

THIS PLAN IS YOUR PLAN





This Plan is Your Plan: Encompass 2040 Plan Report
THE OKLAHOMA CITY AREA REGIONAL TRANSPORTATION STUDY

Adopted by the Intermodal Transportation Policy Committee and endorsed by the Board of Directors of the Association of Central Oklahoma Governments on October 27, 2016

Preparation of this report was financially aided through funds provided by the U.S. Department of Transportation (Federal Highway Administration and Federal Transit Administration), the Oklahoma Department of Transportation, and local government contributions.

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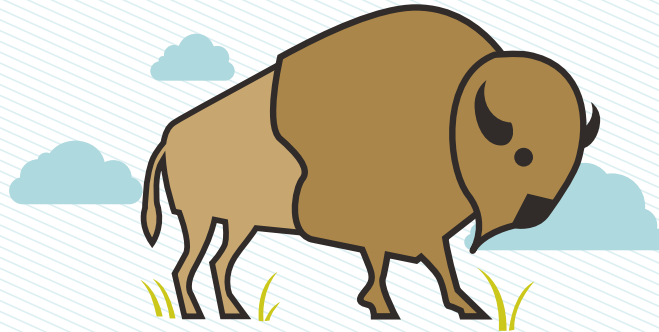
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INTRODUCTION



Transportation plays a vital role in today's economy, providing access to jobs, education, shopping, and recreation. It is an integral part of our mobile society influencing urban development, economic vitality, quality of life, and national defense. Our transportation system consists of many parts that work together to move people and goods within metropolitan areas, statewide, and throughout the country. Therefore, it makes sense for many transportation decisions to be made collaboratively at the regional level.

Local governments in Central Oklahoma have been continuously engaged in regional transportation planning since 1965. Not only is it a federal requirement, but planning ahead ensures that steps can be taken to maintain current transportation investments, enhance safety and security, improve mobility, and prevent gridlock as the region's population continues to grow and travel increases.

Approved in October 2016, Encompass 2040 is the comprehensive, long-range transportation plan for Central Oklahoma. It guides how the region will manage, operate and invest more than \$10 billion in its multimodal transportation system over the next 25 years. The Plan uses a base year of 2010 and a forecast year of 2040 to analyze land use,

population, employment, and other socioeconomic factors that will influence the region's development and travel in the coming years.

Encompass 2040 was developed in compliance with current federal transportation legislation – Fixing America's Surface Transportation Act (FAST Act), which was signed into law on December 4, 2015, and the prior Moving Ahead for Progress in the 21st Century (MAP-21) Act, signed on July 6, 2012. Although it provides a snapshot of current conditions and future transportation needs, transportation planning is a dynamic process. Therefore, as additional studies are completed and local priorities change, amendments to the Plan may be necessary.

REGIONAL TRANSPORTATION PLANNING

Transportation planning for Central Oklahoma is coordinated by the Association of Central Oklahoma Governments (ACOG), a voluntary association of city, town, and county governments. ACOG also serves as the Metropolitan Planning Organization (MPO) for the region. One of the primary roles as the MPO is to conduct a comprehensive, coordinated, and continuing long-range transportation planning process. Toward that end, ACOG works with area local governments, transit providers, the Oklahoma Department of Transportation, the Federal Highway and Transit Administrations, other transportation agencies and stakeholders, and the public to prepare federally required long-range transportation plans and short-range implementation programs. Such plans and programs are a prerequisite for receiving federal transportation dollars.

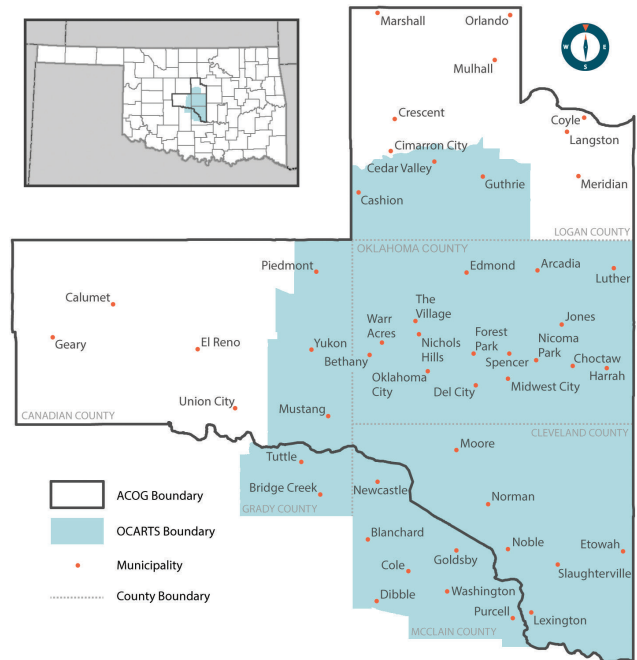
THE PLANNING AREA

ACOG’s transportation planning efforts are focused within a geographic area known as the Oklahoma City Area Regional Transportation Study (OCARTS) region. This planning boundary includes 2,085 square miles and 37 communities located within Oklahoma and Cleveland Counties and portions of Logan, Canadian, Grady, and McClain Counties (Figure 1.1). The OCARTS boundary was expanded to its current size in 2002, following the 2000 Census. It is reviewed after each decennial census to ensure that the urban and urbanizing portions of the region, linked by a common economy and transportation system, are included in the MPO’s transportation planning efforts.

Beginning in 2000, the U.S. Census Bureau delineated two urbanized areas within the OCARTS boundary based upon its criteria for population size and density. The Oklahoma City Urbanized Area (UZA) is considered a large UZA because it includes a population greater than 200,000, and the Norman Urbanized Area is a small UZA because it is greater than 50,000 but less than 200,000 in population. The region’s urbanized areas are reflected in Figure 1.2. (On page 10)

Because the OCARTS area contains a census-delineated large urbanized area, it is also designated a Transportation Management Area (TMA) by the Federal Highway and Federal Transit Administrations. This TMA designation requires that ACOG also maintain a plan for managing current and future

FIGURE 1.1: OCARTS AND ACOG AREAS



congestion, and affords the MPO project selection authority for certain suballocated federal funds.

Thus, the terms “OCARTS area,” “MPO area or boundary,” “Transportation Management Area,” and “transportation planning boundary” all refer to the same geographic area in which transportation planning for Central Oklahoma is conducted.

THE PLANNING PROCESS

The OCARTS planning process follows the requirements outlined by the Federal Transit and Federal Highway Administrations of the U.S. Department of Transportation. ACOG coordinates its transportation planning process with federal, state, local, and tribal entities responsible for land use, natural resources, and environmental planning, as well as private sector transportation interests and local citizens.

The metropolitan transportation planning process provides a unified voice among the planning partners. The OCARTS planning process is based upon a Memorandum of Understanding (MOU) among the Oklahoma Department of Transportation (ODOT), the Central Oklahoma Transportation and Parking Authority (COTPA),

Cleveland Area Rapid Transit (CART), and ACOG. Policy direction is provided through a committee structure that consists of the Intermodal Transportation Policy Committee (ITPC), the Intermodal Transportation Technical Committee (ITTC), and several advisory committees and subcommittees as shown in Figure 1.3.

The ITPC is responsible for regional transportation policy and decisions that include adoption of the metropolitan long-range transportation plan and short-range transportation improvement programs. Its voting membership includes elected officials from city, town and county governments within the region and representatives from ODOT, the local transit authorities and the Oklahoma City Airport Trust. Federal aviation, transit and highway officials are also included as non-voting ITPC members, as well as representatives of Tinker Air Force Base.

ENCOMPASS 2040 GUIDES HOW THE REGION WILL INVEST MORE THAN \$10 BILLION IN ITS MULTIMODAL TRANSPORTATION SYSTEM OVER THE NEXT 25 YEARS.

The policy committee is supported by a technical committee generally comprised of city engineers, traffic managers, and city/county planners. This committee also includes representation from state and local agencies responsible for various modes of travel and environmental quality. The ITTC provides technical expertise on transportation plans and programs and serves as a recommending body to the ITPC.

The MPO utilizes numerous advisory committees and subcommittees to focus on specific aspects of the planning process including air quality, regional transit, bicycle and pedestrian interests, and congestion management. With each update of the metropolitan transportation plan, a Citizens Advisory Committee (CAC) participates in the review and development of all phases of the plan and provides its recommendations directly to the ITPC.

The Transportation & Planning Services Division of ACOG is responsible for administration of the regional transportation planning process. ACOG coordinates the preparation of an annual Unified Planning Work Program (UPWP) and provides staff support for the policy, technical, and advisory committees. Regular meetings are held at the ACOG offices to provide a forum for communication and decision making.

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**FEDERAL TRANSPORTATION
PLANNING REQUIREMENTS**

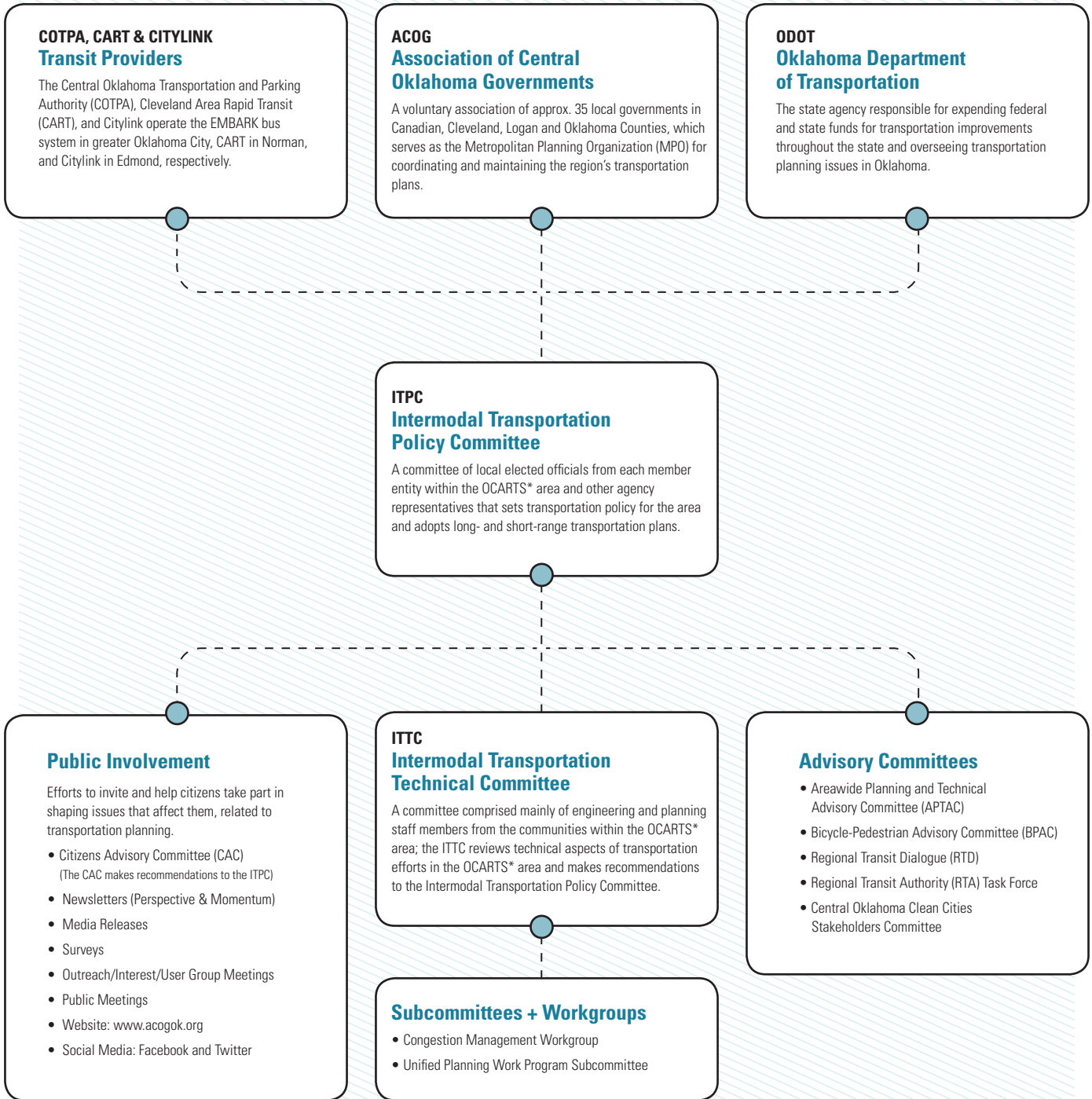
Encompass 2040 was developed in conformance with the Fixing America’s Surface Transportation Act (FAST Act), which was signed into law on December 4, 2015. Federal surface transportation law is approved by the U.S. Congress approximately every six years in order to establish transportation planning priorities and the funding programs and levels to implement those priorities within states and metropolitan areas throughout the country.

The FAST Act authorized highway, highway safety, transit, and other surface transportation programs, and continued the federal priorities and programs of the previous Moving Ahead for Progress in the 21st Century (MAP-21) Act, signed into law on July 6, 2012. The FAST Act is set to expire September 30, 2020.

Federal guidelines emphasize the role of state and local officials, in cooperation with transit operators, for tailoring the transportation planning process to meet local needs. These guidelines also emphasize protection of the natural environment and advancement of the nation’s economy and competitiveness domestically and internationally through efficient, multimodal transportation.

Under the FAST Act, the Federal Highway and Federal Transit Administrations require that all metropolitan areas conduct a comprehensive, coordinated, and continuing transportation planning process which includes development of long and short-range plans and programs. The long-range plan must be updated every five years (every four years for air quality non-attainment areas), include a forecast period of at least 20 years and address several federal planning priorities, known as planning factors.

FIGURE 1.3: ORGANIZATIONAL CHART



* The Oklahoma City Area Regional Transportation Study (OCARTS) area includes all of Oklahoma and Cleveland Counties and portions of Canadian, Logan, Grady and McClain Counties that are urbanized or are expected to be urbanized within the next 20 years.

The FAST Act continued the new MAP-21 requirement that states and MPOs conduct performance-based planning. The objective is to invest resources in projects that will collectively progress toward the achievement of national goals. States and MPOs are to work collaboratively to establish targets and measures that will improve performance in these areas:

- Safety
- Infrastructure condition
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Project delivery delays

Performance-based planning is to be integrated into the MPO's processes for MTP and TIP project selection and implementation.

Within the nation's larger metropolitan areas, planners are also required to maintain a congestion management process (CMP) that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

In addition, the FAST Act encourages proactive and inclusive public involvement in the development of the long-range plan, consistent with a locally-developed Public Participation Plan (PPP). The PPP outlines opportunities for the public to provide input into key short and long-range transportation planning decisions.



ENCOMPASS 2040 DEVELOPMENT PROCESS

Metropolitan transportation planning is a continuous process. It involves a number of steps that begins with monitoring base year conditions such as population, employment and travel patterns. Population and employment growth are then forecast to identify projected land use changes and major growth areas that will influence future travel within the region.

This information is used by planners to identify transportation problems and needs, and to establish goals and strategies that strive to mitigate those identified problems and transportation needs. By analyzing a number of alternate networks, and their costs, an affordable long-range plan is developed which includes capital and operational improvements for moving people and goods using anticipated revenues through the plan's forecast year. The plan is also evaluated in relation to its potential environmental and social impacts upon the region.

Once the plan is adopted, it is implemented by state and local government entities using the federal funds provided through federal surface transportation legislation and state and local sources. Implementation of the long-range plan is accomplished through a short-range, project specific document called the Transportation Improvement Program, which lists the region's annual transportation funding priorities.

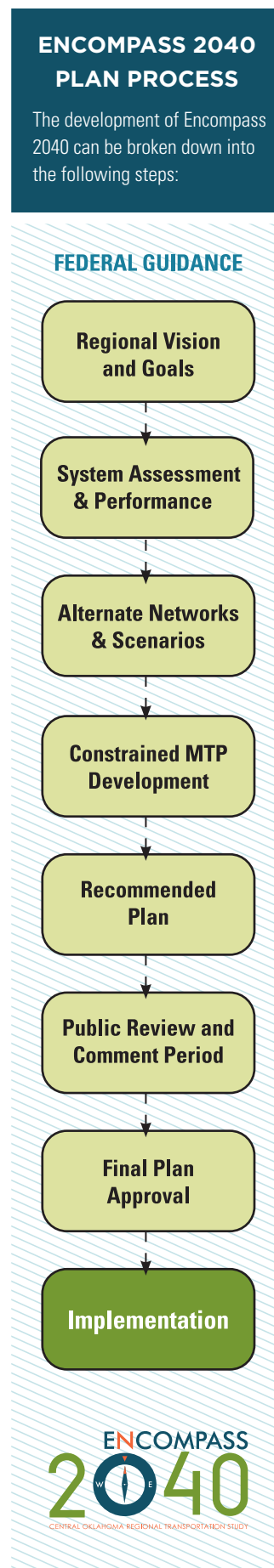


FIGURE 1.4: ENCOMPASS 2040 PLAN PROCESS

Encompass 2040 is the first OCARTS area long-range transportation plan to include a scenario planning exercise. Scenario planning is a process that evaluates the effects of alternative land use policies on future travel within a community or a region. This activity can provide information to decision-makers as they develop transportation plans, and by testing various scenarios, decision-makers can identify actions that will lead toward a shared vision.

While not a federal planning requirement, land use/transportation scenario planning has become increasingly common in regional and sub-regional planning processes. Encompass 2040 was developed using two potential growth scenarios:

- **Scenario 1** continued the region's historical trend of outward growth.
- **Scenario 2** focused on growth that would encourage infill, nodal, and downtown development within communities, which would be more supportive of future regional transit.

ENCOMPASS 2040 PLAN REPORT

The purpose of this Plan Report is to provide citizens, business leaders, and elected officials with a non-technical document, highlighting the transportation planning process that led to the adoption of the long-range transportation plan for Central Oklahoma. Greater detail on specific topics discussed in this report may be obtained from ACOG.

The Encompass 2040 Plan Summary, also available on ACOG's website, serves as an executive summary of this report. The ACOG Encompass 2040 metropolitan transportation plan, as well as the long-range plans developed for the Tulsa and Lawton metropolitan areas, is included by reference in the 2015-2040 Oklahoma Long-Range Transportation Plan, which was adopted by the Oklahoma Transportation Commission in August 2015.

CHAPTER 2

STATE OF THE TRANSPORTATION SYSTEM



Like most Americans, residents in Central Oklahoma rely heavily on the automobile as their primary means of travel. In 2010, the average daily vehicle miles traveled in the OCARTS area was about 30 million miles, which equates to each person traveling about 26.5 miles per day. In 2040, the OCARTS area average daily vehicle miles of travel is expected to grow to roughly 46 million—a 54 percent increase.

This increased growth in travel will likely result in more congestion, and traffic incidents, which may lead to higher levels of auto emissions. Although Central Oklahoma is one of the more heavily developed urban areas in the state, its large geographic area and relatively low density results in almost exclusive reliance on automobile travel. If current development patterns continue, commute times will worsen in coming years as a result of increased travel distances and increased congestion.

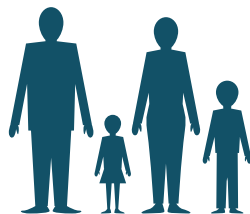
The Federal-Aid Highway Act of 1956 set the stage for highway travel being the nation's primary means of mobility and goods movement. This Act called for the completion of a 40,000-mile national system of interstate and national defense highways. With the interstate system, nearly complete by the late 1980s, Congress began to focus on a more multimodal approach to transportation with the passage

of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. ISTEA emphasized the need for more alternatives to private automobile travel—public transportation, bicycle networks and sidewalk systems—and established the statewide and metropolitan planning requirements to accomplish those goals. The Transportation Equity Act for the 21st Century (TEA-21) of 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) of 2005 built upon the foundation of ISTEA. They continued the focus on multimodal transportation options, while also promoting system maintenance, air quality, safety and security. During the development of the Encompass 2040 long-range transportation plan, two additional federal surface transportation bills were passed, the Moving Ahead for Progress in the 21st Century (MAP-21) Act of 2012 and the Fixing America's Surface Transportation (FAST) Act of 2015. Each continued to emphasize the creation of a more safe, equitable, and efficient transportation system while also increasing accountability by implementing transportation system performance measures.

The following sections provide a brief snapshot of each travel mode that makes up Central Oklahoma's regional transportation system. Each of these will be discussed in greater detail in subsequent chapters of this report.

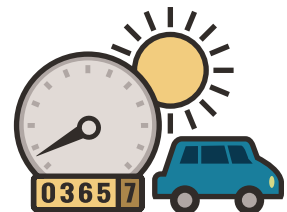
Population

2010 Estimate – 1,142,338
 2040 Estimate – 1,595,168
 Percent Change – 40%



Vehicle Miles Traveled (VMT) Daily

2010 Estimate – 30,266,000
 2040 Estimate – 46,550,000
 Percent Change – 54%



Employment

2010 Estimate – 601,839
 2040 Estimate – 875,402
 Percent Change – 45%



Freight Tonnage (annual)

2010 Estimate – 101,845,268
 2040 Estimate – 137,859,602
 Percent Change – 35%



STREETS AND HIGHWAYS

In 2010, the base year of Encompass 2040, the OCARTS area street and highway system consisted of 201 linear miles of interstates, freeways and expressways; 59 linear miles of turnpikes; and 1,899 linear miles of arterials. The remainder of the network is comprised of numerous miles of local and collector streets. Improvement and maintenance of these facilities generally fall under the jurisdiction of the Oklahoma Department of Transportation (ODOT), the Oklahoma Turnpike Authority (OTA), and local city and county governments, respectively.

The street and highway system provides the foundation for all modes of transportation. In addition to serving automobile and truck traffic, it provides the infrastructure upon which public and private transit services are operated and provides direct access to the region's airports, trucking terminals, freight and passenger rail services, and recreational trails. Safe and efficient operation of the metropolitan street and highway system, therefore, strengthens the productivity, safety, and efficiency of all transportation modes.

TRANSIT

Total transit ridership within the OCARTS area in 2010 was 15,800 trips per day. This represents less than half of one percent of the total daily trips made throughout the region. With these figures, it goes without saying that Central Oklahoma is woefully deficient in use of public transportation for a metropolitan area of its size. The amount of public transportation services available is directly tied to the level of funding spent on it from all sources—federal, state, and local. Currently, about \$35 per capita is spent within our region for transit, compared to an average of \$80 per capita for similar sized metro areas. Central Oklahoma currently has no dedicated local funding source for transit, unlike most other major metropolitan areas. Therefore, the public bus services that do exist are funded, in part, from local general revenues that must compete with other local needs such as roads, parks, and fire and police protection.

However, public desire for broader and better public transportation has been steadily growing within Central Oklahoma in recent years. In 2005, the Central Oklahoma Transportation and Parking Authority (COTPA) commissioned the Regional Fixed Guideway Study (FGS) that resulted in

a system plan for the year 2030. The FGS examined eleven corridors throughout the OCARTS area and recommended transit technologies for each that, as a whole, would create a regional public transportation system, connecting the downtown core with various suburban communities. Following the Fixed Guideway Study, ACOG conducted an independent study to examine various corridors and their potential for hosting enhanced and expanded public transit options. Titled CentralOK!go, this Commuter Corridors Study of Central Oklahoma highlighted several major corridors and access points within the region that could benefit from enhanced transit services and a commuter rail system linking the region from Edmond to Norman.

Building upon the recommendations of the Fixed Guideway Study, ACOG initiated a visioning process known as the Regional Transit Dialogue (RTD) in 2009. Its purpose was to engage locally elected officials, policy stakeholders, private sector leaders, and the general public in a discussion about how the region could develop a more comprehensive public transportation system in the years and decades to come. Utilizing a steering committee and several working subcommittees, the RTD also explored potential governing concepts, funding strategies, and transit supportive land use policies. Following the Commuter Corridors Study in 2015, a Task Force was established between six stakeholder cities (Edmond, Del City, Midwest City, Moore, Norman, and Oklahoma City) in Central Oklahoma to push forward with the creation of a Regional Transit Authority (RTA). The Task Force has conducted public outreach and polling efforts, and plans to use local funding options to create and establish a commuter rail transit line for the region.

REGIONAL BIKE NETWORK

Communities within Central Oklahoma have become increasingly engaged in planning for and implementing bicycle facilities over the past two decades. This coincides with the federal emphasis placed on bicycle planning as part of ISTEA in 1991 and in subsequent federal surface transportation laws. New requirements were put in place for MPOs to include regional bicycle plans as part of their long-range transportation plans and each state department of transportation was required to hire a bicycle/pedestrian coordinator to help implement this federal priority.

During the development of Encompass 2040, ACOG adopted a regional bike master plan and seven OCARTS area communities adopted trails master plans, including a 450-mile system adopted by the City of Oklahoma City. In total, the region has about 428 miles of existing bike facilities, and another 866 planned miles. Several federal-aid funding categories traditionally used for road projects now include bicycle and pedestrian improvements as eligible projects. In addition to these federal sources, several of Central Oklahoma’s local governments have provided significant local funds to implement their bike networks. For example, a general obligation bond issue approved by Oklahoma City voters in 2007 included funding for bicycle improvements and the Oklahoma City Metropolitan Area Projects 3 (MAPS 3) sales tax package includes \$40 million to continue implementation of the City’s planned bike trails.

As part of each long-range plan update, ACOG provides a forum for its member communities to evaluate regional connections that will enhance their individual trails plans and establish a regional network that will eventually provide a transportation alternative.

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PEDESTRIAN SYSTEM

While there is no regional network of planned sidewalks and walking trails, all OCARTS area communities are encouraged to provide sidewalks to enhance the walkability of their communities and the region. Currently, ten communities have ordinances that require sidewalk construction along arterial streets as part of the subdivision or building permit process.

The City of Oklahoma City developed a sidewalk master plan, passed in 2012, that builds upon an analysis of existing, under construction, and funded sidewalks within the City. The Oklahoma City MAPS 3 sales tax vote included a budget of \$10 million to construct sidewalks in priority locations throughout the city. One of the key considerations will be locations that provide access to bus stops. The lack of sidewalks near bus stops has been a recurring complaint among area residents for years, especially those with a disability.

Sidewalks are a federal priority and most federal-aid funding categories include construction of sidewalks and other pedestrian walkways as eligible activities. The MPO criteria for evaluating and distributing the federal funds provided to ACOG for local government projects also reflect an emphasis on sidewalks constructed both independently and in conjunction with roadway improvements.

GOODS MOVEMENT

Transportation of freight is often considered the lifeline of a region because of the essential need for movement of goods and products. Our local and national economies rely on efficient, safe, and secure freight transportation to connect businesses, suppliers, markets, and consumers. Goods movement generally involves the shipment of products by truck, rail, water, air and pipeline, or a combination of two or more of these modes.

The OCARTS area includes about 443 trucking companies, two Class I and two Class III freight rail lines, four rail terminals, and seven public airports. In 2012, 69.32 percent of all OCARTS area freight tonnage was transported by truck, another 3.5 percent was shipped by rail and less than one percent by air. As evidenced by these numbers, and typical for most metropolitan areas, truck traffic dominates the inbound, outbound, and intra-freight movements in Central Oklahoma, and this trend is expected to continue.

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AIRPORT ACCESS

The OCARTS area includes seven public airports: Will Rogers World Airport, Wiley Post Airport, and Clarence E. Page Airport in Oklahoma City, Max Westheimer Airport in Norman, Guthrie-Edmond Regional Airport in Guthrie, David Jay Perry Airport in Goldsby, and Purcell Municipal Airport. Additionally, Central Oklahoma is home to Tinker Air Force Base, one of the nation’s three Air Logistics Centers, located about eight miles southeast of downtown Oklahoma City. Opened originally in 1941 as the Midwest Depot, Tinker AFB now employs roughly 25,000 military personnel, federal civilians, and contractors, making it the largest single-site employer in Oklahoma.

The focus of Encompass 2040 in relation to air cargo, passenger air travel, and military operations is to address improvements that will enhance airport access by other modes—streets and highways, transit, and rail. This Plan does not address airport operations, development, or land use within the individual airport properties. Each airport operator maintains an airport master plan to focus on its future needs and to guide growth and development within the individual airport “fence lines.”

