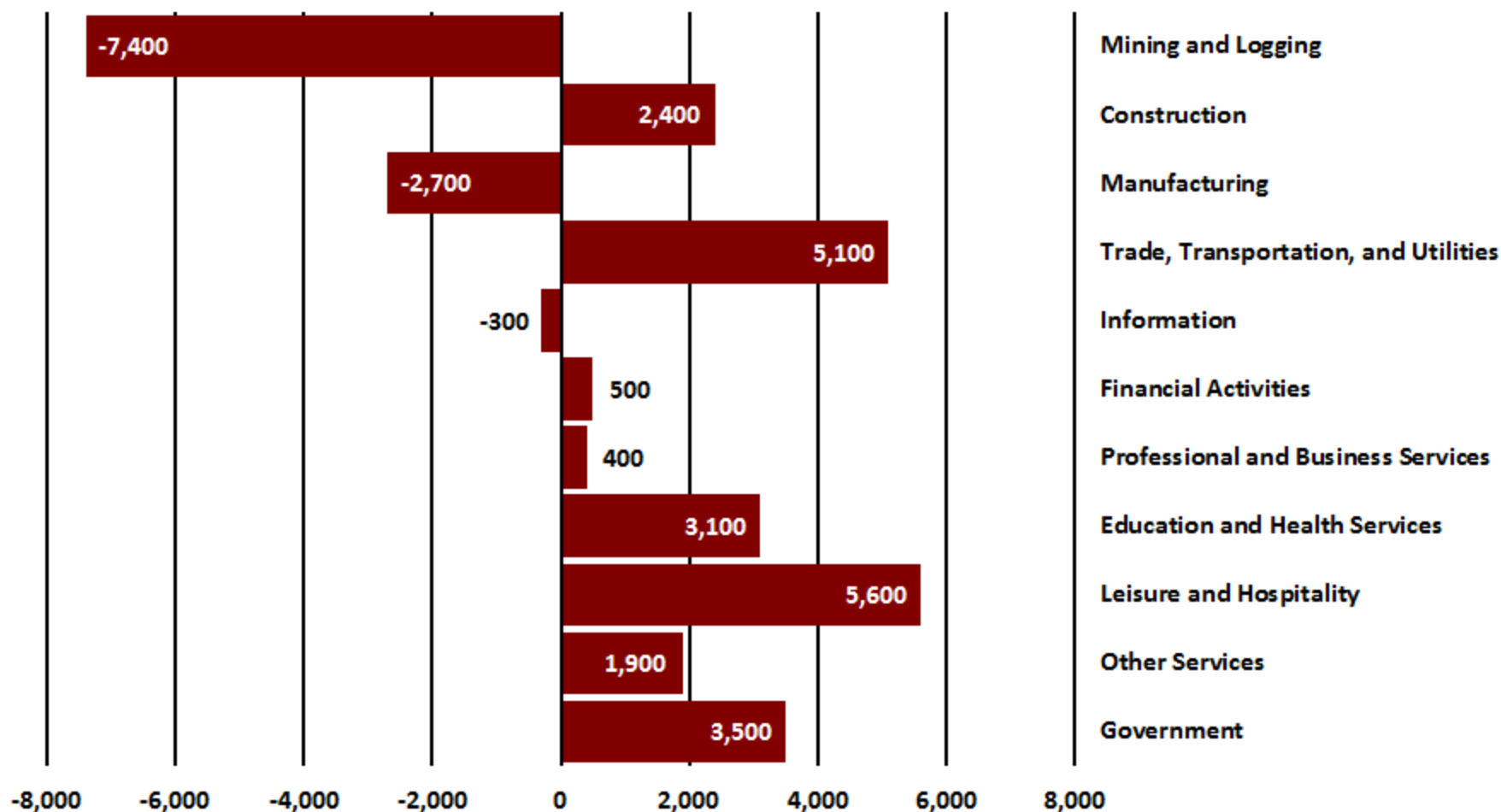
NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

2017 Recreation Rally

Oklahoma Employment Change by Industry, 2014-2015

Annual Averages (Not Seasonally Adjusted)

Source: Current Employment Statistics (CES), U.S. Department of Labor, Bureau of Labor Statistics



Summary of the Economy

- ▶ **Median household income** (Source: U.S. Bureau of Census)
 - ▶ \$46,235 statewide
 - ▶ \$64,200 Canadian County (high)
 - ▶ \$30,282 Choctaw County (low)
- ▶ **Poverty levels** (Source: U.S. Bureau of Census)
 - ▶ 12.6% of all families
 - ▶ 16.9% of all residents
 - ▶ 23.7% of residents under 18 years of age

The Oklahoma Environment

- ▶ Climate and weather
- ▶ Seismicity
- ▶ Air and water quality

6. Oklahoma (ranked 6th worst state)
> Employment rate: 67.9% (22nd lowest)
> Household disposable income per capita: \$27,384 (19th lowest)
> Homicide rate: 5.5 per 100,000 (14th highest)
> Voter turnout: 62.4% (3rd lowest)

Source: Wall Street Journal
<http://247wallst.com/special-report/2014/10/07/the-10-states-with-the-worst-quality-of-life/3/>

Health of the Oklahoma Environment

- ▶ **Climate and weather**

- ▶ Drought and flood
(ex. Illinois River,
Beavers Bend)



- ▶ **Seismicity**

- ▶ Average 15 earthquakes 2.5 mag or greater daily
- ▶ Redefine “human-induced” activity

- ▶ **Air and water quality**

- ▶ E. coli, cryptosporidium, blue-green algae
- ▶ Zika virus, West Nile virus, Lyme disease, etc.
- ▶ Ozone and PM alerts



Issues, Suggestions, Plans

Funding

Not a city
duty

Personnel

Changing
population

Lack of property

Competitive
field

TSET

Federal mandates



Under-valued
service

Lack of public support

“Last child in the woods”



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