CHAPTER 3

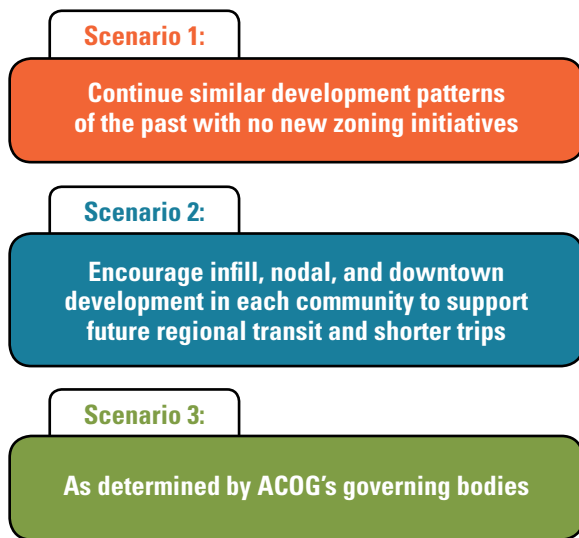
REGIONAL SOCIOECONOMIC TRENDS



The rapid growth experienced by Central Oklahoma in recent years is expected to continue. By 2040, the region is forecasted to add roughly 453,000 new residents and 275,000 new jobs. How the region develops will have a direct impact on the performance of the transportation system. An increase in population combined with continued outward expansion has the potential to lead to more vehicles on already stressed roadways, while downtown redevelopment may increase the demand for pedestrian and cycling infrastructure as well as transit access.

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REGIONAL SCENARIO PLANNING

FIGURE 3.1: ENCOMPASS 2040 SCENARIOS



To assist in determining the potential impacts that future growth might have on the transportation system, a regional scenario planning component was incorporated into the Encompass 2040 long-range planning process. Scenario planning, or land use modeling, recognizes that many alternatives exist for future growth policy and that these evolving rules and regulations could have a significant impact on the shape, type, and rate of growth going into the future.

The Encompass 2040 Land Use Scenarios study was undertaken as an educational exercise to investigate potential alternative development patterns that could address some of the issues facing the region in the future. The study also helps to illustrate the impact land use policies have on the transportation system. The previous long-range, metropolitan transportation plans used a growth allocation model, or GAM, to allocate future growth based on current trends. Scenario planning allows multiple

futures to be developed based on changes in land use policies. Quantitatively analyzing the results of these hypothetical policies can guide officials to the best alternative going forward.

Encompass 2040 was developed using two potential growth scenarios, with the option for a third scenario (Figure 3.1). Each scenario was developed with generous support from planners, local leaders, and interested citizens.

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CENTRAL OKLAHOMA SOCIOECONOMIC DATA

Scenario planning is a data intensive process. The Encompass 2040 Land Use Scenario study required a number of regional datasets, including: land use, population, employment, dwelling units, and school enrollment within the transportation study area (see Table 3.1 for a full list of data inputs). The data was gathered to establish conditions as they existed in the OCARTS area in 2010, the base year for analysis for Encompass 2040. Once collected, the data was used in the scenario planning modeling process to determine the forecast year (2040) socioeconomic and development conditions. By analyzing potential development patterns, or where people are likely to live and work in the future for various scenarios, an assessment of the forecast year travel demand can be made and the impacts on the transportation system can be assessed.

SUBAREAS OF DATA COLLECTION

For the purposes of data collection and analysis, socioeconomic information was gathered at the smallest geographic level possible and then aggregated to larger areas, which include traffic analysis zones (TAZs), city boundaries, the full or partial counties that comprise the OCARTS area, and the entire study area. Socioeconomic data available from the U.S. Census Bureau was obtained at the Census Block or Block Group level, which served as the building blocks for TAZs. Each TAZ is similar in population although their geographic sizes vary from a few blocks in heavily developed areas to several square miles in the rural portions of the study area. In total, the OCARTS area contains 2,855 TAZ datasets that provided input to the scenario planning and regional transportation models.

LAND USE

ACOG works closely with local planners on the collection of base year land use within each OCARTS area entity. Each local government also provides information on future, planned land

uses based on their adopted comprehensive plans, zoning ordinances, and other sources reflective of local development trends. For the 2040 Plan, base year land use information was grouped into twelve existing, or present, land use categories, and all undeveloped land was assigned a planned land use category, as shown in Table 3.2. These standardized categories provided regional consistency for modeling purposes.

Land Use Trends in Central Oklahoma

In 2010, roughly 39 percent of the land within the Oklahoma City Area Regional Transportation Study (OCARTS) boundary was classified as developed. The developed land can further be divided into three distinct categories: residential, employment, and other (Figure 3.2). Suburban residential developments, also known as rural residential, make up the majority of land classified as residential (67 percent). This type of development is characterized by larger homes on large lots (greater than one acre) with a low population density (persons per acre). The development type with the highest population density, multi-family residential, accounts for only two percent of the existing residential land use. Forty-eight percent of land designated as employment is industrial. Similar to suburban residential, industrial land tends to have low employment density (employees per acre) and in many cases, consists of underdeveloped parcels. The third land use category is divided between parks/open space (55 percent), transportation corridors (45 percent), with mixed use developments accounting for only 0.004 percent of developed land within the region.

BUILDING PERMITS

Along with land use data, the MPO works with local municipal and county entities to collect recent building permit data within the OCARTS area. Local government entities provided recent

18% OF RESIDENTIAL BUILDING PERMITS WERE ISSUED OUTSIDE THE EXISTING SEWER SERVICE BOUNDARY

construction and demolition data for both commercial and residential (single-family, multi-family, single-family attached, etc.) developments from 2010 to 2014. During this time period, 36,252 housing units were permitted within the study area and 2,582 housing units were demolished (Table 3.3). Regional

TABLE 3.1: ENCOMPASS 2040 LAND USE SCENARIOS DATA COMPONENTS

| DATA INPUTS FOR ENCOMPASS 2040 LAND USE SCENARIOS |
|---|
| Parcels/TAZs (includes land use, population, and employment information) |
| Existing Growth Areas (based on current sewer service areas) |
| Metropolitan Centers (town centers/central business districts) |
| Region/Community Activity Nodes |
| Colleges and Universities |
| Schools (K-12) |
| Water Bodies |
| Floodplains |
| Wildlife Management Areas |
| Wetlands |
| Conservation Areas and Other Protected Areas |
| Parks and Open Space |
| Road Network and Road Rights-of-Way |
| Prime and Cultivated Farmland |
| Proposed Commuter Rail Corridors and Stations (TODs) |
| Proposed Transit Corridors (extended vision bus and streetcar network) |
| Bicycle Facilities |
| Transit Routes and Stops |
| Sidewalks |
| Sewer Service Areas |
| Vacant Housing |
| Maximum Building Units |
| Future Developments |

TABLE 3.2: ENCOMPASS 2040 LAND USE CATEGORIES

| NAME | DESCRIPTION |
|---------------------------|---|
| Single-Family Residential | Urban and suburban single-family residences on lots smaller than one acre. Includes mobile home parks. |
| Multi-Family Residential | Apartments and other residential dwelling units with 3 or more units under one roof. |
| Commercial | Retail establishments including offices in commercial settings. Includes shopping malls. |
| Office | Private offices including veterinarians and medical offices near hospitals. |
| Public/Institutional | Schools, colleges, government office buildings, hospitals, places of worship, and other institutions. |
| Industrial | Light, moderate, and heavy industrial, manufacturing, warehousing, utilities, mineral extraction, landfills, and public industrial properties (water treatment plants, etc.). |
| Parks/Open Space | Parks, open spaces, cemeteries, golf courses, drainage channels, stormwater basins, rivers, and open water. |
| Transportation Corridors | Roads, highways, alleys, railroads, and other public rights-of-way. |
| Suburban Residential | Single-family residential on lots between 1-5 acres. |
| Mixed Use | Combination of land uses in one area, e.g. a building with retail on the ground floor and apartments above. |
| Group Quarters | College dorms, jails, nursing homes, and other facilities where a large number of people live in one facility. |
| Single-Family Attached | Attached single-family housing units, including duplexes and townhomes. |
| Agriculture | Land primarily used for agriculture. May eventually contain residences and outbuildings at an extremely low density. |
| Agriculture Residential | Single-family residential on lots greater than 5 acres. |

construction data assists with the creation of regional controls for population and employment datasets. These datasets are ultimately used to create population and employment projections for future transportation plans.

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POPULATION AND EMPLOYMENT GROWTH

Population

Base year population for the counties, cities, towns, and TAZs within the OCARTS boundary were developed using 2010 Census data. The Intermodal Transportation Policy Committee (ITPC) approved a base year population of 1,142,407 for the OCARTS area in June 2013. The Committee also approved base year totals for each county and entity, at that time.

The 2040 population projections for the OCARTS area were developed using three sources—county level projections from Woods & Poole² (2010-2040), the Oklahoma Department of Commerce (2010-2075), and 1980-2010 historical population data—along with the 2010 population estimates, extrapolated to 2040. The three methodologies generated different growth rates for each county. When choosing which methodology to use, both the recent historical population trends (i.e. building permit data) and the county and city control totals from the 2035

FIGURE 3.2: RESIDENTIAL, EMPLOYMENT, AND OTHER LAND USE PERCENTAGES (2010)

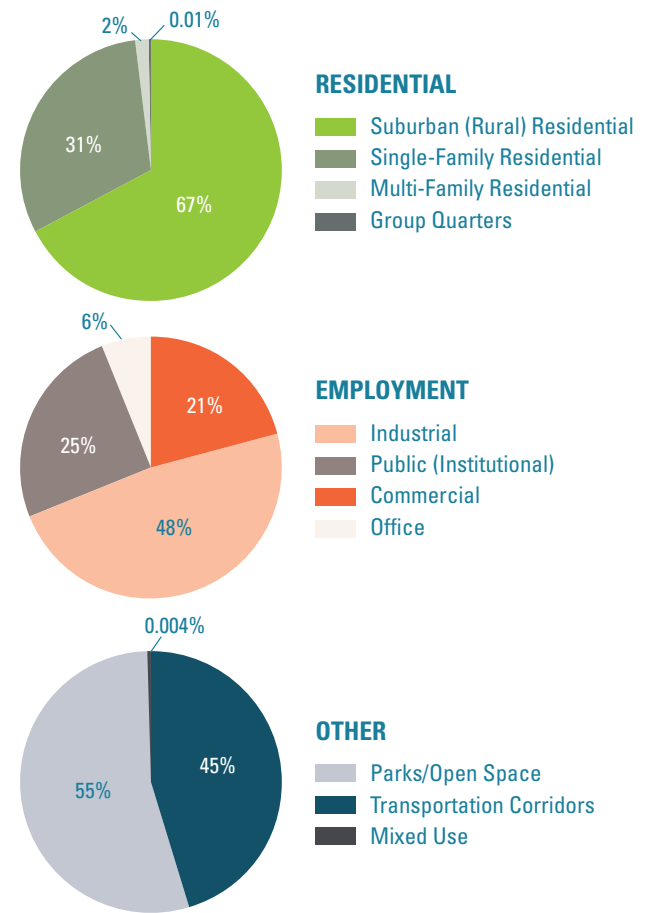


TABLE 3.3: RESIDENTIAL AND COMMERCIAL BUILDING PERMITS ISSUED PER YEAR (2010-2014)

| PERMIT TYPE | 2010 | 2011 | 2012 | 2013 | 2014 | TOTAL (2010-2014) |
|-------------|-------|-------|-------|-------|-------|-------------------|
| Residential | 6,224 | 5,725 | 8,505 | 7,770 | 8,028 | 36,252 |
| Commercial | 368 | 358 | 577 | 377 | 366 | 2,046 |

TABLE 3.4: POPULATION ESTIMATES BY COUNTY, 2010 AND 2040

| COUNTY | 2010 POPULATION | 2040 POPULATION | CHANGE |
|---------------------|------------------|------------------|--------------|
| Canadian (pt.) | 90,940 | 176,735 | 94.3% |
| Cleveland | 255,755 | 379,998 | 48.6% |
| Grady (pt.) | 15,076 | 20,538 | 36.2% |
| Logan (pt.) | 31,656 | 41,768 | 31.9% |
| McClain (pt.) | 28,594 | 44,393 | 55.3% |
| Oklahoma | 720,386 | 931,131 | 29.3% |
| OCARTS Total | 1,142,407 | 1,594,563 | 39.6% |

Note: "(Pt.)" means the part of the county located within the OCARTS area.

OCARTS Plan were analyzed. A method was chosen for each county reflective of its rate of growth based on recent historical trends.

The 2040 population control total of 1,594,563 for the OCARTS area was approved by the ITPC in December 2014, as shown in Table 3.4. This represents a projected 39.6 percent increase in population between 2010 and 2040, which equals an average annual growth of 1.3 percent.

{FOOTNOTE: 2 Woods & Poole Economics, Inc. is a private econometric research firm that specializes in long-term county economic and demographic projections.}

Employment

The 2010 base employment data was developed from Oklahoma Employment Security Commission (OESC) wage and salary employment records (Year 2010, second calendar quarter) and Census Transportation Planning Package (CTPP Year 2010, Part 2) self-employment counts. This information was supplemented with data from online searches, local newspapers, and input from member entities to ensure employment was distributed throughout the region accurately. Employment records were sorted by Standard Industrial Classification (SIC) codes and categorized as either retail or non-retail for the transportation modeling process.

Future employment within the region was estimated by comparing base year conditions with 2035 employment projections. Employment in the OCARTS area is expected to reach 875,274 in the year 2040, which represents a 45.4 percent increase from the 2010 employment total of 601,839. The ITPC approved the employment control totals for Encompass 2040 in December 2014. The projected growth in employment was allocated among the counties (or portions) included in the OCARTS area as shown in Table 3.5.

SCHOOL ENROLLMENT

Schools are a driving force for development and traffic within Central Oklahoma. As such, school enrollment has long been incorporated into ACOG's long-range transportation plans. Base year school enrollment data was compiled from a number of sources, including: the Oklahoma Department of Education, the Oklahoma State Department of Vocational and Technical Education, the Oklahoma State Regents for Higher Education, various news articles, and telephone surveys. Enrollment data was collected for four categories of education—public schools (pre-kindergarten through 12th grade), private schools (pre-kindergarten through 12th grade), vocational-technical schools, and universities/colleges.

In Central Oklahoma, a strong relationship exists between population growth and school enrollment. Therefore, future school enrollment can be projected based on a historical analysis of this trend. Public school district projections for 2040 were created based upon the relationship between the 2010 population throughout the OCARTS area and school enrollment figures obtained from the Oklahoma Department of Education. Projections for private and vocational-technical schools, and universities and colleges were developed using historical trend analysis of available enrollment data from 1990-2010. Adjustments were made for new schools that were planned or recently built, but not yet operational, or based on planned changes or enrollment maximums identified by school administrators. New school enrollments were included only if a known location of the school could be provided by the district. Comments from school district planning personnel were solicited and considered in the case of magnet or other specialty schools.

Generally, school enrollment is expected to increase in the OCARTS area at a slightly lower rate than population. As shown

TABLE 3.5: EMPLOYMENT ESTIMATES BY COUNTY, 2010 AND 2040

| COUNTY | 2010 EMPLOYMENT | 2040 EMPLOYMENT | CHANGE |
|---------------------|-----------------|-----------------|--------------|
| Canadian (pt.) | 25,763 | 48,415 | 87.9% |
| Cleveland | 91,767 | 171,034 | 86.4% |
| Grady (pt.) | 2,509 | 3,521 | 40.3% |
| Logan (pt.) | 6,795 | 11,444 | 68.4% |
| McClain (pt.) | 10,756 | 15,584 | 44.9% |
| Oklahoma | 464,249 | 625,276 | 34.7% |
| OCARTS Total | 601,839 | 875,274 | 45.4% |

Note: "(Pt.," means the part of the county located within the OCARTS area.

in Table 3.6, total school enrollment is estimated to increase 35.5 percent from 288,077 students in 2010 to 390,218 students in 2040.

ENCOMPASS 2040 SCENARIOS

Each scenario is comprised of a variety of different parts that help determine where future growth is likely to occur given the assumed land use policies. These parts, or factors, include:

- Constraints: Where development cannot occur
- Attractiveness: Where development will occur first
- Housing: Type, density, and location of housing
- Employment: Type, density, and location of employment
- Transportation: Modes available; new infrastructure or service

Note: Factors might be the same for each scenario, but may impact the region differently based on spatial distribution.

Scenario 1-Historical Trend

Scenario 1 continued the region’s historical trend of outward growth based on the assumption that no new zoning initiatives will be adopted. This scenario included the following factors:

- Constraints: Parks, floodways, road rights-of-way, wetlands, etc.
- Attractions: Current growth trend, schools, income (TAZ)
- Housing: Lower density single-family developments, around periphery
- Employment: Separated from housing, along transportation corridors
- Transportation: Auto-dependent

Future population and employment density based on this scenario can be viewed in Figure 3.4 and 3.5, respectively.

Scenario 2-Nodal Growth

Scenario 2 assumed a change in regional land use policy which focused on growth that would encourage infill, nodal, and downtown development within communities, which would be more supportive of future regional transit (see Chapter 8 for more information on future regional transit). The factors contained in Scenario 2 include:

- Constraints: Same as Scenario 1 with the addition of prime farmland (reduced growth areas)
- Attractions: Downtowns, existing service area boundaries, transit-oriented development (proposed regional transit)
- Housing: Mixed-use, infill, higher density developments
- Employment: Downtowns, transit-oriented developments, mixed-use

- Transportation: More transportation options (including regional transit facilities)

Future population and employment density based on scenario 2 can be viewed in Figure 3.6 and 3.7, respectively.

LINKING LAND USE AND TRANSPORTATION

The development patterns created during the scenario planning process were integrated into the regional transportation model (regional travel demand model or RTDM) and analyzed using several funding alternatives. In total, three alternate networks were evaluated, and each was modeled in relation to the two development scenarios (see Chapter 11 for more information and scenario evaluation results). The Encompass 2040 Land Use Scenarios demonstrate that the region has the potential to gain more transportation efficiencies if it adopts a development pattern like Scenario 2, however this pattern is dependent on future land use decisions made at the local level.

FIGURE 3.3: ENCOMPASS 2040 SCENARIOS PROCESS

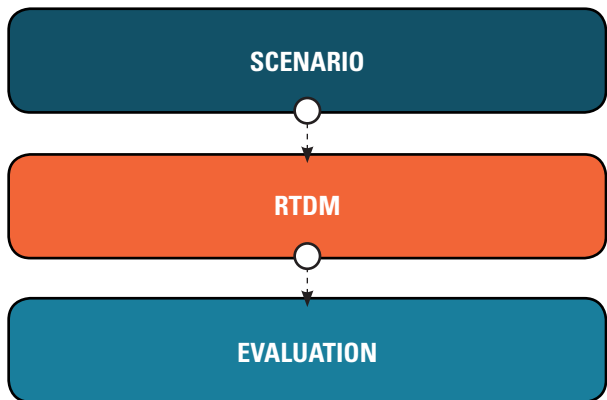
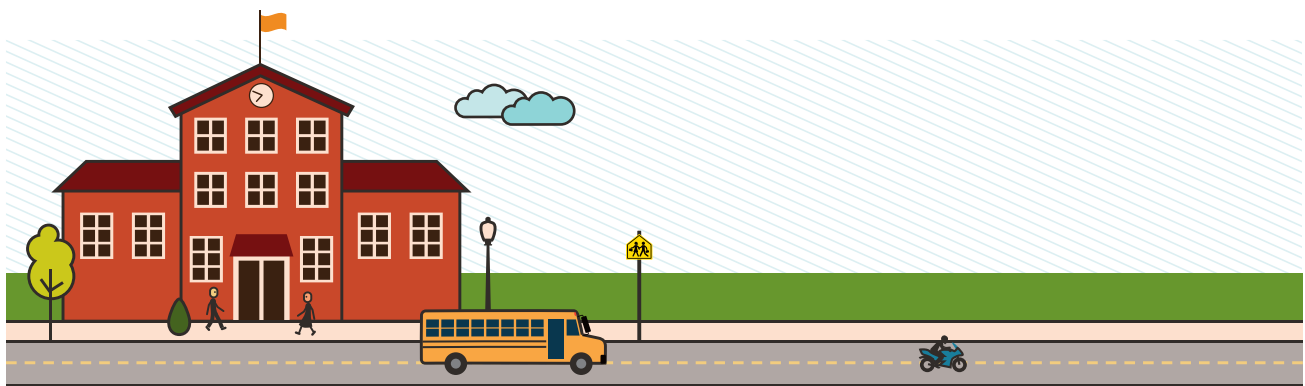


TABLE 3.6: ESTIMATED SCHOOL ENROLLMENT BY ENTITY, 2010 AND 2040

| ENTITY | 2010 | | | 2040 | | |
|--------------|--------------|---------------|--------|--------------|---------------|--------|
| | PUBLIC PK-12 | PRIVATE PK-12 | OTHER* | PUBLIC PK-12 | PRIVATE PK-12 | OTHER* |
| Bethany | 3,951 | 172 | 2,773 | 4,366 | 172 | 2,515 |
| Blanchard | 1,677 | 0 | 0 | 2,650 | 0 | 0 |
| Bridge Creek | 1,369 | 0 | 0 | 1,793 | 0 | 0 |
| Choctaw | 3,764 | 167 | 809 | 5,575 | 167 | 1164 |
| Del City | 4,211 | 1,171 | 0 | 4,301 | 1,288 | 0 |
| Dibble | 708 | 0 | 0 | 927 | 0 | 0 |
| Edmond | 16,701 | 1,792 | 14,040 | 28,166 | 2,163 | 13,971 |
| Forest Park | 208 | 0 | 0 | 358 | 0 | 0 |
| Guthrie | 3,309 | 208 | 0 | 4,600 | 248 | 0 |
| Harrah | 2,235 | 36 | 0 | 3,622 | 36 | 0 |
| Jones | 1,156 | 0 | 0 | 2,774 | 0 | 0 |
| Lexington | 1,091 | 0 | 0 | 2,020 | 0 | 0 |
| Luther | 849 | 0 | 0 | 2,615 | 0 | 0 |
| Midwest City | 9,204 | 356 | 6,211 | 10,614 | 426 | 6,751 |
| Moore | 11,126 | 625 | 200 | 17,881 | 697 | 200 |
| Mustang | 5,329 | 0 | 0 | 8,441 | 0 | 0 |



| ENTITY | 2010 | | | 2040 | | |
|---------------------|----------------|---------------|---------------|----------------|---------------|---------------|
| | PUBLIC PK-12 | PRIVATE PK-12 | OTHER* | PUBLIC PK-12 | PRIVATE PK-12 | OTHER* |
| Newcastle | 1,668 | 0 | 0 | 2,669 | 0 | 0 |
| Nichols Hills | 0 | 427 | 0 | 0 | 550 | 0 |
| Nicoma Park | 1,219 | 0 | 0 | 1,938 | 0 | 0 |
| Noble | 2,957 | 0 | 0 | 5,795 | 0 | 0 |
| Norman | 15,971 | 1,261 | 25,035 | 22,176 | 1,686 | 28,071 |
| Oklahoma City | 78,626 | 6,703 | 35,645 | 107,400 | 7,861 | 10,660 |
| Piedmont | 2,061 | 0 | 0 | 5,3791 | 0 | 0 |
| Purcell | 1,458 | 0 | 0 | 2,625 | 0 | 0 |
| Spencer | 1,146 | 39 | 0 | 2,292 | 39 | 0 |
| The Village | 904 | 1,217 | 0 | 1,034 | 1,303 | 0 |
| Tuttle | 1,705 | 0 | 0 | 3,018 | 0 | 0 |
| Warr Acres | 3,724 | 223 | 0 | 4,394 | 223 | 0 |
| Washington | 916 | 0 | 0 | 1,420 | 0 | 0 |
| Yukon | 6,755 | 211 | 0 | 11,169 | 191 | 0 |
| Oklahoma Co. | 2,619 | 139 | 0 | 7,695 | 129 | 0 |
| OCARTS Total | 188,617 | 14,747 | 84,713 | 279,707 | 17,179 | 93,332 |

Table reflects only those communities that have at least one school. *Other – Colleges, Universities and Vocational-Technology Centers

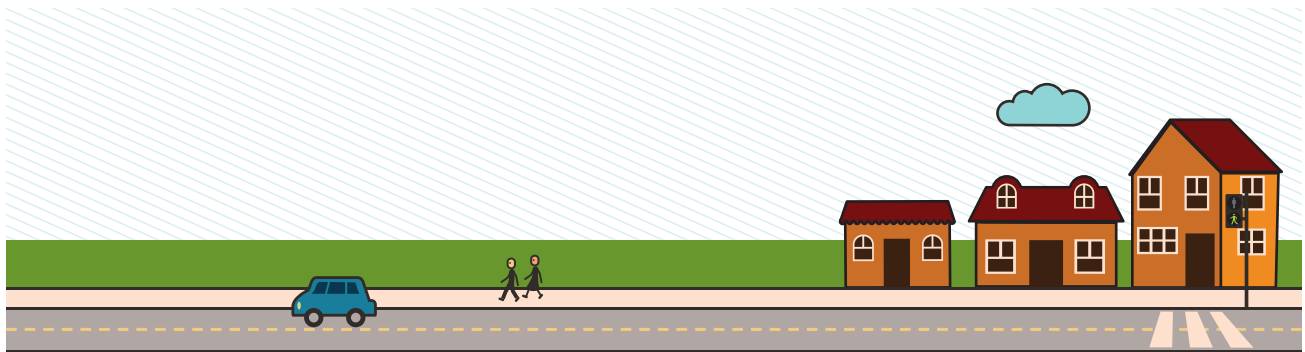


FIGURE 3.4: SCENARIO 1 – EXISTING AND FUTURE POPULATION DENSITY, 2010 AND 2040

SCENARIO 1
EXISTING AND FUTURE
POPULATION DENSITY,
2010 AND 2040

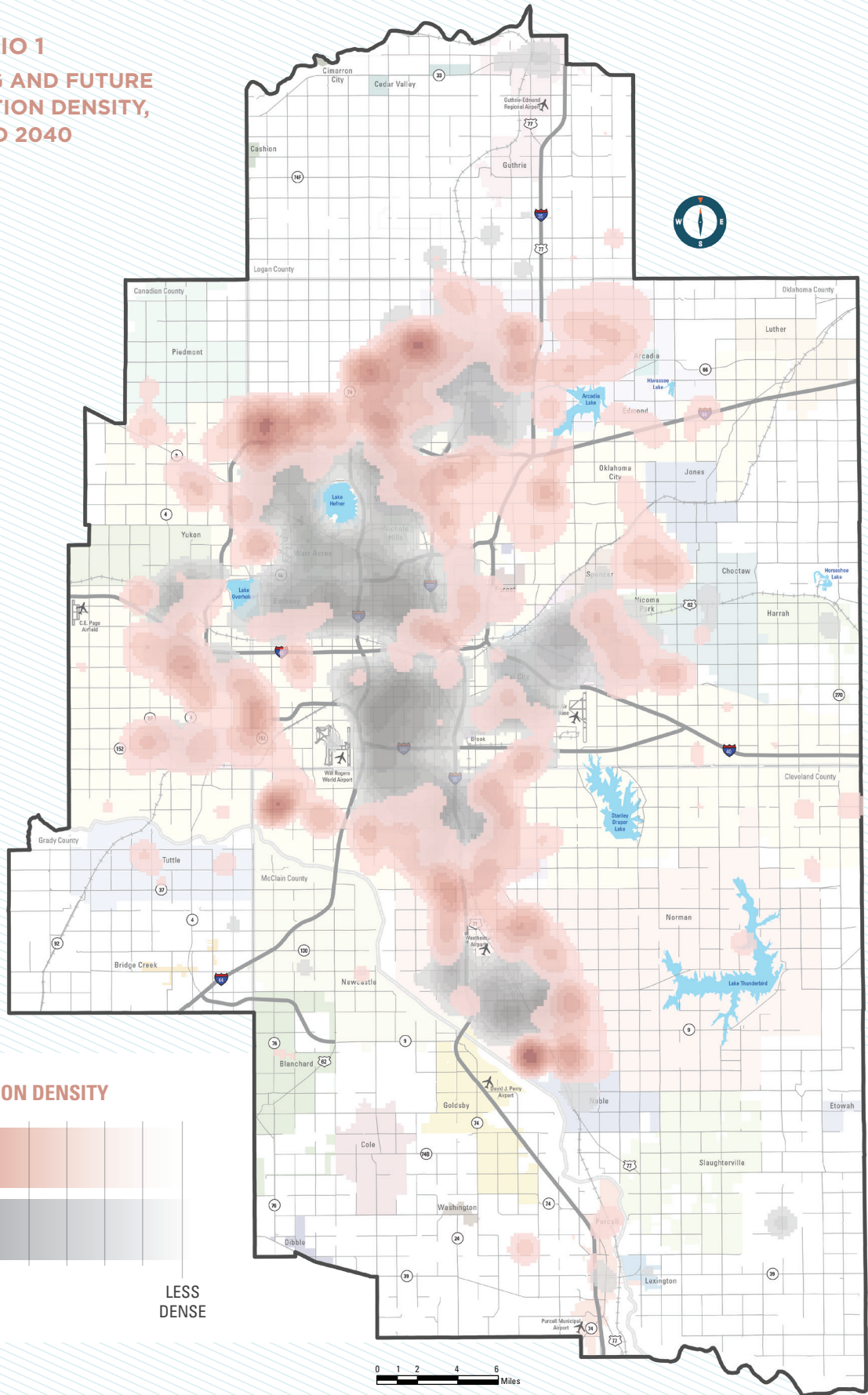


FIGURE 3.5: SCENARIO 1 – EXISTING AND FUTURE EMPLOYMENT DENSITY, 2010 AND 2040

SCENARIO 1
EXISTING AND FUTURE
EMPLOYMENT DENSITY,
2010 AND 2040

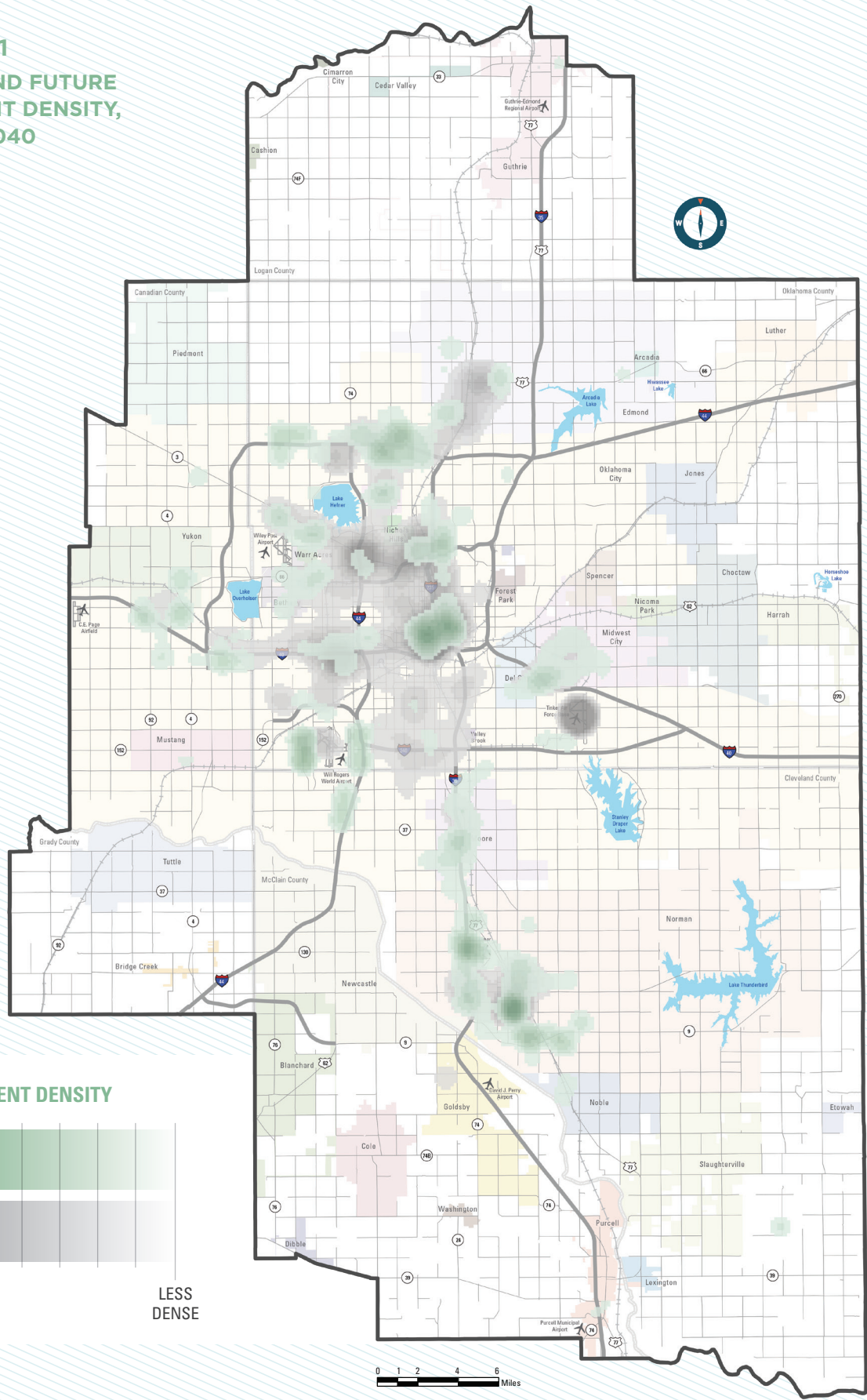
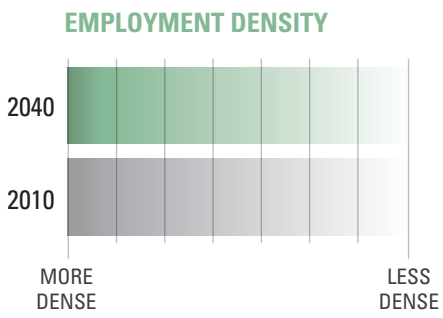
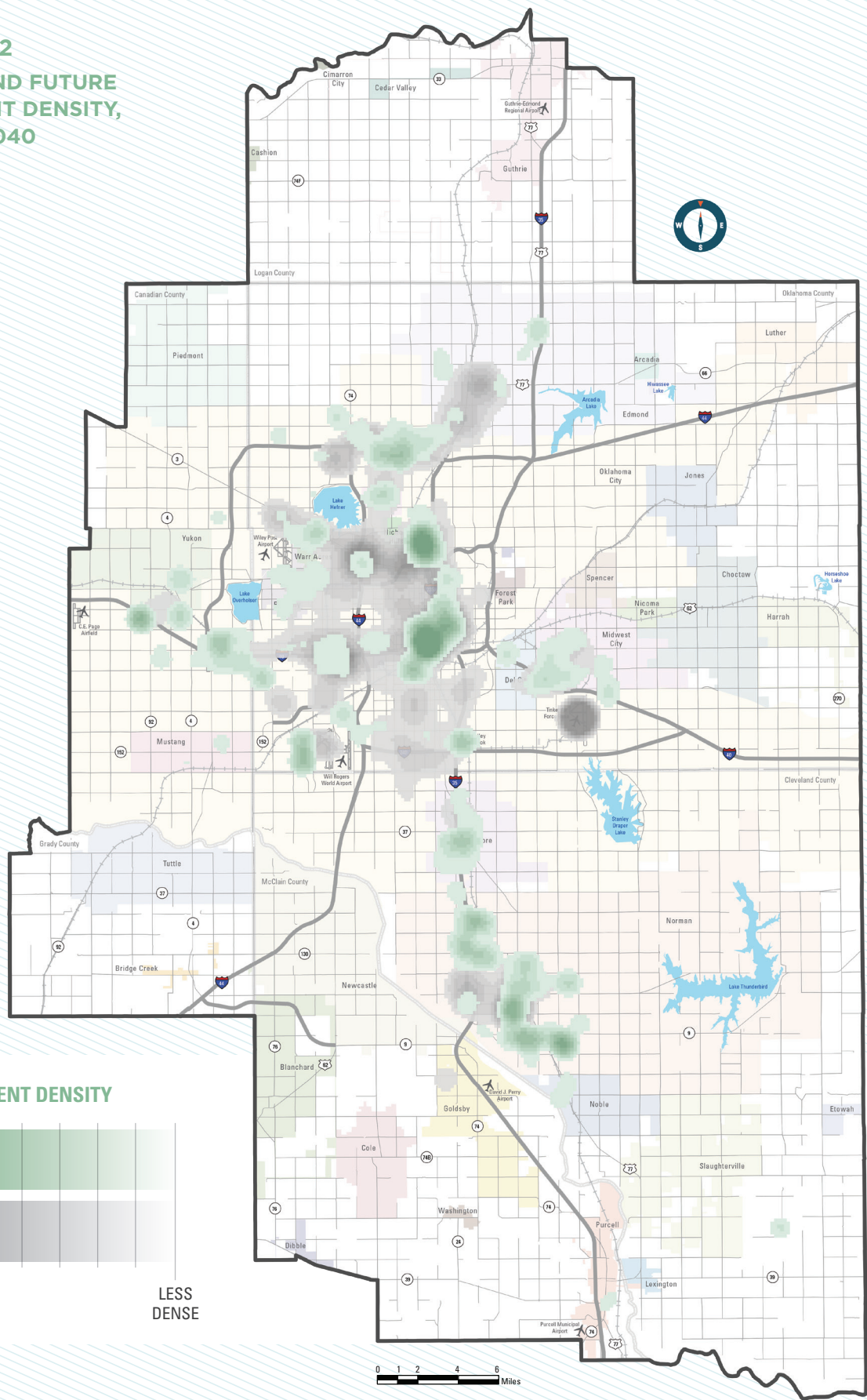


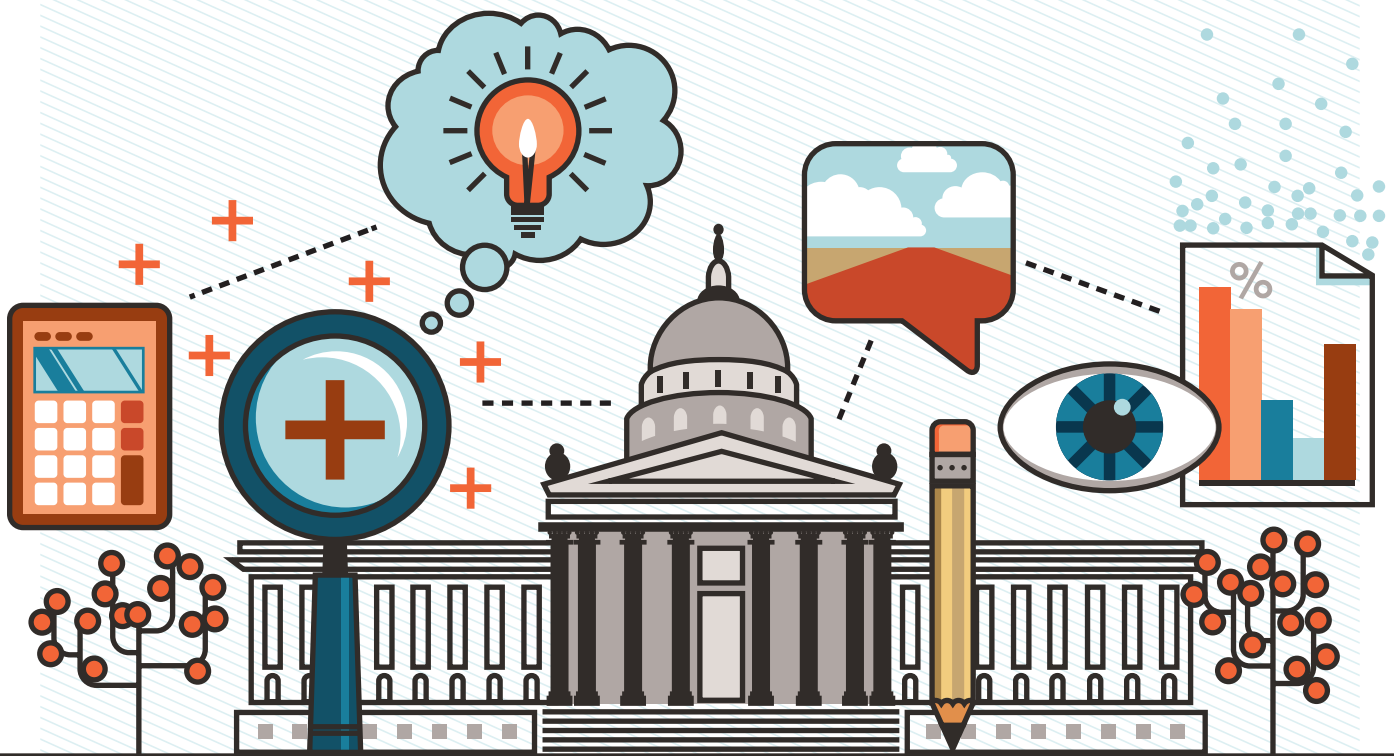
FIGURE 3.7: SCENARIO 2 – EXISTING AND FUTURE EMPLOYMENT DENSITY, 2010 AND 2040

SCENARIO 2
EXISTING AND FUTURE
EMPLOYMENT DENSITY,
2010 AND 2040



GOALS AND

OBJECTIVES



Central Oklahoma consists of vibrant urban and suburban communities and is known for its affordability and relatively low unemployment, as well as the recent and ongoing revitalization of its urban core in the downtown and Bricktown areas of Oklahoma City.

These positives are also coupled with challenges in planning for Central Oklahoma’s transportation system due to the sprawling, low-density settlement pattern, including:

- Increasing costs for building and maintaining infrastructure
- Considerable distances between housing, jobs, and other services for many residents
- Dependence on single-passenger automobile travel
- Increasing congestion on the region’s interstate facilities and major thoroughfares
- Aging roads and bridges
- Difficulty in providing, and lack of resources for, alternative transportation choices
- Increasing emissions from cars and trucks that worsen air quality

Nationally, future transportation services are also influenced by fluctuating energy prices, federal transportation priorities and financial resources, environmental considerations, and the aging of the population.

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GOAL DEVELOPMENT

The previous chapters of this report described the current characteristics of the OCARTS area, as well as forecast assumptions about land use, population and employment that will impact where and how residents will travel in Central Oklahoma in the future. These forecasts were developed through close cooperation with area local governments and were based on their locally adopted comprehensive plans to produce forecasts for the overall growth and development of the region.

In addition, the region’s long-range transportation goals were developed to support the federal planning priorities established in MAP-21 by the U.S. Department of Transportation (USDOT), and expanded upon under the FAST Act. These planning factors require that metropolitan transportation plans:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency

- Increase the safety of the transportation system for motorized and non-motorized users
- Increase the security of the transportation system for motorized and non-motorized users
- Increase the accessibility and mobility of people and freight
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
- Enhance the integration and connectivity of the transportation system, across and between modes, people and freight
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
- Enhance travel and tourism

The OCARTS area socioeconomic information and the federal transportation planning factors provide the foundation for establishing a set of long-range transportation goals and objectives centered on the following themes:

- | | |
|-----------------------|-----------------------|
| • Economic Strength | • Connectivity |
| • Safety & Security | • Performance |
| • Equity & Options | • System Preservation |
| • Healthy Communities | |

The Encompass 2040 goals and objectives were first drafted by ACOG staff using the results of a public survey issued in August 2014. The survey revealed a strong public interest in future passenger rail and an improved bus system, as well as an emphasis on maintaining existing roadways and improving bicycle and pedestrian facilities.

The draft goals were reviewed and finalized by local planners and engineers, elected officials, and area citizens through various ACOG committees and public outreach events, as described in Chapter 5 – Public Involvement. The Intermodal Transportation Policy Committee approved the final Encompass 2040 goals and objectives in December 2014.

The following pages provide the regional transportation vision for Encompass 2040, articulated through long-range transportation goals and objectives.

ENCOMPASS 2040 VISION, GOALS AND OBJECTIVES

Encompass 2040:

A regional vision for a safe and efficient transportation system to enhance economic opportunity and quality of life throughout Central Oklahoma.



ECONOMIC STRENGTH

Goal: Promote economic vitality through enhanced mobility

Transportation investments in the movement of people and freight support the continued local, regional, and national competitiveness and attractiveness of Central Oklahoma. Connections and pathways between modes enable the flow of freight through the region. A diverse multimodal system expands personal mobility and, paired with mixed land uses, can enhance regional economic sustainability and job access.

Objectives:

- **Invest in improvements that enhance the efficiency of the existing transportation system:** Inefficiencies in the transportation system increase personal and business transportation costs. Roadway design, maintenance, signalization, signage, and technology help improve traffic flow and reduce crashes, bottlenecks, and congestion.
- **Improve accessibility to regional employment centers:** The transportation system should provide opportunity for all people to access employment through a variety of travel options. Public transit, biking, and walking to employment centers, as alternatives to driving, will enhance the region's economic vitality.

- **Increase efficiency of goods movement by truck, rail, water, air, and pipeline:** Most freight transportation in Central Oklahoma begins and ends with a truck, which underscores the importance of an efficient roadway network. Commerce is dependent upon an integrated transportation system and adequate intermodal facilities for seamless transfers.

SAFETY & SECURITY

Goal: Provide a safe and secure transportation system

Approximately 700 individuals die in vehicle crashes on Oklahoma's roadways each year. Close coordination among transportation providers, system managers, and the emergency management community is necessary to ensure effective incident management and to help reduce crashes in Central Oklahoma by improving engineering, public education, law enforcement, system security, and use of emerging technologies.

Objectives:

- **Improve design, construction, and maintenance of infrastructure to reduce the number and severity of crashes, injuries, and fatalities:** Rail, interstate and arterial crossings can serve as barriers for users and must be designed for the safety of all modes. Priority freight routes, bicycle, and sidewalk networks should be designed to serve major activity centers with minimal conflict. Proper road maintenance and the use of safety related improvements, such as lighting, cable barriers, wider shoulders, new pavement markings, rumble strips, and dedicated bike lanes, where appropriate, greatly enhance safety.
- **Increase awareness of the public on safety issues and skills:** The majority of vehicle crashes can be attributed to driver behavior. Support of educational strategies that are part of Oklahoma's Strategic Highway Safety Plan (SHSP) are crucial to reducing the number and severity of traffic incidents. Public education on safe driving behavior is provided through ongoing state campaigns and national programs. Emphasis must be placed on educating the next generation of drivers and passengers.
- **Collaborate on transportation system security strategies:** The transportation system is designed for accessibility and efficiency, which makes it a perfect target for anyone seeking to disrupt travel and commerce. Reasonable measures must be taken to put in place and maintain a system of threat deterrence, protection, and response. Security must also be a vital consideration in the planning and implementation of emerging connected vehicle and infrastructure technologies in an ever increasing digitally connected society.

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EQUITY & OPTIONS

Goal: *Provide transportation access for the movement of all people and goods*

Everyone in Central Oklahoma deserves access to reliable, convenient, and safe transportation. However, many cannot or choose not to drive and transit service is limited. Providing equitable transportation means offering choices for Central Oklahomans, regardless of ability and socioeconomic status. These options are essential for the health and prosperity of the region.

Objectives:

- **Provide equitable transportation services and improvements:** Everyone in Central Oklahoma should be able to access transportation services. Transportation services and improvements must be implemented without discrimination on the basis of race, color, nationality, disability, sex, age, or income of the system user.
- **Expand and maintain a safe, secure, and accessible public transportation system:** Transit and special services for those with disabilities (paratransit) provide mobility options for Central Oklahomans. Increasing route options and the number of accessible, safe, and secure transit vehicles, stops, stations, and pedestrian access points will provide a more comfortable user experience and attract new riders.
- **Expand and maintain accessible and connected pedestrian and bicycle facilities:** Pedestrian and bike facilities are an integral part of the transportation network that offer an affordable alternative for all users. Accessible sidewalks and ramps, safe pedestrian crossings, and low-stress bike facilities will help expand the reach of transit.

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HEALTHY COMMUNITIES

Goal: *Recognize and improve the connection between land use and transportation to enable citizens to live healthier lives and reduce environmental impact from vehicle travel*

The transportation system and land uses in Central Oklahoma can facilitate healthy, active, happy lives for citizens. Relying less on motor vehicles and diversifying and mixing land uses will enhance the quality of life of citizens, improve air quality, and strengthen neighborhood connections.

Objectives:

- **Improve and increase the walkability and bikeability of the region:** Encourage municipalities to develop sidewalks, bicycle facilities and trails that provide adequate safety

features for pedestrians, bicyclists and drivers. Communities should adopt pedestrian- and bicycle-oriented ordinances that support a safe, reliable, and complete transportation network.

- **Encourage use of alternative energy and cleaner-burning fuels:** Central Oklahoma should increase the use of alternative fuels, such as natural gas, biofuels, and hydrogen; use better technology to make vehicles more efficient; and expand infrastructure to support these fuel alternatives.
- **Reduce the impacts transportation projects have on the environment:** Encourage municipalities to incorporate environmental mitigation practices, including green infrastructure and stormwater management techniques, which will help safeguard the region's air and water quality and enhance resilience.

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CONNECTIVITY

Goal: *Develop connections among all types of transportation*

An interconnected multimodal transportation system effectively carries people and goods throughout the region. Increasing the mix of land uses, enhancing access to all modes, improving connections between modes, and removing barriers to mobility will help Central Oklahomans get around with ease.

Objectives:

- **Provide efficient connections within and between modes and facilities:** Reliable, convenient, and intermodal networks move more people and goods. Connectivity includes a linked street network; safe sidewalk, bicycle and transit networks; and freight routes that connect interstates, airports and rail lines to regional activity centers.
- **Better connect land use and transportation decision-making:** Coordinating transportation and land use planning can reduce automobile trips, decrease travel time and distance, and increase walking and biking opportunities. Example strategies include improving the connections between neighborhoods and activity centers, encouraging transit oriented and mixed-use development, and clustering industrial development near rail corridors.
- **Invest in projects that enhance the existing transportation infrastructure:** Projects that build on the region's existing transportation network will provide the greatest benefit by addressing existing gaps, barriers, and last-mile facilities like park-and-ride lots, sidewalks, on-street bicycle infrastructure, and bike racks.
- **Implement a Complete Streets policy where appropriate:** A street is considered complete when it is safe and welcoming to all potential users, regardless of mode, age, background, or ability level.

PERFORMANCE

Goal: Increase the efficiency and reliability of the transportation system

An efficient and reliable transportation system minimizes travel delays, congestion, traffic incidents, and the economic losses that ensue from each of these. Additionally, an efficient transportation system is one that maximizes the return on public investment.

Objectives:

- **Invest in improvements that enhance the efficiency of the existing transportation system:** Implementing enhanced operation and management techniques and technologies such as real-time traffic information and interconnected and coordinated signalization can help to efficiently utilize the existing transportation system by reducing delay, decreasing travel times, and reducing the wasted fuel and extra pollution generated when a large number of cars are stopped. Quickly and efficiently managing incidents and the non-recurring congestion they typically cause can also reduce both the variability and overall extent of traffic congestion.
- **Supply alternative travel options. For every person that carpools, uses transit, walks, or rides their bicycle, there is one less car on the road:** Successfully promoting and implementing alternative travel options will reduce travel, which will likely cause the road network to experience less congestion and perform more efficiently. Encourage shifts in housing and employment locations that reduce the use of the road network and/or make use of underutilized capacity.
- **Increase capacity where needed:** In some instances, transportation system performance issues are caused by a lack of capacity. When other strategies are not appropriate and it will not reduce access for other (non-motorized and pedestrian) modes, adding capacity in the form of additional transit service or lanes may be necessary.

SYSTEM PRESERVATION

Goal: Maintain and improve the quality of the transportation system

To ensure a high-quality transportation system, maintenance of the current and future transportation network is of high importance. A well-maintained system allows for the efficient movement of people and goods. Continuous monitoring of the network will allow entities and transportation agencies to address priorities, avoid unnecessary costs, and maintain safety and mobility.

Objectives:

- **Preserve existing and future transportation investments:** Budget appropriate funding to complete maintenance for all transportation infrastructure including: roads, bridges, sidewalks and transit stops. Perform regularly scheduled maintenance on all public transit vehicles to ensure reliability and safety.
- **Decrease unnecessary bridge and roadway wear and tear:** Post bridge weight limits and underpass clearance heights, and reduce bridge deterioration through preventative painting and sealing. Utilize weigh stations to discourage overloading and reduce roadway damage.
- **Encourage policies and procedures that preserve traffic operations and safety:** This includes items such as timely replacement of pavement markings, signing, lighting, guard rails and rumble strips where appropriate.

PUBLIC INVOLVEMENT



THE OCARTS PUBLIC PARTICIPATION PROCESS

Essential to the transportation planning process, public participation ensures that Central Oklahoma citizens, community leaders, and transportation stakeholders will help shape the region's transportation future from the policy to the project-specific level. Much of ACOG's plan development work occurs within the Metropolitan Planning Organization's (MPO) transportation committee meetings, but it is the public's reaction and input to that work that allows the long-range planning process to move forward.

Public participation is an opportunity for citizens to help define the goals upon which the region's transportation policies and investments will be based, as well as to make more specific recommendations. Therefore, public participation needs to begin early, continue throughout the plan development process, and ensure timely access to key decisions in order to be meaningful. To accomplish this, the MPO updated the OCARTS Public Participation Plan in 2014. This plan described the public outreach opportunities envisioned for the long-range plan, general timeframes and milestones, and the various stakeholders and resource agencies that should be involved.



In order to help the public easily and quickly identify the efforts and products of the long-range plan update, the MPO updated the logo used for the 2035 Oklahoma City Area Regional Transportation Study (OCARTS) Plan, formally known as Encompass 2035. The original logo featured a compass. This visual metaphor of a directional instrument was continued in the logo redesign for Encompass 2040. The "encompass" brand is designed to "include comprehensively"—the primary purpose of the MPO's public outreach and long-range planning efforts. The plan web page is located on the ACOG website. (<http://www.acogok.org/transportation-planning/encompass-2040/>) During the plan development process, this web page was used as a communications portal to distribute plan information and notifications of public meetings and public availability sessions.

Today, it provides Encompass 2040 background information and products—the Encompass 2040 Plan Summary and Plan Report—as well as more detailed reports documenting individual tasks associated with the plan.

ENCOMPASS 2040 STAKEHOLDERS

Central Oklahoma's transportation stakeholders consist of four general categories—elected officials from OCARTS cities and towns, local citizens, transportation interests, and advocacy organizations. Citizen stakeholders include individuals of all ages, incomes and backgrounds who live and work within Central Oklahoma, as well as organizations that represent the interests of specific citizen groups, such as neighborhood associations, churches, minorities, persons with disabilities and others. Transportation interest stakeholders include:

- Bicycle coalitions
- Walking groups
- Transit advocacy groups
- Passenger rail advocacy groups
- Transit providers
- Representatives of public transportation employees
- Highway Users Federation
- Oklahoma Turnpike Authority
- Oklahoma Trucking Association
- Oklahoma Railroad Association
- Freight shippers
- Providers of freight transportation services
- State and local emergency service providers
- Federal Highway Administration
- Federal Transit Administration
- Federal Aviation Administration

Although many of the stakeholders reflected above represent advocacy organizations for a particular population group or transportation interest, additional advocates are also important participants in the transportation planning process, including:

- Major employers
- Environmental groups
- Chambers of commerce
- Social services agencies
- Developers

As reflected in Figure 1.3 of Chapter 1, the region’s transit providers, the Oklahoma Department of Transportation (ODOT), and ACOG members are the MPO’s transportation planning partners. Assistance and data is also provided by additional local, state, tribal and federal agencies responsible for land use, transportation planning, natural resources and other environmental concerns. The collaboration and data provided by these agencies are described in Chapter 12 of this report.

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GETTING THE WORD OUT

Public involvement opportunities are publicized through numerous traditional and social media channels. This includes news releases to print, radio and TV, and the ACOG newsletter, which boasts an email distribution list of 6,000. In addition, social media channels include the ACOG website, acogok.org; Facebook; LinkedIn and Twitter.

All the methods referenced above were used to announce the Encompass 2040 plan development public participation activities described in the following paragraphs.

PUBLIC PARTICIPATION ACTIVITIES

TRANSPORTATION SURVEY

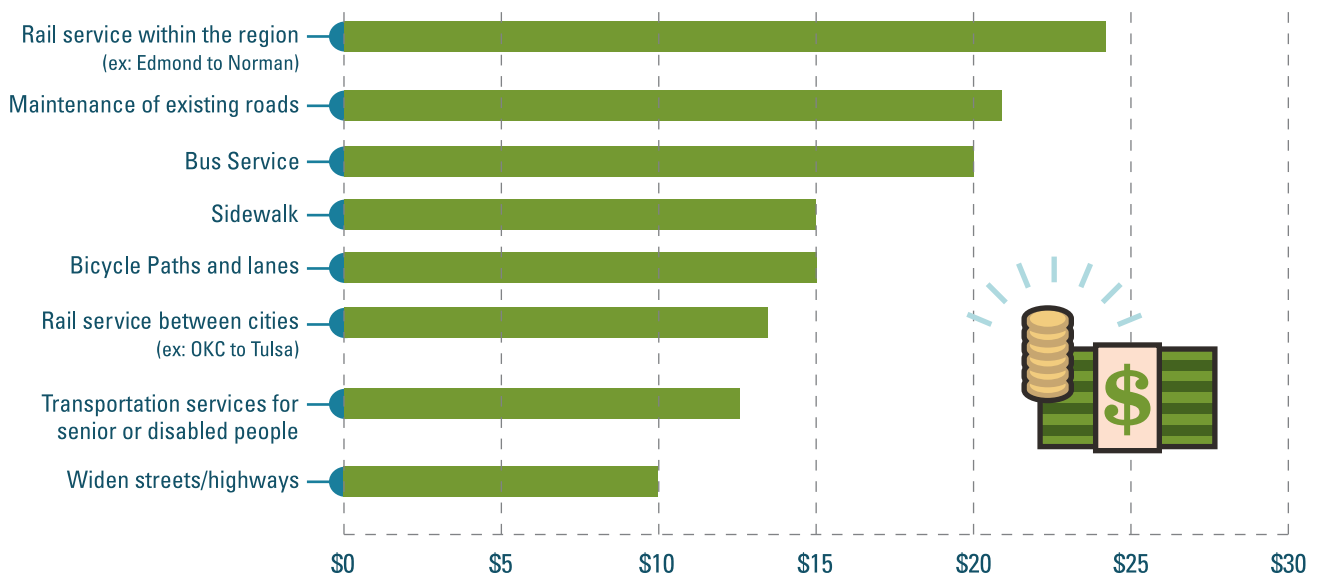
As part of the public engagement process for the long-range, metropolitan transportation plan, ACOG launched a web-based survey in August 2014. In total, 470 responses were received. Although it was not a scientific survey, the responses provided planners with insight into the public’s needs and desires concerning their transportation and development priorities, interest in alternative transportation modes, and the most acceptable means of financing transportation improvements.

According to the survey results, 74 percent of the respondents believed that Central Oklahoma is moving in the right direction. When asked what improvements to the transportation system should be the top priority, 69 percent stated that it should be easier to take transit. The survey also focused on development patterns within the region, a first for Central Oklahoma’s metropolitan transportation plans. When asked what the focus for future development should be, 76 percent said that “revitalizing the region’s downtowns, commercial districts, and neighborhoods with new bus and rail connections” was the most important.

ACOG planners and MPO transportation committee members used the survey results to draft the goals and strategies that would guide development of the long-range plan. See Figure 5.1.

FIGURE 5.1: SURVEY QUESTION RESULTS

Q8: You have a total of \$100 to spend on transportation in Central Oklahoma. How would you divide that \$100?



PUBLIC AVAILABILITY SESSIONS

Although the MPO staff had been engaged for several years in updating the region’s land use, population, employment, and other socioeconomic foundation for the long-range plan update, the plan process was formally introduced to the public through a series of public meetings and public availability sessions.

In the spirit of true public participation, ACOG has created a broad calendar of events to accommodate various publics and ensure ample opportunity for public comment. Public meetings and/or public availability sessions were planned from September 16 - October 7, 2016, and included outreach to Edmond, Norman, west Oklahoma City and downtown Oklahoma City as well as the Hispanic, Vietnamese, and African American communities. Availability Sessions featured:

- Visits with ACOG’s Transportation & Planning Services Division Staff
- Informal Question and Answer Sessions
- Copies of the Encompass 2040 Plan
- Maps of Proposed Transportation Projects

PUBLIC MEETINGS

In addition, two public meetings were held as well as a virtual public meeting. The traditional public meetings featured a briefing from the ACOG Executive Director, copies of the Encompass 2040 plan, presentation maps, and a formal question and answer session with the Executive Director and members of ACOG’s Transportation & Planning Services Division.

CITIZENS ADVISORY COMMITTEE

ACOG utilized a Citizens Advisory Committee (CAC) to assist with the review of plan data, assumptions, and products as they were developed, and to provide a non-technical perspective to the long-range planning process. The Encompass 2040 CAC consisted of voting members who represent various citizen, neighborhood, business, minority, modal, environmental, and social service interests throughout the region, as well as non-voting members from federal, state, and local government agencies who serve as technical assistance/resource support to the committee. The CAC’s recommendations were provided directly to the Intermodal Transportation Policy Committee (ITPC), and the Committee continues to meet, as needed, to review requests to amend Encompass 2040 or to provide input into other transportation studies affecting Central Oklahoma.

ENCOMPASS 2040 DRAFT PLAN SUMMARY

In an effort to raise public awareness about Encompass 2040, ACOG engaged the services of a graphic designer who created original illustrations of the Central Oklahoma community. Artwork included many local landmarks and icons including historic sites in the Vietnamese and African American communities. This was done to attract more local interest and ownership in the plan. The draft plan summary was prepared by MPO staff and made available for public review and comment prior to and during the public meetings. It was announced in a news release and posted on ACOG’s website in order to present the recommended plan to the public prior to final action by the MPO policy board. It included an overview of the long-range plan development process, adopted goals and objectives, policy and project-specific recommendations proposed for adoption in the final plan, and financial strategy to ensure that the plan would be affordable.

PROJECT SELECTION PROCESS



The careful selection of transportation projects that improve the way people and goods move around Central Oklahoma is a critical element of Encompass 2040. In order to accomplish this task, ACOG staff proposed modifying the selection process first adopted under the Encompass 2035 Metropolitan Transportation Plan (MTP). For this process, all submitted projects would be measured against a comprehensive set of criteria that reflect the new goals and objectives adopted by the Intermodal Transportation Policy Committee (ITPC) in December 2014. In previous long-range transportation plan updates, ACOG utilized its transportation model to test alternative transportation networks for the selection of street and highway projects, primarily focusing on a minimum threshold of volume to capacity ratio. With Encompass 2040, projects would still need to provide the necessary relief of future congestion, but other objectives to help achieve a more diverse and equitable transportation system would also need to be considered.

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TASK FORCE

In December 2014, a multi-disciplinary Task Force was established with the purpose of assisting in the formulation of a methodology to select transportation projects for inclusion in Encompass 2040 – the Oklahoma City Area Regional Transportation Study (OCARTS) Metropolitan Transportation Plan.

The task force met three times during January and February 2015 and included representation from Jones, Edmond, Oklahoma City, Midwest City, Moore, Norman, Tuttle, Bethany, Yukon, Blanchard, Choctaw, Warr Acres, Noble, The Village, Harrah, Mustang, Del City, Newcastle, Guthrie, Oklahoma County, Oklahoma Department of Transportation (ODOT), Central Oklahoma Transportation and Parking Authority (COTPA), Cleveland Area Rapid Transit (CART), Oklahoma Bicycle Society, Urban Neighbors, and private citizens.

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SELECTED CRITERIA

The task force advanced a Project Submission Guidebook, which included 24 project selection criteria that reflected the adopted Encompass 2040 goals and a scoring system that emphasized the importance of each criterion in meeting the Plan’s vision. Table 6.1 illustrates the relationship between the selected criteria and Plan goals. The project selection criteria and guidebook were adopted by the ITPC on February 26, 2015.

CALL FOR PROJECTS

In March 2015, ACOG staff conducted a call for regionally significant transportation projects that support Encompass 2040’s adopted policy goals. Local entities and transportation agencies were invited to submit projects for consideration in the plan utilizing the newly created Guidebook. Entities were informed that projects listed in the region’s previous plan, 2035 OCARTS Plan, would not automatically be carried forward into the new plan. All projects – new or old –had to be submitted due to changing federal guidelines and to support the new policy direction for Encompass 2040.

Call for Projects Schedule

- Call for projects workshop (3/17/2015)
- Call for projects open (3/18/2015)
- Call for projects closed (5/1/2015)
- Staff analysis (5/1/2015-6/4/2015)

The Encompass 2040 Plan project list spans a multitude of transportation options, including bicycle trails, roadways, sidewalks, public transit, as well as other operational improvements (e.g. intelligent transportation systems). Submitted projects fit within at least one of the following categories: Roadway, Bicycle/ Pedestrian, or Transit. Maintenance projects were not required to be submitted as part of the call for projects since the Encompass 2040 financial analysis would account for the cost of up to three cycles of maintenance on every facility in the regional network. See Figure 6.2 for the project submittal process.

Approximately 200 projects were submitted through an electronic application and scored by ACOG staff. Scoring of projects provided a quantifiable methodology to rank projects according to their ability to meet the adopted goals of the fiscally constrained plan. Additionally, the increased level of project detail that was requested proved to be an important resource for maintaining records and performing analysis as projects move forward. Due to projected revenues, all eligible projects that were submitted during this process were included in the final plan list.

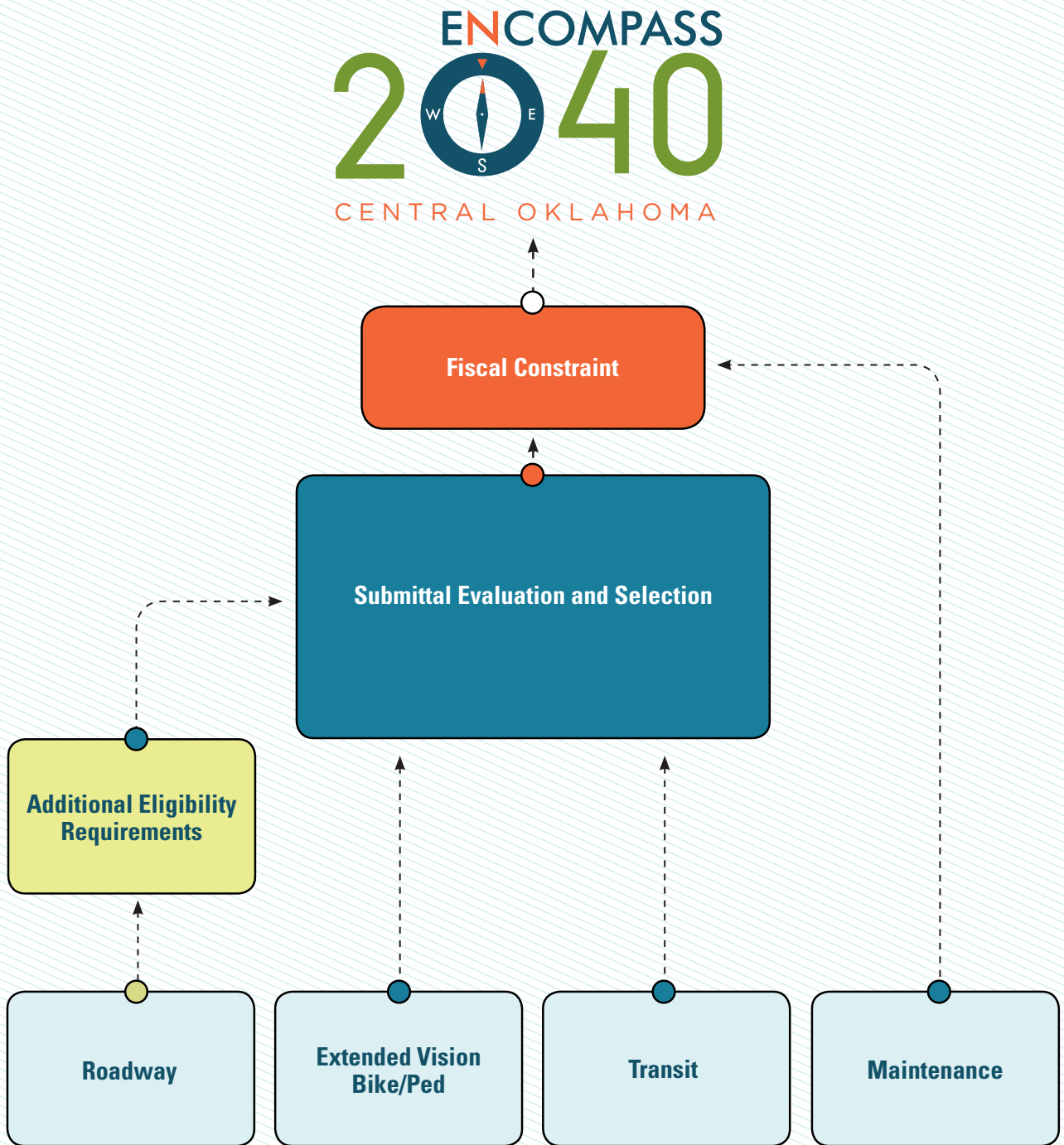
Please see Chapter 13 – The Adopted Plan - for a complete list of selected projects.

TABLE 6.1: PROJECT SELECTION CRITERIA

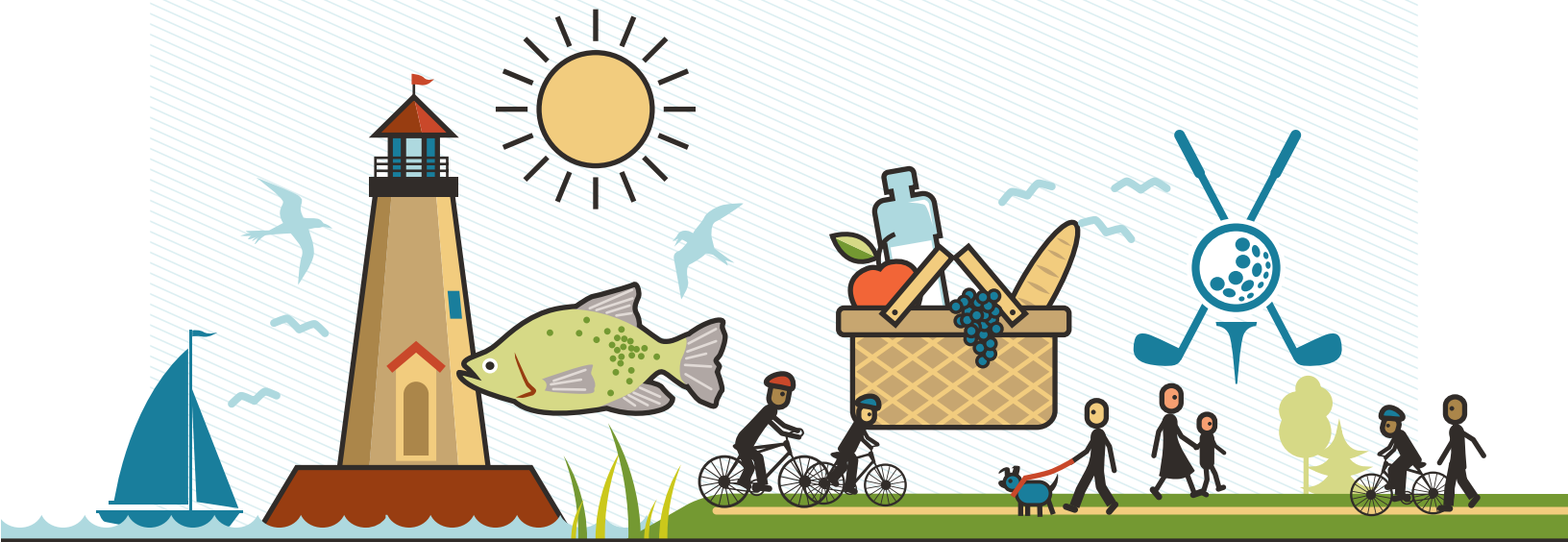
E2040 METROPOLITAN TRANSPORTATION PLAN | PROJECT EVALUATION CRITERIA

| EVALUATION CRITERIA | | % of SCORE |
|---|--|-------------------|
| TOTAL | | 100.00% |
| SCORE FACTOR: ECONOMIC STRENGTH (12% of total) | | |
| C1 | Does this project serve regional activity and employment centers? | 4.00% |
| C2 | Does this project support mixed use or transit oriented development (TOD)? | 4.00% |
| C3 | Does this project support regional freight movement? | 4.00% |
| SAFETY & SECURITY (20% of total) | | |
| C4 | Does this project address a structurally deficient or functionally obsolete bridge? | 4.00% |
| C5 | Does this project address safety issues in a regional high crash location? | 4.00% |
| C6 | If there is a bicycle-facility component of this project, does the project match the road conditions (AADT and speed) according to the Appropriate Facilities Matrix from the OCART Regional Bicycle Facility Master Plan? | 4.00% |
| C7 | If there is a pedestrian facility component of this project, does that facility match the guidelines as established for width and distance from traffic lanes? | 4.00% |
| C8 | Which of the following safety counter measures does this project use? | 4.00% |
| EQUITY & OPTIONS (12% of total) | | |
| C9 | Does the project increase access in an area of Environmental Justice Concern? | 4.00% |
| C10 | Does this project provide options? | 4.00% |
| C11 | Does this project improve accessibility for mobility impaired/disabled citizens by going above and beyond ADA requirements? | 4.00% |
| HEALTHY COMMUNITIES (12% of total) | | |
| C12 | Does the project support existing density? | 4.00% |
| C13 | Does this project avoid adverse impact to culturally or environmentally sensitive lands? | 4.00% |
| C14 | Does this project support efforts to improve air and water quality? | 4.00% |
| CONNECTIVITY (18% of total) | | |
| C15 | Does this project integrate multiple transportation modes? | 4.50% |
| C16 | Does this project integrate with existing infrastructure? | 4.50% |
| C17 | Does this project enhance public transportation modes by improving passenger terminals and intermodal hubs, and connections to these facilities? | 4.50% |
| C18 | Does this project remove barriers to pedestrians and bicyclists? | 4.50% |
| PERFORMANCE (18% of total) | | |
| C19 | Does the project use Intelligent Transportation Systems (ITS) technology? | 4.50% |
| C20 | Does the project reduce total travel delay or improve reliability of travel times by implementing any of the following strategies? | 4.50% |
| C21 | Is the project located in an area where travel times are currently unreliable? | 4.50% |
| C22 | Does the project address areas that are currently congested? | 4.50% |
| PROJECT HISTORY/READINESS (8% of total) | | |
| C23 | Does this project support a local plan or study? | 4.00% |
| C24 | Project benefits for multiple jurisdictions | 4.00% |

FIGURE 6.2: PROJECT SUBMITTAL PROCESS



BICYCLE AND PEDESTRIAN



SYSTEM SNAPSHOT

Bicycle and pedestrian transportation is an important component of Encompass 2040. Bicycle and pedestrian facilities continue to become more prevalent in the OCARTS area. Sidewalks, bicycle facilities, and multi-use trails have typically been planned and implemented at the local level. Over the years, the U.S. Department of Transportation (USDOT) has encouraged metropolitan areas to develop regional trails networks through coordinated planning and implementation among jurisdictions and have increased federal funding opportunities for bicycle and pedestrian facilities.

QUICK STATS:

- \$215 MILLION FOR NEW BICYCLE TRAILS
- \$142 MILLION FOR PEDESTRIAN FACILITIES
- 480 MILES OF NEW BIKE LANES AND TRAILS
- 75 MILES OF NEW SIGNED BIKE ROUTES
- 3400+ TOTAL MILES OF SIDEWALKS

CURRENT BICYCLE FACILITIES

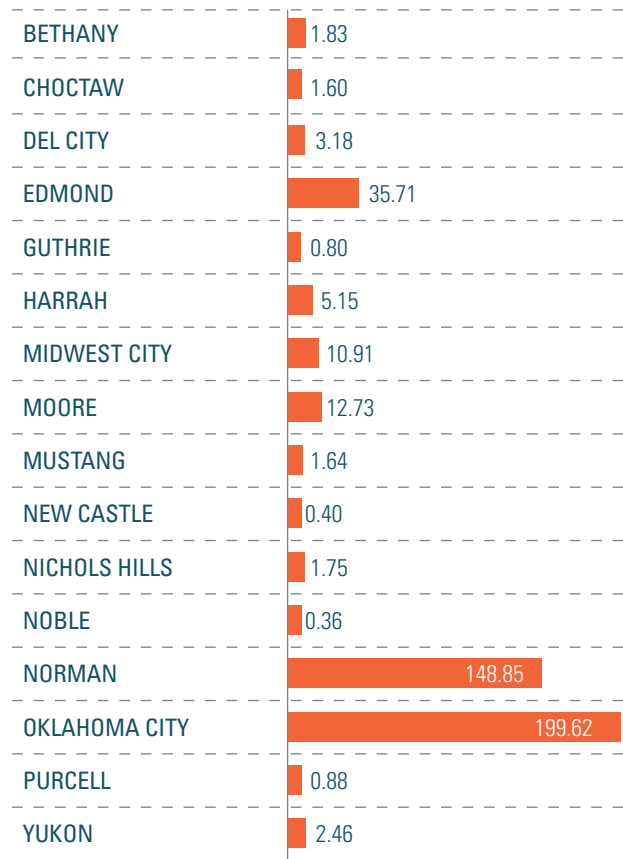
Bicycle facilities are located in various urban, suburban, and recreational areas across Central Oklahoma. Within the OCARTS area, 16 local governments have existing bicycle or multi-use trail facilities. Seven OCARTS entities have a trails master plan, a trails element within their current comprehensive plan, or a bicycle facilities plan that has been adopted at the local level. The facilities included in these plans, as well as trail projects with a local or federal-aid funding commitment, are considered planned improvements. Local trails master plans typically assess existing bicycle and multi-use trail facilities, identify new routes to enhance and expand the network, specify design guidelines for new facility construction, identify potential construction and maintenance funding sources, and recommend a course for plan implementation. Three additional OCARTS communities (Harrah, Moore, and Midwest City) have adopted trails master plans since adoption of the 2030 long-range plan in 2005. Figure 7.1 illustrates the existing facilities in the OCARTS area.

ADOPTED MASTER TRAILS PLANS IN THE OCARTS AREA:

- Guthrie (2002)
- Harrah (2002/2007)
- Moore (2008)
- Oklahoma City (2008)
- Midwest City (2009)
- Edmond (2012)
- Norman (2012)

As of summer 2010, there were approximately 364 miles of existing bicycle facilities in the OCARTS area. Since 2010 the OCARTS area communities have built over 80 miles of bicycle routes.

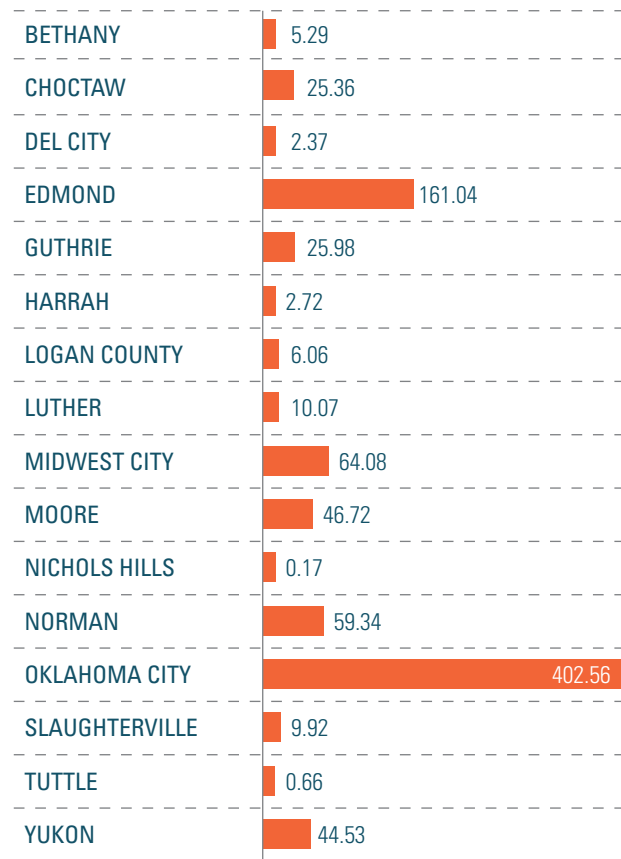
FIGURE 7.1: EXISTING BICYCLE FACILITY MILES



PLANNED BICYCLE FACILITIES

Bicycle facilities are also being planned in the OCARTS area. Over 860 miles of routes have been adopted by communities for future expansion. Cities like Choctaw, Edmond, Guthrie, Midwest City, Moore, and Norman are planning to build over 380 miles of facilities. Oklahoma City, by itself, has plans for over 400 miles. Even smaller communities like Del City and Harrah are getting in the mix and expanding their facilities. Illustrated below in Figure 7.2 are planned bicycle facility miles by entity.

FIGURE 7.2: PLANNED BICYCLE FACILITY MILES



OCARTS BICYCLE FACILITY BREAKDOWN

The OCARTS area bicycle network includes various types of designated bicycle facilities. Some facilities are exclusively reserved for bicycle transportation, while others are designed to accommodate multiple modes of transportation. Descriptions of the basic types of bicycle facilities follow:

- **Bicycle Lane (BL):** Bicycle facility operating alongside motorized traffic in a specifically delineated lane marked with striping on the pavement.
- **Bicycle Path Shared with Pedestrians/Multi-Use Trail (BPS):** Path physically separated from motor vehicle traffic by open space or barrier, which is shared by pedestrians and bicycles.
- **Bicycle Route using Roadway Shoulder (SH):** Roadway with a minimum 4-foot outside shoulder, designed to accommodate bicycles.
- **Signed-On-Road Bicycle Route (SOR):** Bicycle facility operating outside of traffic lanes with informational signs or markers.
- **Protected Bike Lane (PBL):** Bicycle facility operating alongside motorized traffic, in a specifically delineated lane marked with a physical barrier between the bicyclists and motor vehicles.

The OCARTS area bicycle network is comprised primarily of multi-use trails (Bicycle Paths Shared with Pedestrians-BPS) and Signed-On-Road Bicycle Routes (SOR). Future facility development across the region is planned to construct more multi-use trails and bicycle lanes (See Figure 7.3 for a map of existing and planned facilities). Table 7.1 provides mileage figures by facility category.

TABLE 7.1: EXISTING AND PLANNED BICYCLE MILEAGE BY CATEGORY (2015)

| FACILITY CATEGORY | EXISTING MILES | PLANNED MILES | TOTAL |
|--|----------------|---------------|-----------------|
| BL: Bicycle Lane | 16.91 | 127.43 | 144.34 |
| BPS: Bicycle Path Shared w/ Pedestrians | 138.39 | 313.86 | 452.26 |
| SH: Bicycle Route using Roadway Shoulder | 0.02 | 69.03 | 69.05 |
| SOR : Signed-On-Road Bicycle Route | 273.53 | 281.73 | 555.26 |
| PBL: Protected Bike Lane | 0.0 | 74.80 | 74.80 |
| TOTAL MILES | 428.85 | 866.85 | 1,295.71 |

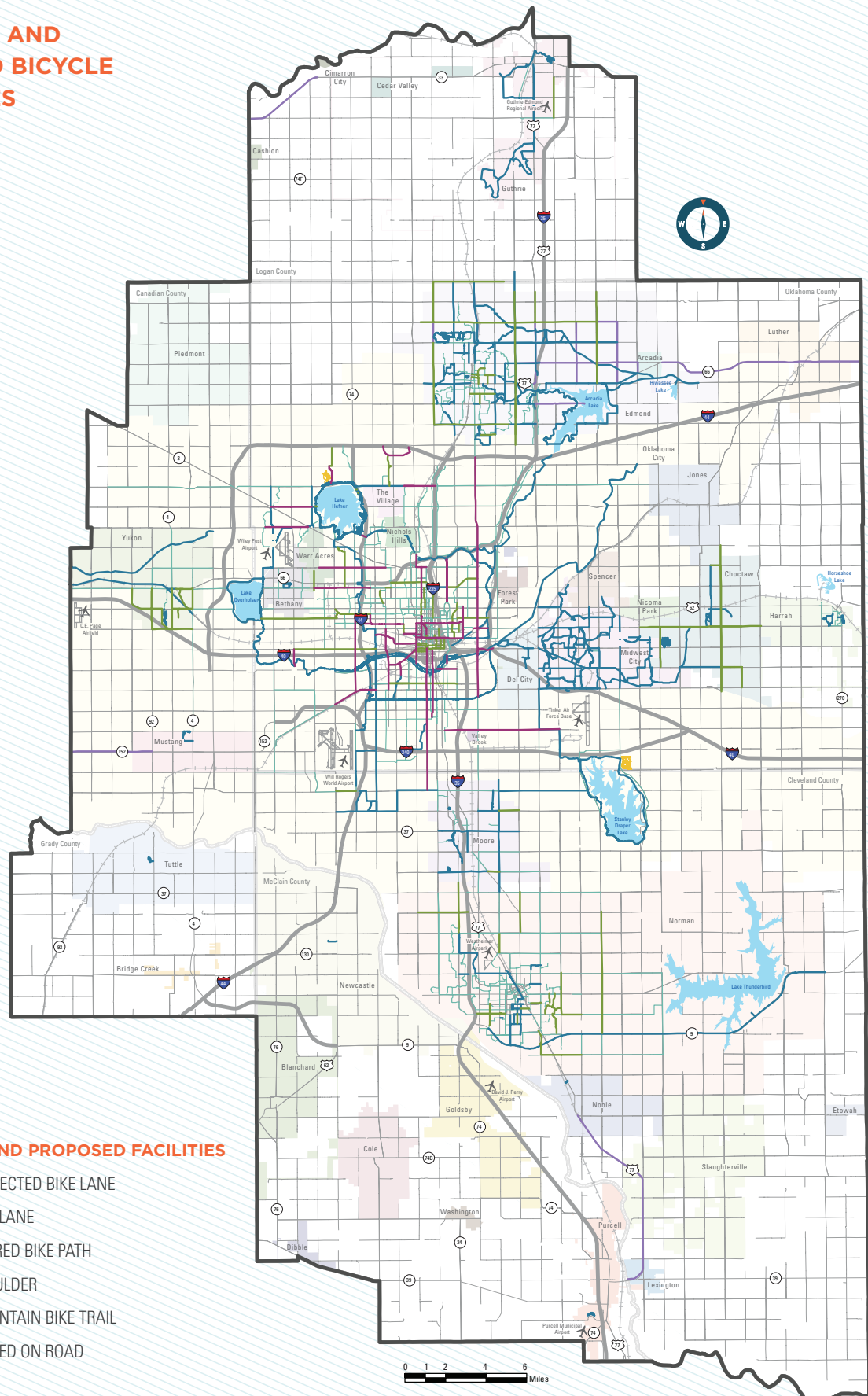
BIKE TO WORK DAY AND BIKE MONTH

Starting in 2005, communities in Central Oklahoma have held Bike to Work Day events. Central Oklahoma Bike to Work Day is part of a national campaign to promote bicycling as a healthy and efficient transportation alternative. What started out as a one day a year event has become a month of bicycle-related events, although bike rides hosted by local bike clubs continue throughout the year. The League of American Bicyclists has recognized the month of May as National Bike Month since 1956. National Bike to Work Day offers metropolitan areas an annual opportunity to call attention to the benefits of bicycling and to increase safety awareness among bicyclists and motorists.

In 2016, the OCARTS communities of Edmond, Guthrie, Moore, Norman, Oklahoma City, and Yukon held Bike to Work Day events. The events were held separately in each city, but featured a similar theme. Additional OCARTS communities have shown

FIGURE 7.3: EXISTING AND PLANNED BICYCLE FACILITIES

EXISTING AND PLANNED BICYCLE FACILITIES



LEGEND

EXISTING AND PROPOSED FACILITIES

- PROTECTED BIKE LANE
- BIKE LANE
- SHARED BIKE PATH
- SHOULDER
- MOUNTAIN BIKE TRAIL
- SIGNED ON ROAD

interest in participating in future events. ACOG provides those interested communities with planning assistance to ensure their Bike to Work Day event is a success.

////////////////////////////////////
BICYCLE FACILITY ASPIRATIONS

In November 2013, ACOG staff met with local government staff to identify corridors that could eventually constitute a region-wide interstate system for bicycles. The extended vision is a system of facilities that would serve as an analog to the interstate system, but designed to get bicyclists around the region safely and quickly. It should be noted that these are suggestions only. The Regional Priority Corridors identified constitute a long-term vision that may take 40 years or more to implement. Due to the lengthy timeline, roads that are good candidates now may no longer be so by the time facilities are built. The eventual facilities may vary from the location of the corridors by a mile or more. In addition, this vision assumes the bicycle interstate system will be primarily on-street facilities, such as bicycle lanes or cycle tracks, based on cost and opportunity. All efforts should be made to prioritize off-street, fully separated path systems where possible. The Regional Priority Corridor network is shown in Figure 7.4.

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CURRENT PEDESTRIAN FACILITIES

Sidewalk and pedestrian facilities throughout the OCARTS area are typically planned and built at the local level as required by municipal codes. Generally, sidewalks are constructed by cities using local revenues or by private developers using private funds. Many communities in Central Oklahoma do not require sidewalk construction as part of the building permit or land development process. Currently, pedestrian facilities appear in a random pattern across the OCARTS area, making pedestrian connectivity within and between local entities challenging (Figure 7.5).

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BICYCLE AND PEDESTRIAN ISSUES AND NEEDS ASSESSMENT

ACOG sought input through various means for the development of Encompass 2040, including various MPO committees, local government staff and elected officials, the 2040 OCARTS regional transportation survey, open houses, and the extended vision for trails workshop. Long-range bicycle and pedestrian transportation planning themes and issues raised were considered in the development of the trails component of Encompass 2040.

CRASH REPORTS

According to ODOT's SAFE-T website, between 2005 and 2010, there were 1,177 collisions involving pedestrians and 676 collisions involving bicyclists in the ACOG region. The areas in Oklahoma City that see the greatest numbers of these collisions are Eastern Avenue /North 23rd Street, Western Avenue/North 10th Street, and Air Depot Boulevard/South 15th Street. In Norman, the area with the most collisions is around Alameda Street /Porter Avenue.

SUPPORT FROM THE COMMUNITY

More than 20 percent of the 470 respondents to the 2040 plan survey indicated that walking and biking should be the top priority to better Central Oklahoma's transportation system. Many public comments indicated residents wanted to see more bike, pedestrian, and transit related projects, and fewer highway projects. Despite this critique, about 75 percent of the respondents felt that Central Oklahoma was moving in the right direction.

SUPPORT FOR MULTI-USE TRAILS

Many members of the public indicated that a multi-use trail system was, on the whole, a plus for the region. The mix of bicyclists, walkers, children in route to school, etc. can also contribute to the overall friendly environment of the region. Demarcation, signage, and safety warnings were noted as helpful tools that make trail facilities a useful and safe mode for a variety of individuals.

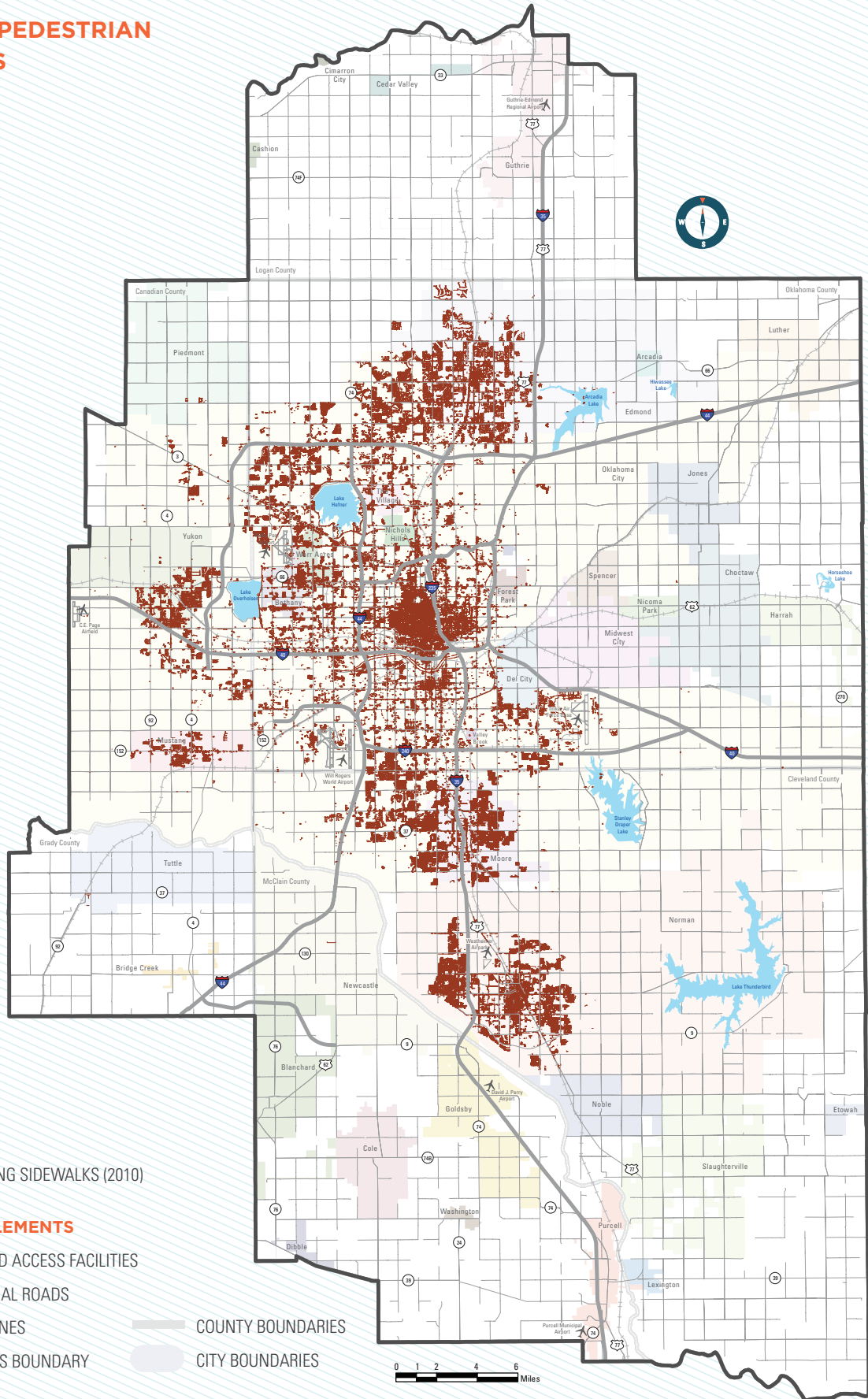
Additionally, recent actions by several cities and economic development groups in the region have asserted that the presence of a trails network is an asset to the quality of life in the region. A regional trails network promotes healthy lifestyles, local tourism, and opportunities for quality economic development.

SIDEWALKS AND SAFE CROSSWALKS

Citizen input indicated a concern for safe crosswalks and additional sidewalks. Most of the people who answered the survey said that they favored local government requirements for developers to construct sidewalks in conjunction with new residential and commercial developments. Less than a third of the survey participants favored using public funds for sidewalk construction in existing residential and commercial areas devoid of such facilities.

FIGURE 7.5: EXISTING PEDESTRIAN FACILITIES

EXISTING PEDESTRIAN FACILITIES



LEGEND

— EXISTING SIDEWALKS (2010)

BASE MAP ELEMENTS

— LIMITED ACCESS FACILITIES

— ARTERIAL ROADS

— RAIL LINES

— OCARTS BOUNDARY

— COUNTY BOUNDARIES

— CITY BOUNDARIES

0 1 2 4 6 Miles

CHAPTER 8

PUBLIC TRANSIT



SYSTEM SNAPSHOT

Public transportation, or transit, is an important component of Encompass 2040 and demand for more service continues to increase within the OCARTS area. For some, the use of public transit is a choice, but many citizens depend on it to get to work, school, medical appointments, shopping, social events, and recreational activities. Public transit in the OCARTS area has typically been planned and implemented at the local level. However, Central Oklahoma is currently working to establish a regional transit authority (RTA) to govern, identify dedicated funding, and eventually implement a regional transit system. Such a system, when funded and launched, will provide enhanced mobility, spur economic development, and improve quality of life in the region.

QUICK STATS:

- 40+ LOCAL FIXED ROUTES
- 2 EXPRESS BUS ROUTES
- 4.6 MILES OF NEW DOWNTOWN OKC MODERN STREETCAR
- SANTA FE STATION UPGRADES FOR INTERMODAL HUB
- \$1.3 BILLION FOR CURRENT PUBLIC TRANSPORTATION

OCARTS PUBLIC TRANSIT SERVICES

FIXED ROUTE SERVICE

Fixed route bus service in the OCARTS area is operated by three providers. The Central Oklahoma Transportation and Parking Authority (COTPA) operates EMBARK in Oklahoma City (with some service provided to Midwest City), the University of Oklahoma Transit Services Division operates Cleveland Area Rapid Transit (CART) in the City of Norman, and McDonald Transit operates Citylink under contract with the City of Edmond.

EMBARK

In January 2013, the Central Oklahoma Transportation and Parking Authority (COTPA) initiated a Transit Service Analysis process. The goals of the Transit Service Analysis were to evaluate the existing Metro Transit bus system, improve the route network to increase ridership and productivity within the existing budget, and also identify future service improvements if additional resources become available. Based on an examination of market research data, existing travel patterns and ridership, and public outreach, a series of short-term and long-term route recommendations were developed to better serve Oklahoma City residents. The goals

of the study were to improve frequency on many routes, reduce transfer waiting times, reduce passenger travel time, and realign routes to better match demand.

In September 2013, it was announced that Metro Transit would change its name to EMBARK and the change was implemented on April 28, 2014. The rebranding of Metro Transit also included a new bus route system as suggested in the Nelson Nygaard Transit Service Analysis. At the time of the Encompass 2040 Plan adoption, EMBARK ran 23 local routes, an express route from Oklahoma City to Norman, the Downtown Discovery route in downtown Oklahoma City, and a free shuttle service at the University of Oklahoma Health Sciences Center in Oklahoma City.

EMBARK service is concentrated in the service area of Oklahoma City and Midwest City, with express bus service to Norman. The Oklahoma City system has fixed routes that radiate from the Downtown Transit Center at Northwest 5th Street and Harvey Avenue. The Transit Center opened in July 2004 and is near many employment destinations due to its location within the Central Business District. Route 23—the Crosstown Route—travels Northeast & Northwest 23rd Street, facilitating the transfer of passengers from route to route without having to go to the Transit Center. Some routes have loops that intersect each other, allowing passengers to transfer from one quadrant to another without going through the Transit Center. Buses generally depart from the Transit Center in 15-minute intervals throughout the day.

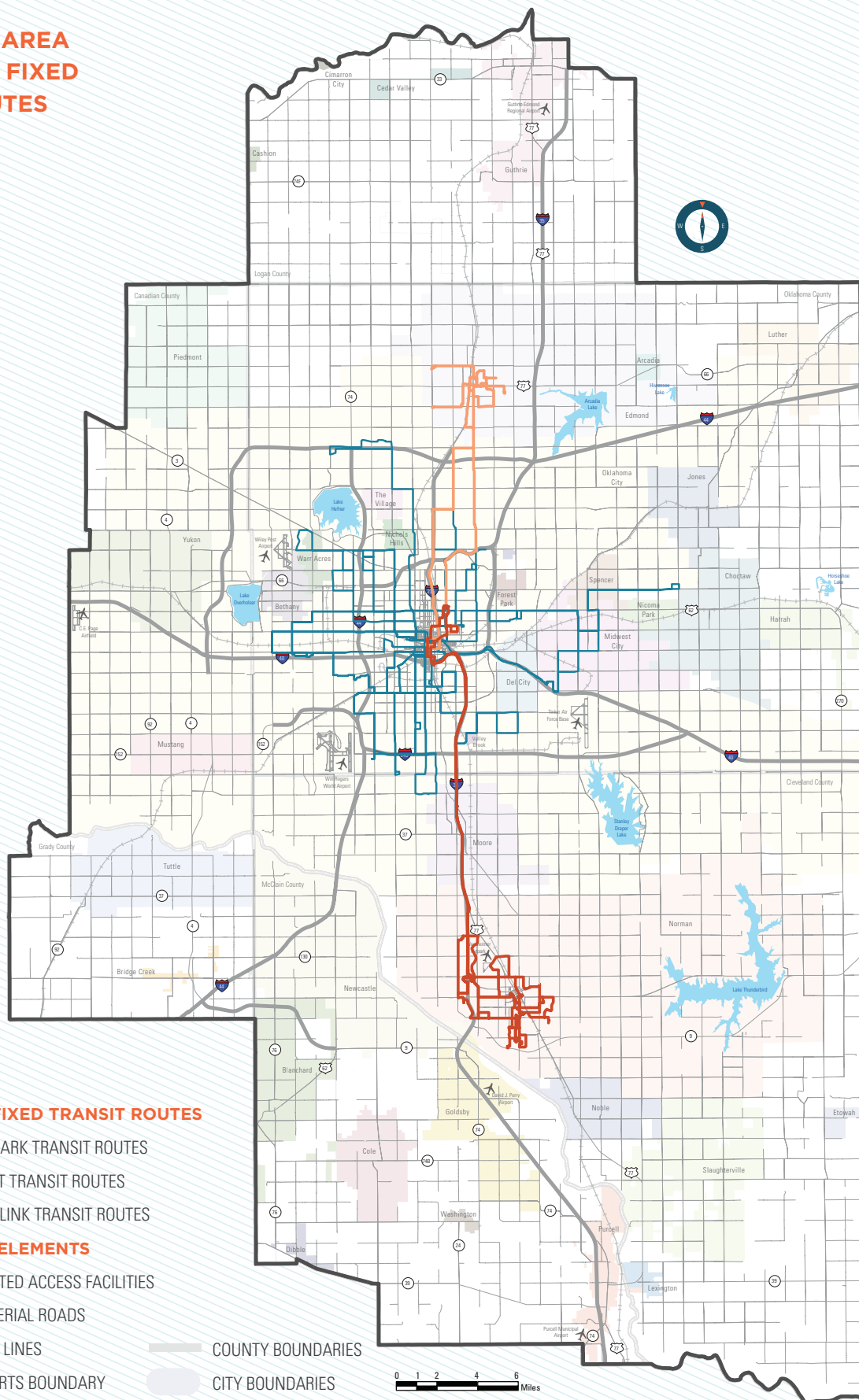
EMBARK buses operate weekdays from approximately 5:30 a.m. to 7:30 p.m. and Saturdays from approximately 6:20 a.m. to 6:30 p.m. In January 2015, EMBARK also added night service until 12:00 a.m. on two highly traveled routes. Two more routes added night service in January 2016. Many portions of the region not served by the Oklahoma City system are not heavily populated areas. However, several suburban communities within the region's urban core do not receive bus service because local funding is not budgeted to help fund the service.

CLEVELAND AREA RAPID TRANSIT (CART)

CART operates thirteen bus routes in the City of Norman and on the University of Oklahoma (OU) campus. Service hours are weekdays, from 7:00 a.m. to 10:00 p.m., and Saturdays, from 10:00 a.m. to 7:00 p.m., except OU home football game days. CART provides a deviated route service, called Late-Night Flex, serving the campus area from 9:00 p.m. until 11:30 p.m. Monday through Thursday. CART collaborates with COTPA to run the

FIGURE 8.1: OCARTS AREA TRANSIT FIXED BUS ROUTES

OCARTS AREA TRANSIT FIXED BUS ROUTES



express route from Norman to Oklahoma City, Monday through Friday. Also, CART provides service on Tuesdays and Fridays to the Social Security Office in Moore and a weekday lunch shuttle between the OU research campus and Campus Corner. CART operates year-round public transportation service in Norman, however, CART utilizes an Alternate Schedule during certain periods to be more efficient. These periods are mostly during OU summer and winter breaks, since some routes are primarily utilized by OU students.

CITYLINK

Citylink runs four local routes serving the University of Central Oklahoma (UCO) campus and a large portion of the City of Edmond, as well as an express route to and from Oklahoma City. Citylink buses operate weekdays from 7:00 a.m. to 6:00 p.m. and Saturdays from approximately 9:00 a.m. to 5:00 p.m. All Citylink routes are free.

The City of Edmond also has plans to construct a multimodal transit center north of 2nd Street between Broadway Avenue and the BNSF Railroad. The center is envisioned to serve as a bus transfer point with commuter parking, bicycle and pedestrian accommodations, a pedestrian bridge across 2nd Street, and space and infrastructure to support future passenger rail service.

Figure 8.1 provides a general picture of the local and express fixed routes within the OCARTS area provided by COTPA, CART, and Citylink.

NON-FIXED ROUTE SERVICES

Non-fixed route service is public transportation service available to anyone that does not follow a specific path, route, or line on a map. Generally, it serves a specific area and passengers call ahead to schedule trips within the service area.

CART offers a late-night curb-to-curb service near and around the University of Oklahoma campus, Monday through Thursday during the fall and spring semesters. Curb-to-curb rides may be scheduled anywhere in the late-night service area. Requests are met on a first-come, first served basis and can be reserved no more than a week in advance. All vehicles on the route are lift-equipped for passengers with disabilities.

PARATRANSIT AND SPECIAL TRANSIT SERVICES

In addition to the fixed routes, COTPA, CART, and Citylink provide special services to meet the needs of the elderly and persons with disabilities in the Central Oklahoma area. These paratransit services and special transportation services include the following:

PARATRANSIT SERVICES

EMBARK Plus – Oklahoma City

EMBARK Plus provides public transportation for mobility-impaired persons in compliance with U.S. Department of Transportation (USDOT) regulations and the Americans with Disabilities Act (ADA). The USDOT regulations require that similar transit service (paratransit) be provided for persons with disabilities within at least three-quarters of a mile around all fixed transit routes. This is known as Zone 1. All ADA services areas outside of Zone 1 are known as Zone 2.

CARTaccess - Norman

CARTaccess is CART's origin-to-destination service for individuals who, because of disability, are unable to ride the fixed route buses. CARTaccess features lift-equipped vans and operates the same hours as the regular CART routes.

CAPS - Edmond (Citylink Access Paratransit Service)

Citylink Access Paratransit Service (CAPS) is a free curb-to-curb service that enables residents with disabilities to be picked up by Citylink and comfortably driven to appointments in a wheelchair accessible bus. CAPS is intended to provide services in accordance with the Americans with Disability Act (ADA). The CAPS service operates Monday through Saturday. Service is available within $\frac{3}{4}$ of a mile from a Citylink route, excluding the 100X Expresslink route.

SPECIAL SERVICES OFFERED THROUGH EMBARK

Congregate Meals

The Congregate Meal Transportation is a donation-based service for the Oklahoma County Senior Nutrition Project. Citizens age 60 and older, who live within the service area, are provided round trip van service to one of 15 local nutrition sites for a noon meal.

Discount Bus Pass Program

Bus fares and passes are half price for persons 60 and older or doctor certified as disabled.

TABLE 8.1: TRANSIT SERVICES AVAILABLE IN THE OCARTS AREA

| EMBARK | SCHEDULE | FARE | FY 2015 RIDERSHIP |
|---|--|--|--|
| FIXED ROUTES (local) | M-F: 5:30 a.m. - 7:30 p.m. Sat: 6:20 a.m. - 6:30 p.m. | OKC: Regular \$1.75 Special \$0.75* Downtown Discovery: No fare | Avg. Systemwide Fixed Route Daily Ridership: M-F: 11,500 Sat - 4,215 (Including Express and Discovery Routes) |
| FIXED ROUTES (Sooner Express) (operated by COTPA) | M-F: 6:20 a.m. - 6:10 p.m. | Regular \$2.25 Special \$1.10* | Avg. Daily Ridership: 59 |
| PARATRANSIT (EMBARK Plus) | M-F: 5:30 a.m. - 7:30 p.m. Sat: 6:20 a.m. - 6:30 p.m. | OKC: Zone 1-\$3.00 Zone 2-\$6.00 | Avg. Daily Ridership: M-F: 143 Sat - 33 |
| CONGREGATE MEALS | M-F | Free - donations accepted | Avg. Daily Ridership: 125 |
| DAILY LIVING CENTER | M-F | Free - donations accepted | Avg. Daily Ridership: 44 |
| HELPLINE | 24 hours per day – every day | Free - subsidized by City of Oklahoma City & COTPA | Avg. Daily Ridership: n/a |
| INTERIM | As needed | Free - subsidized by Areawide Aging Agency & COTPA | Avg. Daily Ridership: 1 |
| RSVP | As needed | Free - donations accepted | Avg. Daily Ridership: 21 |
| SENIOR COMPANION PROGRAM | As needed | Free - donations accepted | Avg. Daily Ridership: 13 |
| SHARE-A-FARE | 24 hours per day - every day | \$6.00 for \$10.00 fare | Avg. Daily Ridership: 49 |
| STEP | M-F | Free - donations accepted | Avg. Daily Ridership: 65 |
| CART | SCHEDULE | FARE | FY 2015 RIDERSHIP |
| FIXED ROUTES (local) | M-F: 7:00 a.m. - 10:00 p.m. Sat: 10:00 a.m. - 7:00 p.m. | Regular \$0.75 Special \$0.35* OU students/faculty/staff free | Avg. Systemwide Fixed Route Daily Ridership (Including Express): M-F: 3,773 |
| SOONER EXPRESS (Operated by CART) | M-F: 6:15 a.m. - 10:07 p.m. | Regular \$3.00 Special \$1.50* | Avg. Daily Ridership: 97 |
| PARATRANSIT (CARTAccess) | M-F: 7:00 a.m. - 10:00 p.m. Sat: 10:00 a.m. - 7:00 p.m. | Zone 1-\$1.50 Zone 2-\$3.50 OU students/faculty/staff free in Zone 1 \$1.50 in Zone 2 | Avg. Daily Ridership M-F: 116 |
| CITYLINK | SCHEDULE | FARE | FY 2015 RIDERSHIP |
| FIXED ROUTES (local) | M-F: 7:00 a.m. - 6:00 p.m. Sat: 9:00 a.m. - 5:00 p.m. | Free | Avg. Systemwide Fixed Route Daily Ridership: 343 (Including Express) |
| FIXED ROUTES (Expresslink) | M-F: 6:00 a.m. - 7:00 p.m. | Free | Avg. Daily Ridership: 137 |
| PARATRANSIT (CAPS—Citylink Access Paratransit Service) | M-F: 7:00 a.m. - 6:00 p.m. Sat: 9:00 a.m. - 5:00 p.m. | Free | Avg. Daily Ridership: 15 |

* Ages 60+, Disabled, Medicare/ADA Cardholders, or Children ages 6-17 years

Helpline

Helpline is a taxi service for emergency or medically related transportation for the homeless.

Interim

Interim is a one-time service coordinated through social service agencies to transport persons 60 and older for essential trips only. Participants must be unable to secure transportation from any other source.

Non-Emergency Medical Trip (NEMT)

Curb-to-curb trips for citizens 60 and older to doctor and other non-emergency medical appointments are provided in a service area including much of Oklahoma City, Midwest City, Del City, Moore, Bethany, Warr Acres, The Village, Nichols Hills, Spencer, Nicoma Park, and Forest Park.

RSVP

The Retired Senior Volunteer Provide-A-Ride program links senior volunteer drivers with low to moderate income seniors in need of transportation to medical appointments.

Senior Companion Program

The Senior Companion program matches able seniors with frail elderly persons. Seniors are trained volunteers, helping other seniors in preparing meals, providing companionship, assisting with housekeeping or supporting the need for other professional services. A van transports volunteers from their residences to the residences of the elderly.

Share-A-Fare

Share-A-Fare provides lower cost taxi fares for older adults and persons with disabilities. Participating communities and EMBARK pay 40 percent of the cost and the participant pays 60 percent.

STEP

The STEP (Supplemental Transportation for the Elderly and Disabled Persons) shopping shuttle provides van service to designated grocery stores for persons 60 and older who live in the service area.

Table 8.1 summarizes the schedules, fares and average ridership for the OCARTS area public transportation services described above.

SECTION 5310 ELDERLY AND PERSONS WITH DISABILITIES PROGRAM

In addition to the transportation services available to the elderly and persons with disabilities provided through the

public transportation providers, numerous organizations operate wheelchair accessible vans and buses under the Section 5310 program (authorized under 49 U.S.C. § 5310). This program allows private, non-profit organizations to purchase vehicles, with federal assistance, to transport elderly and disabled clients to meet their everyday needs, including transportation to work, medical appointments, shopping, and recreation. Oklahoma's Section 5310 program is administered by the Department of Human Services, Aging Services Division, within the State's Census-designated rural areas, Small Urban areas, and the Oklahoma City (Large) Urban Area.

SECTION 5311 RURAL TRANSIT SERVICE

In addition to the transit services operating in the urban part of the OCARTS area, First Capital Trolley in Guthrie and Delta Public Transit in McClain County provide transit service under the federal Section 5311 program, which assists non-urbanized areas (less than 50,000 population) in providing rural public transportation services. The Oklahoma Department of Transportation, Transit Services Division, administers the Section 5311 program (authorized under 49 U.S.C. § 5311), which includes around 20 rural transit providers statewide.

TAXI OPERATIONS

In the Oklahoma City metropolitan area, public transportation services are supplemented by several private taxicab operations. Although over a dozen taxi and shuttle services are located in the area, the primary operator is under the management of Yellow Cab Company.

AMTRAK PASSENGER RAIL SERVICE

Amtrak rail service in the OCARTS area consists of the Heartland Flyer service to Fort Worth, Texas. The train departs Oklahoma City's Santa Fe Station (Intermodal Hub), located on E. K. Gaylord, at 8:25 a.m. daily and arrives in Fort Worth at 12:39 p.m. It departs Fort Worth at 5:25 p.m. daily and arrives back in Oklahoma City at 9:39 p.m. The train also serves the Oklahoma communities of Norman, Purcell, Pauls Valley, and Ardmore, as well as Gainesville, Texas. Table 8.2 provides historical ridership and funding information for the Heartland Flyer.

The Heartland Flyer service corridor (Oklahoma City to Fort Worth), as well as the Oklahoma City to Tulsa corridor (no train service is currently provided) are both part of the federally-designated South Central High-Speed Rail Corridor. In January

TABLE 8.2: HEARTLAND FLYER STATISTICS

| FEDERAL FISCAL YEAR | RIDERSHIP | OKLAHOMA FUNDING | TEXAS FUNDING |
|---------------------|-----------|------------------|---------------|
| 2000 | 65,529 | n/a | n/a |
| 2001 | 57,799 | n/a | n/a |
| 2002 | 52,584 | n/a | n/a |
| 2003 | 46,592 | n/a | n/a |
| 2004 | 54,223 | n/a | n/a |
| 2005 | 66,968 | \$3.9 million | \$0 |
| 2006 | 64,078 | \$3.9 million | \$0 |
| 2007 | 68,245 | \$2.0 million | \$2.0 million |
| 2008 | 80,892 | \$2.0 million | \$2.0 million |
| 2009 | 73,564 | \$2.0 million | \$2.0 million |
| 2010 | 81,749 | \$2.0 million | \$2.0 million |
| 2011 | 84,039 | \$2.3 million | \$2.1 million |
| 2012 | 87,873 | \$2.3 million | \$2.2 million |
| 2013 | 81,226 | \$2.1 million | \$2.1 million |
| 2014 | 77,861 | \$3.0 million | \$3.0 million |
| 2015 | 69,006 | \$3.2 million | \$2.5 million |
| 2016 | 66,105 | \$3.3 million | \$2.5 million |
| 2017 | N/A | \$3.0 million | \$2.1 million |

Note: In 1998, Oklahoma received a one-time grant of \$23 million from the 1997 Tax Payer Relief Act. Oklahoma utilized these federal monies for initial BNSF track improvements and four years of Heartland Flyer direct cost of operation. From 2003 to 2006, all State of Oklahoma funds paid for the Heartland Flyer, and starting with the FFY 2007 contract Oklahoma and Texas have shared the cost of the Flyer.

2009, the Federal Railroad Administration (FRA) awarded \$11 million in high-speed and intercity passenger rail funding to Texas, which included \$4 million for adjusting signal timing over 63 miles of Burlington Northern Santa Fe (BNSF) track. The project was expected to reduce travel time on the Texas leg of the Heartland Flyer by over 15 minutes by increasing travel speeds from 49 mph to 79 mph.

In March 2010, Amtrak completed a feasibility study for the Kansas Department of Transportation (KDOT) on the costs and logistics of a potential expansion of passenger rail service in Kansas. Out of four possible scenarios, two involved extension of Heartland Flyer service to either Newton or Kansas City. The

next step was the selection of one of the four alternatives and incorporation of the feasibility study data into a Service Development Plan, a comprehensive business and operations plan for implementing expanded passenger rail service in Kansas. KDOT was awarded a \$250,000 American Recovery and Reinvestment Act federal grant to create the Service Development Plan. The federal funds provide only a 50 percent share and must be matched by another \$250,000. KDOT and the Oklahoma Department of Transportation (ODOT) are sharing the cost of the match requirement. At the time of adoption of the 2040 plan, the alternatives mentioned have not been implemented due to the lack of funding availability. In addition to these chosen alternatives, part of the route used by the Heartland Flyer is designated by the USDOT as the South Central High Speed Rail Corridor and is slated to be upgraded to high-speed rail service should funding ever become available. The corridor extends from San Antonio, Texas, to Tulsa through Fort Worth and Oklahoma City. Another branch of this corridor extends from Fort Worth through Dallas to Little Rock, Arkansas.



PLANNING FOR REGIONAL PUBLIC TRANSPORTATION

FIXED GUIDEWAY STUDY

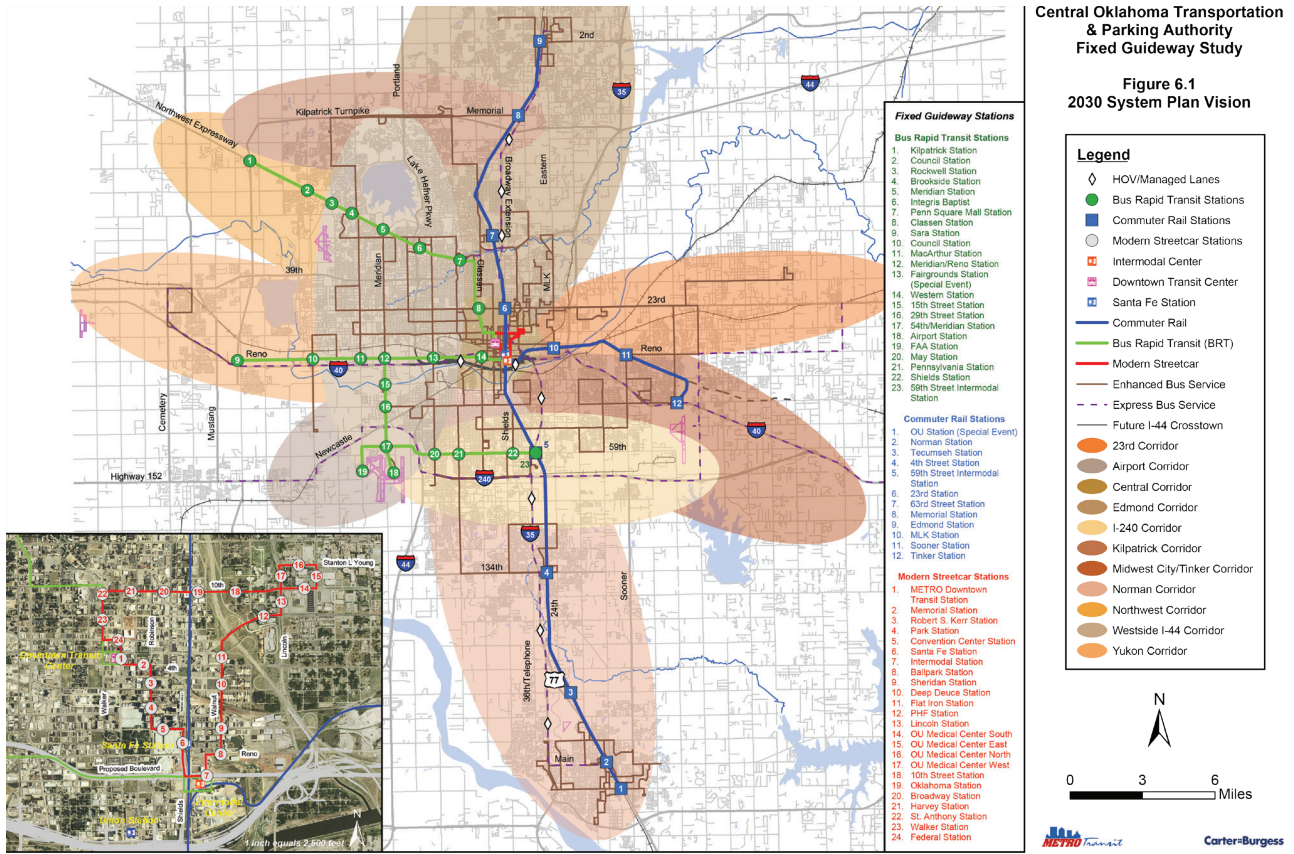
The Regional Fixed Guideway Study (FGS), prepared for COTPA by Jacobs Engineering (formerly Carter-Burgess), was completed in December 2005, and formally received by the COTPA Board of Trustees, the City of Oklahoma City Council, and the ACOG Intermodal Transportation Policy Committee in 2006.

The study resulted in the creation of the 2030 System Plan for Central Oklahoma and recommended the following regional public transportation vision:

- Commuter rail between Edmond and downtown Oklahoma City
- Commuter rail between Norman and downtown Oklahoma City
- Commuter rail between Midwest City/Tinker Air Force Base and downtown Oklahoma City
- Bus rapid transit (BRT) along portions of Reno Avenue, Northwest Expressway, SW 59th Street, and Meridian Avenue
- Modern streetcar in downtown Oklahoma City
- Enhanced bus service to support the recommended future rail and BRT lines with a larger service area and more frequent service
- Downtown intermodal transit station where the commuter rail, streetcar, BRT, local and interstate bus service, and other transportation modes would connect.

The FGS final report can be accessed on the ACOG website at acogok.org.

FIGURE 8.2: REGIONAL FIXED GUIDEWAY STUDY 2030 SYSTEM PLAN MAP



On December 8, 2009, Central Oklahoma took a step toward its regional vision when Oklahoma City voters approved MAPS 3, a one-cent sales tax that began April 1, 2010, and will expire December 31, 2017. The package of projects included \$120 million toward funding the downtown streetcar and \$10 million toward other transit infrastructure, such as an intermodal transit hub or commuter rail improvements, as recommended by the Fixed Guideway Study. Separate studies for these efforts are described in subsequent sections of this chapter.

The recommendations of the Regional Fixed Guideway Study 2030 System Plan are presented in Figure 8.2.

REGIONAL TRANSIT DIALOGUE

Since completion of the Fixed Guideway Study, communities in Central Oklahoma have become energized about public transportation. Thus, ACOG, in cooperation with local partners, initiated a visioning process to determine the desire for expanded and enhanced regional public transportation. This “Regional Transit Dialogue” (RTD) engaged locally elected officials, policy stakeholders, private sector leaders, and the general public to articulate how transit can serve the OCARTS area in the years and decades to come. Specifically, the process was designed to address several key themes including:

- Development of a seamless regional transit system
- Exploration of dedicated funding sources and strategies
- Provision for more effective coordination and integration of regional transit services
- Improved integration between transit and land use

The RTD process was managed by a steering committee and four subcommittees. A planning team was established to handle the initial logistics of the dialogue and to staff the committees. The initial phase of the RTD began in April 2009 and concluded in July 2010. Additional information about the RTD and the reports produced by the RTD subcommittees can be found on the ACOG website.

A second phase of the RTD began in October 2012 to further evaluate and refine the initial RTD recommendations. Under the RTD umbrella, the Steering Committee commissioned and led the Intermodal Transportation Hub Study, the Central Oklahoma Commuter Corridors Study (CentralOK!go), and the establishment of a Regional Transit Authority (RTA) Task Force to continue exploration of the administrative, financial and legal foundation required to establish a regional transit authority. These efforts are discussed in the sections below.

The RTD Steering Committee was also instrumental in the approval of HB 2480 in May 2014, which updated current State legislation related to the creation of regional transportation districts by multiple jurisdictions.

REGIONAL TRANSIT AUTHORITY TASK FORCE

Central Oklahoma is working to establish a regional transit authority (RTA) under the guidance of ACOG's Regional Transit Dialogue (RTD) Steering Committee and RTA Task Force to pursue the planning and funding necessary to implement such a system. Regional transit requires dedicated funding from a combination of sources beyond revenues currently available to the OCARTS area.

In late 2015, leaders from six Central Oklahoma municipalities decided that for the Regional Transit Dialogue to move forward, a formal agreement should be established to promote and establish a Regional Transit Authority. A Memorandum of Understanding (MOU) was signed in December 2015 by the mayors of Oklahoma City, Norman, Edmond, Moore, Midwest City, and Del City establishing a Regional Transit Authority (RTA) Task Force with the purpose of developing a formal Regional Transit Authority in Central Oklahoma. Participants in the Task Force also include directors from the three transit providers in the region: Central Oklahoma Transportation and Parking Authority (COTPA), Cleveland Area Rapid Transit (CART) and Citylink.

The MOU established several short and long-term goals to be achieved by the Task Force:

Short-Term:

- Continue efforts to analyze potential dedicated funding sources for public transportation
- Provide legal, financial, marketing and political support for a referendum and/or vote of the people for dedicated funding source(s)
- Coordinate with existing transit providers

Long-Term:

- Establish policies and procedures required for operation of an RTA
- Continue planning and development for the public transportation system in Central Oklahoma
- Coordinate with the Oklahoma Department of Transportation (ODOT) and federal governing agencies
- Coordinate and implement the regional public transportation system

At the time of Plan adoption, the RTA Task Force continues to hold monthly meetings to contribute to the progress and success of the future Regional Transit Authority. The Task Force is preparing to distribute a potential user survey and poll to get more information as to how to proceed with the RTA in terms of implementation and economic feasibility.

GREATER DOWNTOWN ALTERNATIVES ANALYSIS (AA)

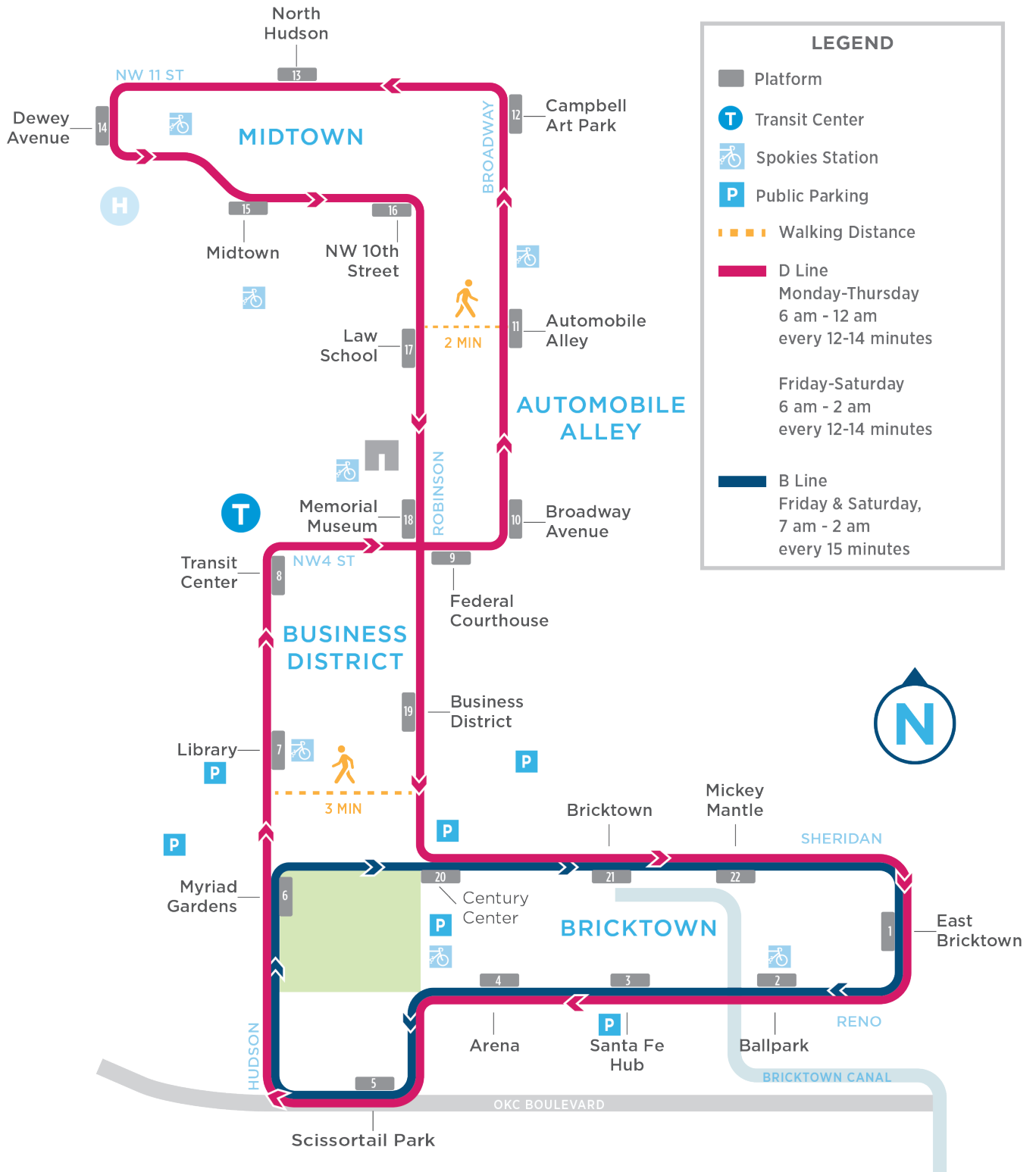
A major recommendation of the Fixed Guideway Study was to conduct an Alternatives Analysis (AA) for the greater downtown area of Oklahoma City. An AA identifies the best transportation technology and route, and is a required step for receiving federal capital funds for fixed guideway transit improvements.

COTPA conducted an Alternatives Analysis for the downtown area, using an experienced consultant team led by Jacobs Engineering. An AA Steering Committee, comprised of local citizens, led the study with input from the transit consultants, city planners, and engineers. The study considered capital and operating costs, ridership forecasts, technical feasibility, and citizen input. The AA began in early 2008 and resulted in the selection of a modern streetcar as the locally preferred mode, as well as the route, in July 2011 by the COTPA Board of Trustees and Oklahoma City Council.

The route was subsequently re-examined and updated in 2016 and a loop going through the Bricktown area of downtown Oklahoma City was added. Figure 8.3 shows the final streetcar route adopted by the Oklahoma City Council in 2016. Streetcar construction began in early 2017 and is expected to be completed in December 2018. A storage and maintenance facility for the streetcar operation will be located at South West 7th and Hudson Avenue, and will also open in 2018. There will be a total of seven streetcars running on the system and will be operated by Herzog Transit Services. Each streetcar will hold approximately 100 people.

While a modern streetcar will provide improved mobility in the Oklahoma City downtown, Bricktown, and midtown areas, the system is viewed as an integral piece of a larger regional public transportation system. Future connections via commuter rail, bus rapid transit, and enhanced bus are needed to connect the downtown core and communities across the region over the coming decades.

FIGURE 8.3: DOWNTOWN OKLAHOMA CITY STREETCAR ROUTE MAP



INTERMODAL HUB STUDY

Passenger rail transportation is viewed as a critical component of the region's future transportation system. Toward that end, the region has determined the location of an intermodal hub to accommodate connections among all transportation modes, both current and planned. The hub will provide vital connections among Central Oklahoma's Amtrak service, the downtown Oklahoma City streetcar, city bus connections, and any future commuter rail, Greyhound bus service, and high speed rail serving the South Central High-Speed Rail Corridor.

In partnership with the Central Oklahoma Transportation and Parking Authority (COTPA), the City of Oklahoma City, and the Oklahoma Department of Transportation (ODOT), ACOG led the Intermodal Transportation Hub Study, which was prepared by Jacobs Engineering and completed in June 2011. The year-long study involved a two-tier evaluation process that began with ten initial sites along the major rail lines within downtown Oklahoma City and culminated with selection of the Santa Fe Station on E.K. Gaylord Boulevard in downtown Oklahoma City. The Santa Fe Station currently houses Oklahoma City's Amtrak Heartland Flyer service, and through the hub study, it was determined that the adjacent rail yard is sufficient to support the future commuter rail services recommended by the Regional Fixed Guideway Study (FGS). In addition, current right-of-way exists to construct a third platform if future passenger rail demand were to grow beyond that identified in the FGS 2030 System Plan.

The results of the hub study are presented in the Intermodal Transportation Hub Master Plan which is available on ACOG's website. While the study area considered in the hub plan was concentrated in downtown Oklahoma City, the conclusions of the Hub Master Plan have far reaching implications for improving regional travel between the central city and the communities of Edmond, Norman, Midwest City, and others. The Master Plan includes the operational analysis of the rail yard, building and parking needs, conceptual site and building layouts, proposed phasing and construction strategies, and phased estimated capital and operating costs.

Following the hub study, the City of Oklahoma City acquired the Santa Fe Station from private ownership using a TIGER Grant, local funds and STBG-UZA funding. It is the goal of the city to have this station become a regional transportation hub that combines transit access for regional rail, streetcar, bike-share and many other modes of transportation. The

Oklahoma City Streetcar will stop across the street from the Santa Fe Station. Phase 1 and 2 of the improvements to the station are completed. Eventually the four phases of the project will include a new plaza and a tunnel leading to a terrace overlooking Bricktown.

COMMUTER CORRIDOR ALTERNATIVES ANALYSES

In addition to the Greater Downtown Area Alternatives Analysis (AA) and Intermodal Hub Study, the 2005 Regional Fixed Guideway Study also recommended that alternatives analyses be conducted for all corridors in the study. This sentiment was seconded by the Regional Transit Dialogue Steering Committee. The FGS 2030 System Plan identified the corridors between Edmond and downtown Oklahoma City, Norman and downtown Oklahoma City, and Midwest City/Tinker Air Force Base and downtown Oklahoma City as potential candidates for commuter rail.

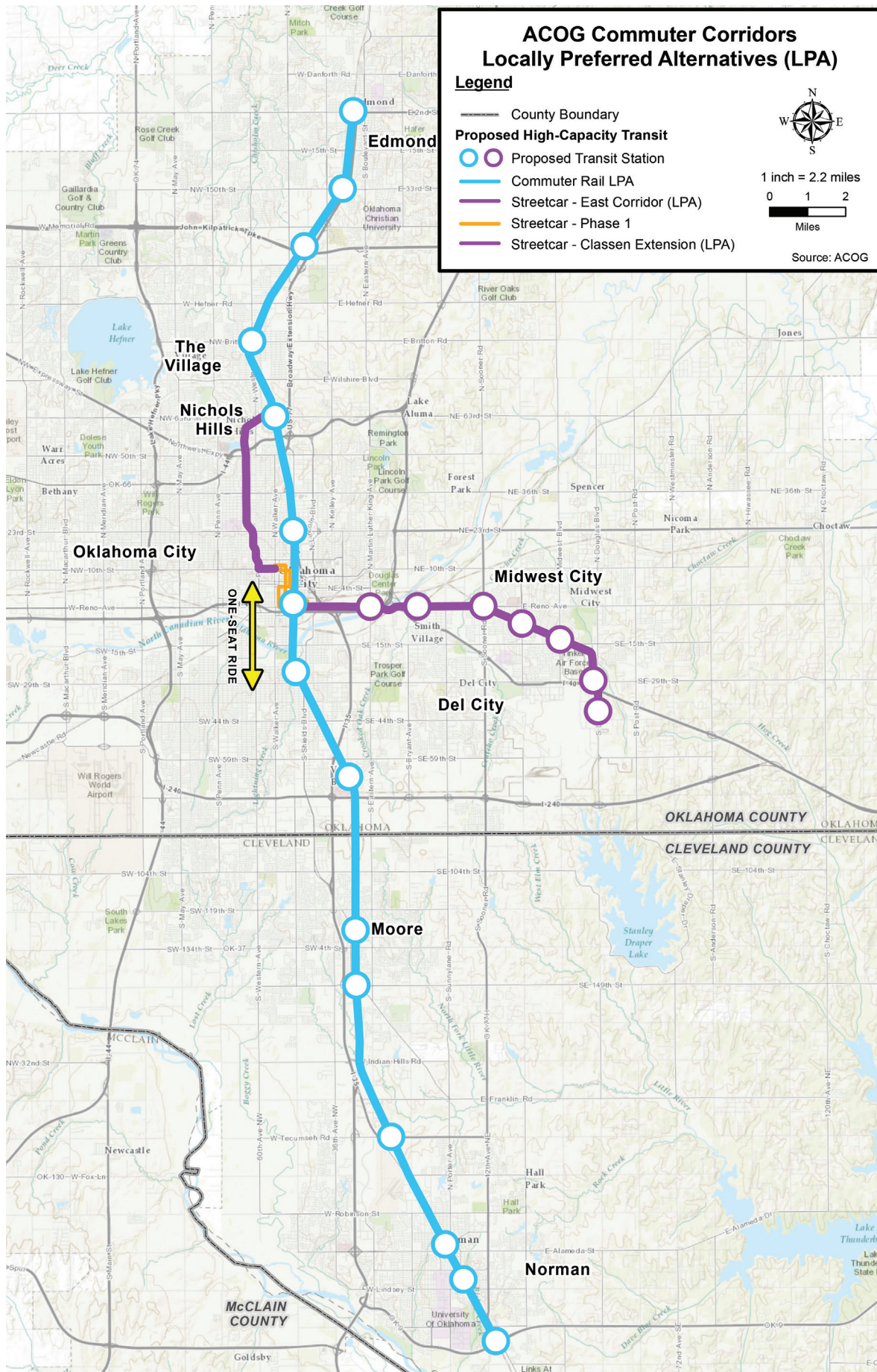
In light of these recommendations, ACOG allocated a portion of its federal formula funding for a detailed study of these three corridors, and the six communities adjacent to the corridors provided local matching funds to support the study.

From January 2013 through July 2014, ACOG led the Central Oklahoma Commuter Corridors Study (CCS), titled CentralOK!go, with the assistance of a consultant team led by URS Corporation (now known as AECOM). The CCS was an analysis of travel options for three major commuter corridors within the Central Oklahoma region. The RTD Steering Committee served as the steering committee for CentralOK!go and was assisted by local workgroups in the evaluation and ranking of route and mode options within each study corridor.

The Commuter Corridor Study considered various routes and modes of public transportation, and focused on three regional corridors that all converged in downtown Oklahoma City at the newly renovated Santa Fe Station Intermodal Hub. The locally preferred alternatives (LPA) resulting from CentralOK!go serves as a start for a regional high-capacity transit system in Central Oklahoma.

The CentralOK!go Final Report and Appendices are available for review on the ACOG website. Figure 8.4 shows the Locally Preferred Alternatives (LPA) for the regional transit system that were recommended by the Commuter Corridors Study, and approved by the Regional Transit Dialogue Steering Committee in July 2014 and the ACOG Board of Directors in October 2014. Following the selection of an LPA for a regional transit system,

FIGURE 8.4: COMMUTER CORRIDORS STUDY LOCALLY PREFERRED ALTERNATIVES (LPA)



there are several detailed steps that have to be taken before the system can actually be built. There is required Federal Transit Administration (FTA) oversight, preliminary engineering, submittal of plans to FTA for approval and more before a region can create a new transit project. The steps are shown in Figure 8.5.

ILLUSTRATIVE TRANSIT PROJECTS

During the development of Encompass 2040, the MPO modeled an illustrative transportation network inclusive of regional transit—commuter rail, bus rapid transit and enhanced bus—as recommended by the 2005 Fixed Guideway Study and the 2014 Central Oklahoma Commuter Corridors Study. A map of the Illustrative Transit Projects is shown in Figure 8.6.

Components of the desired OCARTS regional transit system include:

- 44 miles of Commuter Rail Transit (CR)
- 40 miles of Bus Rapid Transit (BRT)
- Enhanced bus service with connection to rail and BRT stations
- 5-6 mile downtown OKC Modern Streetcar* (with potential for extensions)
- Intermodal Transportation Hub* serving CR, BRT, streetcar, bus and other modes

*The initial phase of downtown modern streetcar will soon be under construction and is scheduled to open in 2018. In FY 2018, the first two phases of the Santa Fe Station Intermodal Hub project were completed.

PUBLIC TRANSIT NEEDS AND CHALLENGES

Several tools and techniques have been used in order to define transit passenger needs and preferences in Central Oklahoma. In January 2015, ACOG circulated a transportation survey and received 470 responses. In mid-2016, several open house and public availability sessions were held to receive public input.

OCARTS area citizens have indicated a desire for more, in the way of quality and quantity of, public transportation options. Walkable urban neighborhoods, expanded bus service, more multi-modal options, and a greater mix of commercial and residential areas are among the suggestions for improving the current system.

Connecting to available transit services is a problem for some Central Oklahoma residents. Lack of continuous sidewalks, absence of bicycle trails, and/or the scarcity of bus shelters

FIGURE 8.5: FTA MAJOR CAPITAL NEW STARTS PROJECT DEVELOPMENT

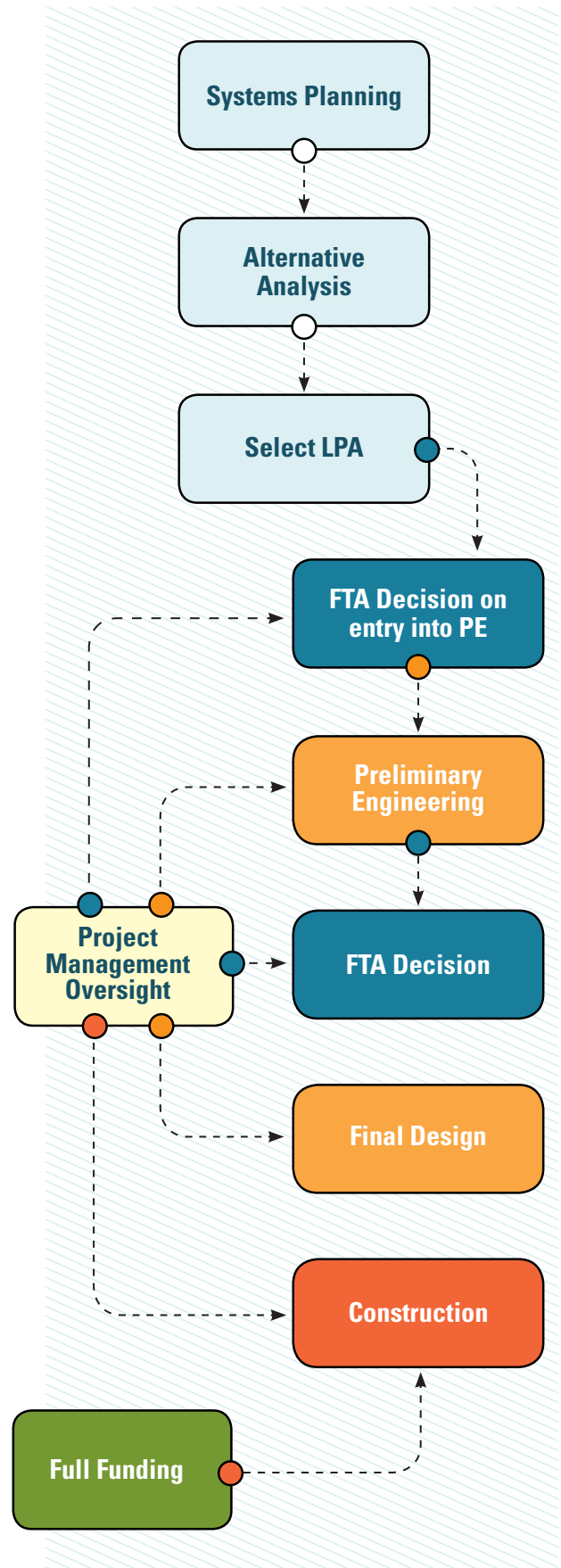


FIGURE 8.6: ENCOMPASS 2040 ILLUSTRATIVE TRANSIT PROJECTS

ILLUSTRATIVE TRANSIT PROJECTS

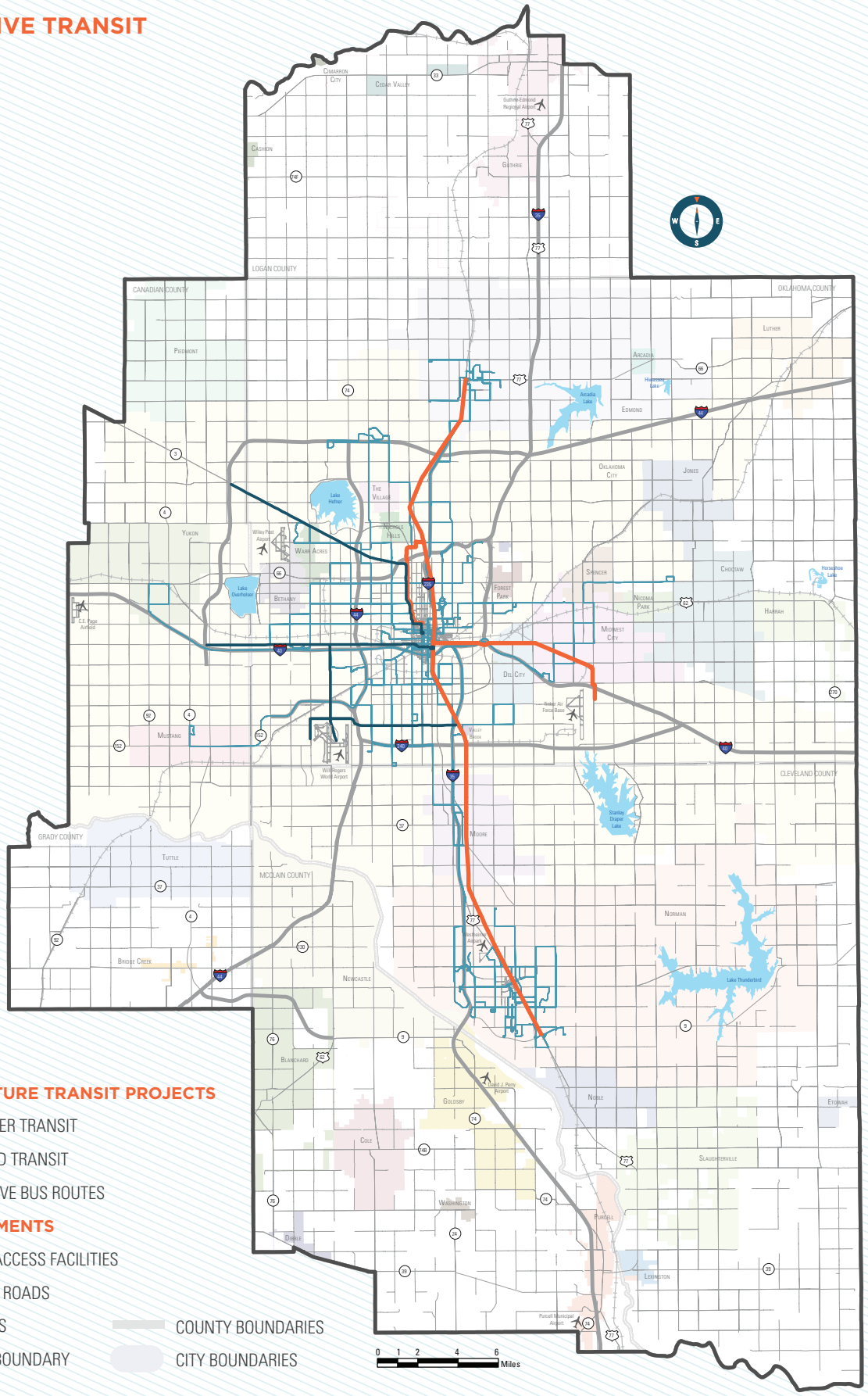
LEGEND

PROPOSED FUTURE TRANSIT PROJECTS

- COMMUTER TRANSIT
- BUS RAPID TRANSIT
- SUPPORTIVE BUS ROUTES

BASE MAP ELEMENTS

- LIMITED ACCESS FACILITIES
- ARTERIAL ROADS
- RAIL LINES
- COUNTY BOUNDARIES
- OCARTS BOUNDARY
- CITY BOUNDARIES

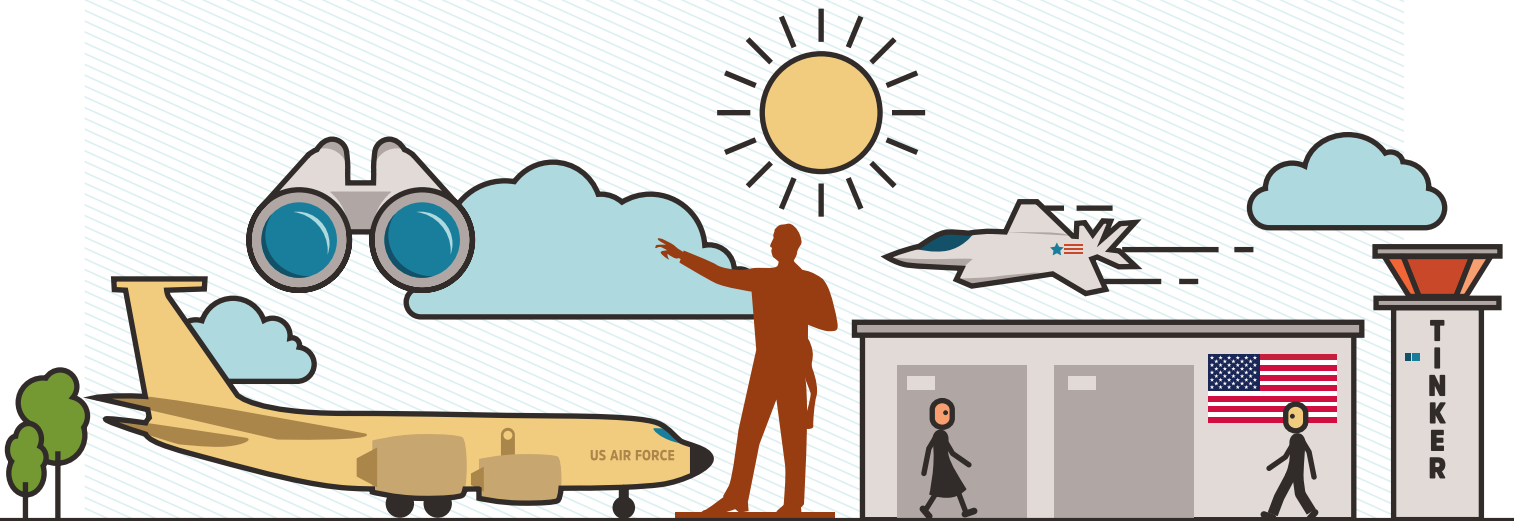


to protect riders from the weather pose problems for some potential bus riders. The City of Oklahoma City has greatly improved bicycle and pedestrian connections throughout their area, but the region as a whole still has a great deal of work to do to increase transit accessibility.

Safety and security are priorities for area public transit users and patrons of buses and Amtrak. Survey respondents indicated that they would be more inclined to use public transit if they were assured of safe buses, well-lit transit shelters, security at the Amtrak terminal, and reasonable cautionary arrangements at park-and-ride lots.

The biggest challenge to attaining the type of public transportation desired by area citizens is the lack of funding. Current funding levels are barely adequate to maintain the current level of service, much less grow it into the type of regional multimodal transportation system described in the previous sections. Central Oklahoma is one of only a few metropolitan areas which have no local funding source specifically dedicated to transit.

CONGESTION AND SAFETY



Federal surface transportation laws have elevated congestion management and the safety of our national infrastructure to a top priority. Congestion management and safety are essential aspects of the transportation system, as both contribute to economic vitality and can improve the quality of life of system users. The regional congestion and safety goals identified in Encompass 2040, were crafted with the intended purpose of improving congestion and protecting transportation users in the OCARTS area through sound planning and engineering strategies, education, enforcement, and effective emergency services.

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CONGESTION MANAGEMENT

Congestion has grown quite sharply over the past two decades and has become more unpredictable as well. Congestion is a result of physical road “bottlenecks”, traffic incidents, work zones, weather, traffic control devices, special events and fluctuations in normal traffic. In particular, congestion has become more unreliable as traffic incidents, events, and work zones become more common. In the Oklahoma City metropolitan area, congestion costs each driver an average of \$1,110 a year and drivers spend an average of 49 hours in traffic each year. This means extra time and money spent traveling to and from destinations, reducing the potential of those resources to be used elsewhere.

To help alleviate congestion across the nation, federal laws put forth guidance on a congestion management process that first began with ISTEA in 1991, as a congestion management system. Then, with SAFETEA-LU, the name changed to the congestion management process (CMP). This requirement was continued with MAP-21 and the most recent FAST Act. Both Acts increased emphasis on a continual performance based approach to congestion management planning and decision making. As with performance based planning and programming (Chapter 15), the congestion management process starts with the national goals to guide regional priorities. Of the seven national goals outlined in MAP-21 and carried forward into the FAST Act, the following are directly or indirectly related to congestion management: safety, infrastructure condition, congestion reduction, system reliability, and freight movement and economic vitality.

CONGESTION MANAGEMENT PROCESS

A Congestion Management Process (CMP) is a systematic process used to identify, evaluate, and respond to traffic congestion. CMPs identify specific strategies for locations on a transportation system to minimize traffic congestion and enhance the ability of

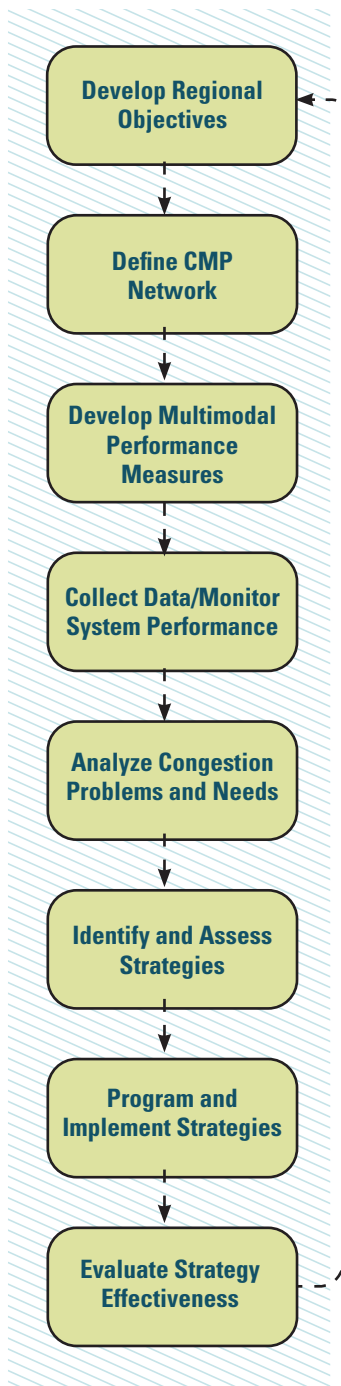
TABLE 9.1: OCARTS AREA CONGESTION SNAPSHOT

| | 2010 | 2040 |
|--|------------|------------|
| VEHICLE MILES OF TRAVEL (DAILY) | 30,266,000 | 46,550,000 |
| VEHICLE MILES OF TRAVEL PER PERSON (DAILY) | 26 | 29 |
| VEHICLE HOURS OF TRAVEL (DAILY) | 853,000 | 1,415,000 |
| VEHICLE TRIPS (DAILY) | 4,165,000 | 5,858,000 |
| CONGESTED ROAD MILES | 289 | 308 |
| AVERAGE OVERALL SPEED | 35 mph | 33 mph |
| AVERAGE FREEWAY SPEED | 45 mph | 44 mph |
| AVERAGE ARTERIAL SPEED | 35 mph | 29 mph |
| AVERAGE TRIP LENGTH | 7.27 miles | 7.95 miles |
| AVERAGE TRIP LENGTH | 12:18 min | 14:30 min |
| DAILY HOURS OF DELAY | 138,000 | 366,000 |
| DELAY PER TRIP | 1:59 min | 3:45 min |

people and goods to reach their destinations in a timely manner. The CMP is a process which identifies congestion and its causes, applies congestion mitigation strategies to improve transportation system performance and reliability, and evaluates the effectiveness of implemented strategies (Figure 9.2).

Congestion management strategies include a variety of projects, actions, programs, and policies that can be used to alleviate traffic congestion on the transportation network. Strategies identified are a customized range of options that can be used to address OCARTS regional congestion specific problems, bottlenecks, and mobility needs identified using collected data. OCARTS area recommended strategies are consistent with the Encompass 2040 goals and proposed CMP objectives. The following strategies (as identified in the CMP Toolbox) are thought to be achievable and implementable through close coordination of sponsoring and administering partners.

FIGURE 9.2: ELEMENTS OF THE CONGESTION MANAGEMENT PROCESS (CMP)



Source:
 FHWA, Congestion Management Process: A Guidebook.
http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/

1. Travel demand management (TDM) strategies that eliminate or reduce the need to make trips by motor vehicle
2. Transportation and land use cohesion strategies and policies that encourage mixed-use and transit oriented development to increase density and reduce the need for motor vehicle trips
3. Technology solutions using transportation systems management and operations (TSM&O) and intelligent transportation systems (ITS) to maximize the efficiency of the existing infrastructure
4. Public transit enhancements and projects to make transit a more attractive and competitive mode of transportation in the OCARTS region
5. Bicycle and pedestrian improvements to enhance the reach of the public transportation system and encourage trips by modes other than single occupancy vehicle
6. Improvements to roadways that include access consolidation and control, complete streets policies, restriping, and finally the addition of lanes or construction of new facilities where no other solutions can minimize or alleviate congestion effectively

The toolbox can be used by ACOG, ODOT, and other project sponsors to identify strategies for addressing congestion issues on the CMP network and to select the most appropriate strategy (or combination of strategies) that has the potential to benefit the location being evaluated. If a strategy shows promise, it can be evaluated in detail using the regional travel demand model and/or applicable analysis tools suggested in the toolbox.

For larger projects (particularly high cost, capacity-adding projects), the toolbox should be used to identify alternative strategies that can be incorporated as part of the project development process. CMP strategies usually will not result in the large capacity gains typical of capacity expansion projects; however, demand management and operational strategies could be incorporated into the capacity improvement project to potentially extend the number of productive years of the facility before additional capacity is needed.

IMPLEMENTING CONGESTION MANAGEMENT STRATEGIES – RELATIONSHIP TO THE MTP AND TIP

The congestion management process not only advances the Encompass 2040 goals, but also works to strengthen the connection between projects identified in the long-range transportation plan and the projects that are ultimately implemented through the short-range Transportation Improvement Program (TIP). The toolbox and associated strategies can be used to inform the project selection methodologies and scoring criteria for Encompass 2040 and the OCARTS Transportation Improvement Program. The CMP provides additional emphasis for alternative modes and strategies in the selection of future projects and is an important part of the performance based planning process.

TRANSPORTATION SAFETY AND SECURITY INITIATIVES

Motor vehicle crashes and fatalities have a major impact on the lives of Central Oklahomans. According to the National Highway Traffic Safety Administration (NHTSA), 132,350 people were killed and approximately 11.46 million injured in motor vehicle crashes across the nation between 2010-2014. In the OCARTS area alone, 585 people were killed and more than 22,000 were injured during the same timeframe. To combat this serious problem, transportation providers, agencies, and professionals are devoted to working cooperatively to plan and implement safety initiatives throughout Central Oklahoma.

Oklahoma Highway Safety Plan

In compliance with SAFETEA-LU, the Oklahoma Department of Transportation (ODOT) first developed a Strategic Highway Safety Plan (SHSP) in 2007 to provide a comprehensive framework for reducing highway fatalities and serious injuries on all public roadways. The plan established strategies and countermeasures to reduce fatalities and injuries in the following areas of emphasis: crashes involving young drivers, lane departure crashes, unsafe driver behavior, and intersection crashes. The SHSP also includes the identification of emphasis area teams to oversee the implementation and continued responsibility of each area of emphasis. ODOT continues to update and implement their SHSP in accordance with newly established transportation laws and to ensure greater safety on Oklahoma's roadways.

Trooper Nicholas Dees and Trooper Keith Burch Act of 2015

To help combat distracted and unsafe driving, Oklahoma passed a no texting while driving law. As of November 1, 2015, it is unlawful to operate a motor vehicle on any street or highway within Oklahoma while using a hand-held electronic communication device to manually compose, send or read an electronic text message while the motor vehicle is in motion. Any person who violates the provisions of the act, upon conviction, will be fined not more than 100 dollars. Exceptions to the law include: when communicating with an emergency response operator, a hospital, physician's office or health clinic, provider of ambulance services, a provider of firefighting services or a law enforcement agency.

//////////////////////////////////// INCIDENT RESPONSE

It happens every day in Central Oklahoma – traffic delays caused by a crash or disabled vehicle in the roadway. In fact, over 60 percent of all traffic congestion in Oklahoma is the result of some sort of incident. For every one minute a wreck remains on the road, drivers can count on their travel being delayed an average of four additional minutes and the chances of a secondary crash increasing by 2.8 percent.

The OCARTS area has adopted several countermeasures to diminish traffic incident response time, reduce the amount of time first responders spend at the scene of an incident, and minimize the amount of incident-related congestion on the roadways of Central Oklahoma.

Quick Clearance

On November 1, 2003, a new Oklahoma law came into effect focusing on safety for emergency responders and motorists. The new "Quick Clearance" law was instituted to help reduce delay caused by motor vehicle crashes and other incidents. In general, the law has two sections. The first section deals with the motoring public and says that drivers must make every reasonable effort to remove their vehicle in a "non-injury" traffic incident. The second section refers to law enforcement and reinforces the officer's authority to move disabled vehicles or require the driver to move them. Officers are not liable for any damages or loss to the vehicle or cargo as long as the officer did not act with gross negligence.

Traffic Incident Management Protocol

Managing the scene of a traffic incident is vital to the safety and security of the victims of the incident and directly impacts the reduction of congestion and risk of secondary crashes for other motorists on the road. The Traffic Incident Management program in Central Oklahoma is critical to improving the safety and efficiency of our urban transportation system and to reducing the number of first responders and roadway patrons killed because of secondary crashes.

A multi-agency group including transportation, public safety, and emergency response agencies within the Central Oklahoma area was created in 2003 as an effort to minimize response and clearance times through better coordination and communication among traffic incident responders. A memorandum of understanding was signed by the heads of eight agencies responsible for traffic incident management, who pledged to cooperatively work towards the development of a coordinated incident management program in Central Oklahoma. Ongoing efforts, including inter-agency cooperation, informational workshops, and coordinated meetings, continue to raise awareness of the importance of traffic incident management and its vital role in reducing incident response time and ultimately saving the lives of first responders and travelers on Central Oklahoma roadways.

Use of Dynamic Message Signs

Dynamic Message Signs (DMS) are an Intelligent Transportation System (ITS) tool that provide travelers with information regarding traffic congestion, speed limits, traffic incidents, and serve as an additional safety measure to alert drivers of construction zones. DMS serve as a notification device to disseminate pertinent roadway information, allowing the driver to make informed decisions when choosing the most

FIGURE 9.3: DYNAMIC MESSAGE SIGNS AND CAMERA LOCATIONS

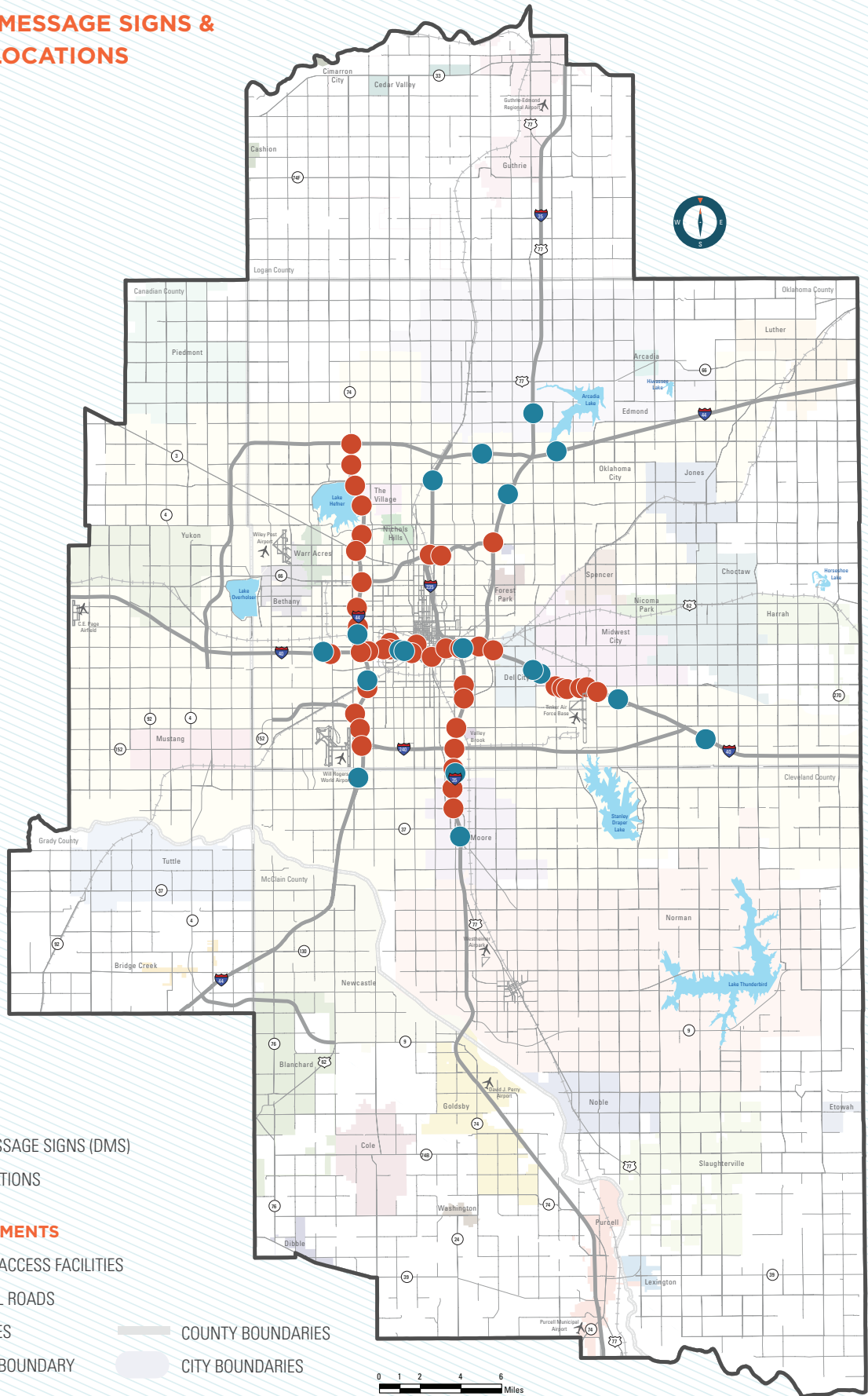
DYNAMIC MESSAGE SIGNS & CAMERA LOCATIONS

LEGEND

- DYNAMIC MESSAGE SIGNS (DMS)
- CAMERA LOCATIONS

BASE MAP ELEMENTS

- LIMITED ACCESS FACILITIES
- ARTERIAL ROADS
- RAIL LINES
- COUNTY BOUNDARIES
- OCARTS BOUNDARY
- CITY BOUNDARIES



efficient route to their destination, ultimately contributing to the alleviation of heavy traffic congestion during a roadway incident.

Currently, in the OCARTS area there are 20 existing DMS locations. ODOT is responsible for maintaining the signs, which are strategically placed along major highways and interstates within Central Oklahoma, as seen in Figure 9.3.

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EMERGENCY MANAGEMENT

Regional Snow Routes

Although severe winter weather is infrequent in Central Oklahoma, it is not uncommon for the region to receive its fair share of winter precipitation. In an effort to improve public safety and avoid crashes attributed to winter weather, multiple municipal, county, and statewide entities and agencies work together to develop a comprehensive annual OCARTS Regional Snow Routes Map that highlights the best route choices for motorist when inclement winter weather strikes. The designated routes are considered to be the highest priority roadways and are to be the first roads to have resources directed to them during snow and ice storms.

The designated snow routes are the best routes to take if and when drivers are out in a severe winter weather event. However, motorists are encouraged to observe winter driving rules and to only drive on snow and ice covered roads when necessary.

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ADVANCED TRAFFIC MANAGEMENT SYSTEMS

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) are the application of communications technologies, information processing, and advanced control strategies designed to assist and enhance transportation operations, mobility, and reduce congestion on roadways. ITS is a proven and critical tool used to effectively combat congestion and incident related traffic problems as well as improving the mobility of people and goods. This, in turn, promotes a strong economy, enhances and protects environmental quality, and improves overall quality of life. ACOG encourages the use and exploration of ITS capabilities for use within individual entities, and promotes the connectivity of roadway technologies between member local governments and across the Central Oklahoma region.

ODOT – OU-ITS Lab

Apart from the deployment of additional ITS technologies by member local governments, ODOT, in coordination with the School of Electrical and Computer Engineering at the University of Oklahoma, has developed a virtual regional ITS Lab. Since its inception in 2006, the OU-ITS Lab has provided regional stakeholders with direct access to traffic sensor information and travel speeds along major interstate corridors for the purpose of enhancing the traffic incident management process. Real-time video images from major interstate and highway intersections are also available for users on the Oklahoma Pathfinder website (oktraffic.org). Under defined circumstances, participating stakeholders are also given control over pan-tilt-zoom cameras and DMS.

Smart Work Zones

ODOT has also established and successfully deployed ITS based technology to alert drivers of construction zone delays and drive times to the end of construction zones. Smart Work Zones utilize ITS fiber optics and vehicle sensors to monitor traffic flow in construction zones, enabling motorists to change traffic patterns based on time delays posted on mobile DMS. The messages on the DMSs are triggered by data collected at the sensor sites downstream, relaying information about upcoming traffic conditions to the drivers ahead of time to help them in either choosing an alternate route or simply preparing for upcoming delays. The collected data is uploaded to the Oklahoma Pathfinder website for real-time monitoring, and has provided information to travelers in work zones along major interstate corridors within the OCARTS area.

Regional Signal Coordination

Edmond and Norman both have traffic signals that are connected by fiber optic cable. Many Edmond traffic signals also have CCTV cameras on them that are constantly streaming real-time video to their traffic management center. Rather than use fiber optic cable, Oklahoma City currently uses Verizon data modems to connect their 768 traffic signals. This method is more cost effective and functions as well as fiber optic cable with less bandwidth usage. Oklahoma City also uses magnetic loops in the roadway for detection of cars at traffic lights, but they are piloting the use of cameras and infrared light as a means of detection. Each city's traffic signals are connected to a main computer, typically at a local traffic management center, where the cities can monitor traffic incidents, improve congestion management, and lower emergency vehicle response times.

The next step forward for many cities in their ITS plans is to upgrade the traffic signal preemption for emergency vehicles

to the next generation of technology by using GPS instead of infrared light. Cities like Norman and Oklahoma City have found that the most useful aspect of ITS is the ability to know immediately when traffic signals are malfunctioning. Rather than hearing about it from the public, cities are immediately alerted by the system if a signal is malfunctioning.

Innovative ITS implementation will remain a top priority for assisting in the analysis of traffic incident patterns and contribute to achieving the overall reduction of recurring and non-recurring congestion in Central Oklahoma. Signal coordination throughout the region is a technology that can provide for the efficient movement of goods, administer safety alerts and countermeasures, and support live traffic updates to centralized traffic management centers within the OCARTS area. Establishing an initial framework of signal coordination between member local governments is fundamental for the continued success of the regional transportation organization and for advancing safety efforts to users of the Central Oklahoma transportation system.

See Figure 9.4 for a map of OCARTS area connected intersections.

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**STREET AND HIGHWAY
PROJECT SELECTION**

Developing a list of transportation projects that improve the safe movement of people and goods around the region was a critical element in establishing the long-range transportation plan for the OCARTS area. Planned projects span a multitude of transportation options including bicycle trails, roadways, sidewalks, public transit, and more. Implementing safety measures in all transportation projects is highly encouraged by FHWA and crash severity rate, in particular, is a consideration in the selection of projects to receive federal funding.

STBG-UZA

Surface Transportation Block Group Program–Urbanized Area (STBG-UZA) funds, made available on an annual basis by the Federal Highway Administration through ODOT, are for the implementation of eligible transportation projects within the OCARTS area. Up to 10 percent of these annual funds are available each year to fund 100 percent of eligible safety projects that have been selected; Eligible safety projects include: traffic control signalization; pavement markings; commuter carpooling; vanpooling; and installation of traffic

signs, traffic lights, guardrails, impact attenuators, concrete barrier end treatments, breakaway utility poles or priority control systems for emergency vehicles or transit vehicles at intersections.

Encompass 2040 Project Selection Criteria

ACOG understands that congestion management and safety are vital to having a high-performing transportation network. A set of criteria was established to encourage projects that employ strategies that are proven to reduce congestion and improve safety. These measures include projects that improve traffic signal timing, access management, intersection geometry and sight distance; add lane capacity; deploy Intelligent Transportation Systems (ITS); promote the use of alternate modes of transportation; increase transit services, coverage area, and access; promote carpooling and park-and-ride; and transportation projects located within a school zone.

////////////////////////////////////
TRANSIT SAFETY

Integrating safety into all aspects of a transit system’s daily operations solidifies an ambition for working toward the prevention of accidents involving public transportation operators and patrons. Transit agencies within the OCARTS area, the Central Oklahoma Parking and Transit Authority (COTPA), Cleveland Area Rapid Transit (CART), and Citylink, are encouraged to rely on the Federal Transit Administration’s Transit Safety Management and Performance Measurement Guidebook as a template for establishing their own safety management systems and safety performance measurement systems.

In addition to monthly Unified Planning Work Program Safety Reporting and periodic safety audits, which ensure transit passenger and driver safety, Central Oklahoma transit agencies have incorporated Intelligent Transportation Systems into their daily operations, both within the vehicles and at vehicle maintenance facilities.

Maintenance Facility Upgrades

In April 2009, COTPA upgraded their M5 Maintenance Software System, which automates tracking of repair and fueling activities in each EMBARK Transit bus. In this system, buses are “detected” as they are placed in queue at the fueling bay alerting maintenance staff as to the proper fuel required and which fluids are ready to be refilled in the buses.

Automated Vehicle Location

Since 2008, CART has implemented Automated Vehicle Location (AVL) devices on their entire fleet of fixed-route buses, including an automated passenger counting system. The Agency has also installed on-board camera systems to ensure safety of drivers and passengers. Likewise, COTPA is slated to install similar AVL devices and on-board camera systems to their fleet of buses.

Emergency Preparedness

Updated in May 2017, CART has an Emergency Response Plan designed to respond effectively and safely to an emergency. This includes properly informing individuals, ensuring they are safely evacuated or sheltered, and accounting for them once the emergency is resolved. The plan includes procedures for tornadoes, fires, indoor or outdoor chemical spills, armed individuals, violent individuals, suspicious packages, utility failure, earthquakes, explosions, and regional/national emergencies.

//////////////////// BICYCLE AND PEDESTRIAN SAFETY

Central Oklahoma has witnessed a renewed interest in sidewalk and bicycle facility construction. Aging infrastructure and the desire to provide residents with more and better transportation options has fueled the resurgence of bike and pedestrian facilities and produced a safer system that is nationally recognized.

Complete Street Initiatives: Project 180

In an effort to make the central core more pedestrian friendly and to improve the appearance of streets, sidewalks, parks and plazas in the downtown area, Oklahoma City initiated a four-year downtown revitalization measure known as Project 180. The project, funded largely from Tax Increment Financing (TIF) from the Devon Tower construction and the 2007 General Obligation Bond, called for the addition of landscaping, public art, marked bike lanes, decorative street lighting, reduction of street lanes in an effort to slow traffic, and additional on-street parking spaces within the Central Business District.

Trail Design Workshops

Transportation planners and engineers are encouraged to participate in various multimodal workshops aimed at promoting bicycle and pedestrian friendly communities and construction projects. The first biannual Oklahoma Bike Summit was held in Oklahoma City in 2011, which highlighted many

opportunities for planners and engineers to incorporate bicycle, pedestrian, and multi-modal infrastructure into the current roadway framework. Bike Friendly Community Workshops, sponsored by the League of American Bicyclists, encourage communities to review their current bicycle and pedestrian infrastructure and prioritize consideration for future expansion of their current non-motorized infrastructure.

Safe Routes to School

The Federal Safe Routes to School (SRTS) program provides funding to empower communities to make walking and biking to school safer for students. It was established in the August 2005 SAFETEA-LU Transportation Act and has been carried through to the most recent FAST Act of December 2015 as a part of a set-aside fund. This 100% federally funded program allows schools to partner with their host city to gain funds for both educational projects as well as infrastructure projects within two miles of a school. Eligible projects include: street crossing upgrades, crosswalks, bicycle facilities, and programs that encourage parents and their children to walk or ride a bike to school, among others. The most recent SRTS cycle in the OCARTS area was in 2012 and another statewide SRTS application cycle is expected by 2019.

Bike Friendly America

Sponsored by the League of American Bicyclists, Bike Friendly America is a program that provides incentives, hands-on assistance, and awards communities, universities, and businesses that actively support bicycling and foster a bike-friendly environment within their communities. In 2011, the City of Norman was designated a Bicycle Friendly Community, and received a bronze rating for adding striped bike lanes, increased bicycle signage, and other bicycle related facilities along existing bike routes within the city. A few years later, in the fall of 2015, Norman added a green striped bike lane on Cedar Lane, further proving their commitment to creating safe places for cyclists to ride. All communities within the OCARTS area are encouraged to review their existing multimodal transportation infrastructure and increase safety by placing an emphasis on separating bike and pedestrian facilities from motor vehicle facilities.

3-Foot Law

In 2006, the Oklahoma State Legislature passed a bill requiring motorists to yield at least three feet from a bicyclist when passing on a roadway. To ensure compliance at the local law enforcement level, Oklahoma City, Edmond and Norman adopted city ordinances in support of the state law.

The passage of the bill and ratification of city ordinances demonstrates a desired commitment for bicycle safety in Oklahoma, and paves a path for future, safety-driven bicycle and pedestrian efforts.

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TRANSPORTATION SECURITY

Concern over the security of the transportation system has grown as the country has responded to increasing incidents of terrorism and natural disasters. Federal regulations now require that security be addressed as a separate factor in the long-range transportation planning process.

ACOG has embraced this mandate and is actively involved in dialogue among local governments, transportation providers, and emergency responders regarding the regional coordination of response plans, response capabilities, and emergency medical services in the event of a major incident or catastrophic event. Central Oklahoma’s intelligent transportation infrastructure is an integral part of the region’s security. Current and future transportation and transit ITS elements include closed-circuit televisions, lane control signals, dynamic message signs, vehicle detectors, transit vehicle tracking, integrated radio systems and automated vehicle location, and centralized intersection signal control. These traffic monitoring, incident detection, and response systems are utilized in improving the security of the regional transportation system.

Additionally, ACOG has a long history of working in the area of security and emergency management. ACOG was instrumental in developing and implementing the enhanced 9-1-1 emergency system in Central Oklahoma. System financing was provided by a vote of the area’s citizens in the spring of 1987, followed by the system coming “on-line” May 1, 1989. Again, in 2005, ACOG led a regional movement to address the 9-1-1 system’s capacity to receive calls from mobile phones with the number and location information necessary to dispatch emergency services. A regional election was held in December 2005, and voters in all Central Oklahoma counties voted to approve of a monthly service fee to finance the system.

Emergency Evacuation Coordination

Understanding the critical role transportation infrastructure can play in a catastrophic event, ACOG has increased its involvement in regional security working groups. In 2007, ACOG participated with other regional stakeholders to

develop an evacuation plan for the Oklahoma Office of Homeland Security Region 6 (Canadian, Cleveland, Lincoln, Logan, McClain and Pottawatomie Counties) and Region 8 (Oklahoma County). The plan grants the governor and political subdivisions the authority to require evacuation during an emergency that threatens the health and safety of the public. The plan addresses resources that would be available to respond to the need for localized evacuations in the event of natural or man-made catastrophes, such as acts of terrorism or a release of hazardous materials. The plan also outlines evacuation operations and notification procedures through the state’s 511 system, mass transit notification, designation of evacuation routes, and traffic management coordination between the Oklahoma Department of Transportation, Oklahoma Turnpike Authority, Oklahoma Highway Patrol and local law enforcement agencies.

Identifying Security Gaps

Central Oklahoma has an extensive transportation network that residents have come to depend on in their daily activities. As part of the region’s preparedness efforts, Encompass 2040 addresses the need to identify critical infrastructure that may be at risk. This analysis underscores the importance of having a transportation network that “builds in” redundancy for moving large numbers of people and goods, and strategies for dealing with choke points or bottlenecks in the system. Through a careful analysis of future traffic congestion and the ability of our regional infrastructure to accommodate that growth, the Encompass 2040 Plan identifies infrastructure improvements that will keep the transportation system functional. Planned improvements can be viewed in Chapter 13 – The Adopted Plan. Encompass 2040 also recognizes the need to maintain the existing streets and bridges that are critical to a safe and secure system. In fact, over 50 percent of projected transportation funds will be allocated to street and bridge maintenance. Additionally, the Oklahoma Department of Transportation has accelerated its bridge maintenance efforts throughout the state. Since 2006, ODOT has replaced or rehabilitated 1,264 bridges and will replace or rehabilitate an additional 824 bridges as part of the 2017-2024 Construction Work Plan.

GOODS

MOVEMENT



The local and national economies rely on efficient, safe, and secure freight transportation. The movement of goods connects businesses, suppliers, markets, and consumers throughout the nation and facilitates regional specialization. Freight can be transported in various ways—single modes such as truck, rail, water, air, or pipeline or any combination of modes. Many factors influence the choice of mode for freight transportation, including access of the shipper and receiver to the particular mode; transportation, warehousing and other logistics costs; value and weight of commodities; and service characteristics specific to the mode. This interplay of factors is responsible for the modal choices of the freight market.

CURRENT FACILITIES

TRUCKING INFRASTRUCTURE

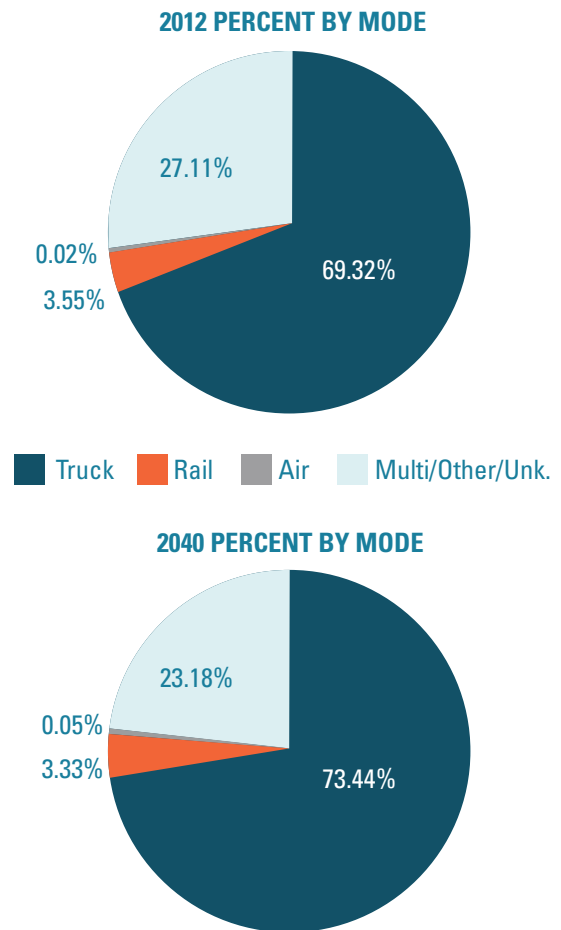
Trucking directly impacts every goods-moving industry in Oklahoma. A large number of Oklahoma communities are exclusively served by trucks for freight purposes, since they do not possess rail or airport access. Approximately 443 trucking companies operate in the OCARTS area as reflected in Table 10.1. Each is categorized as one of the four types of trucking and courier services: local trucking-without storage, trucking-except local, local trucking-with storage, and courier services-except air.

TABLE 10.1: OCARTS AREA TRUCKING COMPANIES

| COMPANY TYPE | NUMBER OF COMPANIES | PERCENTAGE OF TOTAL |
|--------------------------------|---------------------|---------------------|
| LOCAL TRUCKING WITHOUT STORAGE | 177 | 40% |
| TRUCKING EXCEPT LOCAL | 198 | 45% |
| LOCAL TRUCKING WITH STORAGE | 10 | 2% |
| COURIER SERVICES EXCEPT BY AIR | 58 | 13% |
| Total | 443 | 100% |

Roadways are critical components of the freight transportation system. The performance of the highway and street network is directly tied to the efficiency of truck transportation. Reliable travel times are critical to truckers who serve just-in-time manufacturing and distribution systems. The National Highway System (NHS) within the OCARTS area, which includes all

FIGURE 10.1: PERCENT OF FREIGHT MOVEMENT BY MODE, 2012 AND 2040



Interstates, certain U.S. Highways and State Highways, as well as all NHS connectors, best describes the region’s designated truck routes.

Truck terminals are used for handling and sorting freight, storage and maintenance of trucks, and administrative and operational functions, and are characterized by a large amount of truck traffic. The truck terminals shown in Figure 10.2 are expressed by the associated number of employees. Warehouses are used for the handling and sorting of freight, as well as the temporary storage of goods before their distribution, and may belong to either a major manufacturer or a trucking company. Many major manufacturers also operate freight terminals. The manufacturing facilities are based on the OCARTS employment database. These terminals mark the origin of truck freight within the OCARTS area. Table 10.2 reflects the inbound, outbound, and intraregional freight transported by truck in the OCARTS area in 2012 and anticipated in 2040. Overall, truck freight is anticipated to grow by just over 43 percent.

FIGURE 10.2: 2010 OCARTS AREA TRUCK FACILITIES

OCARTS AREA TRUCK FACILITIES (2010)

LEGEND

TRUCK TERMINALS (BY NUMBER OF EMPLOYEES)

- 1 - 50
- 51 - 250
- 251 OR GREATER

BASE MAP ELEMENTS

- LIMITED ACCESS FACILITIES
- ARTERIAL ROADS
- RAIL LINES
- OCARTS BOUNDARY
- COUNTY BOUNDARIES
- CITY BOUNDARIES

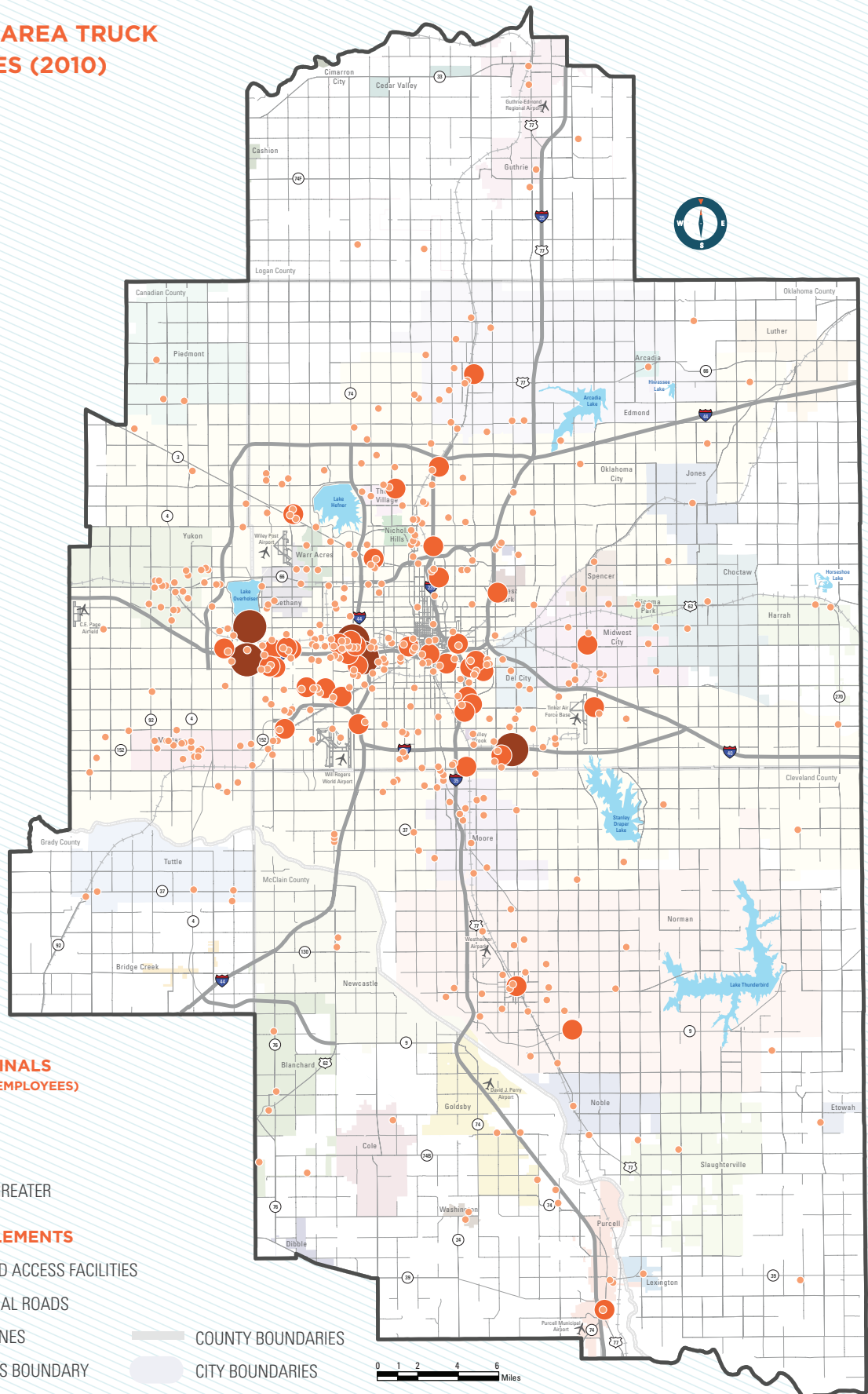


TABLE 10.2: 2012 AND 2040 INBOUND, OUTBOUND, AND INTRAREGIONAL FREIGHT TRANSPORTED BY TRUCK

| TRUCK FREIGHT | 2012 TONNAGE | 2040 TONNAGE | 2012- 2040 % CHANGE | ANNUAL AVERAGE GROWTH RATE |
|---------------|---------------|----------------|---------------------|----------------------------|
| INBOUND | 24,847,769.70 | 35,195,822.50 | 41.65% | 1.25% |
| OUTBOUND | 9,544,189.70 | 14,287,010.90 | 49.69% | 1.45% |
| INTRAREGIONAL | 36,207,520.40 | 51,763,160.80 | 42.96% | 1.28% |
| TOTAL TRUCK | 70,599,479.80 | 101,245,994.20 | 43.41% | 1.30% |

Source: Freight Analysis Framework, Version 4, Federal Highway Administration, 2012 (Excludes through truck traffic)

TABLE 10.3: 2012 AND 2040 INBOUND, OUTBOUND, AND INTRAREGIONAL FREIGHT TRANSPORTED BY RAIL

| RAIL FREIGHT | 2012 TONNAGE | 2040 TONNAGE | 2012- 2040 % CHANGE | ANNUAL AVERAGE GROWTH RATE |
|---------------|--------------|--------------|---------------------|----------------------------|
| INBOUND | 2,690,009.70 | 3,396,603.00 | 26.27% | 0.84% |
| OUTBOUND | 560,608.90 | 626,269.20 | 11.71% | 0.40% |
| INTRAREGIONAL | 361,031.90 | 567,939.90 | 57.31% | 1.63% |
| TOTAL RAIL | 3,611,650.50 | 4,590,812.10 | 27.11% | 0.86% |

Source: Freight Analysis Framework, Version 4, Federal Highway Administration, 2012

RAILROAD INFRASTRUCTURE

Within the OCARTS area, rail moves about 6 percent of the outbound freight tonnage, and about 2.7 percent of inbound tonnage.

Since the early 1980's, the Oklahoma Department of Transportation has taken an active role in planning and operating the rail system in response to the loss of major rail carriers and a large number of rail abandonments. A large portion of tracks owned by ODOT are leased to Union Pacific (UP), a Class I railroad company, and other portions are leased to two Class III railroad companies, thus aiding in the preservation of existing rail infrastructure. In addition, the railroad companies have executed multiple trackage right agreements among each other to allow full utilization of the existing infrastructure. The primary users of the railroad tracks within the OCARTS area are shown in Figure 10.3, along with the location of rail-truck intermodal facilities.

Class I railroad companies represent rail lines operated by large-scale railroad corporations, serving the nationwide

market. The OCARTS area is served by two Class I railroads—Burlington Northern Santa Fe (BNSF) and Union Pacific (UP). BNSF operates on the most extensive network of tracks within the study area. Amtrak has trackage rights on BNSF owned tracks. Additionally, as a consequence of a merger, BNSF began operating two parallel east-west lines through Oklahoma City. Due to this, ODOT decided to consolidate and streamline rail operations with an I-40 Crosstown Freeway project. This project aims to eliminate several street level crossings through downtown, as well as provide BNSF and UP with new operating facilities.

More information can be found here:

<http://www.okladot.state.ok.us/rail/rail-plan/index.php>.

Short Lines or Class III railroads also operate in the OCARTS area. They represent small-scale rail lines, which are usually locally operated, and function only within a single state or a few contiguous states. Two Class III railroads operate within the OCARTS area—Southern Kansas & Oklahoma Railroad (SKOL) and Stillwater Central Railroad (SLWC). The railroad

FIGURE 10.3: 2010 OCARTS AREA RAIL FACILITIES

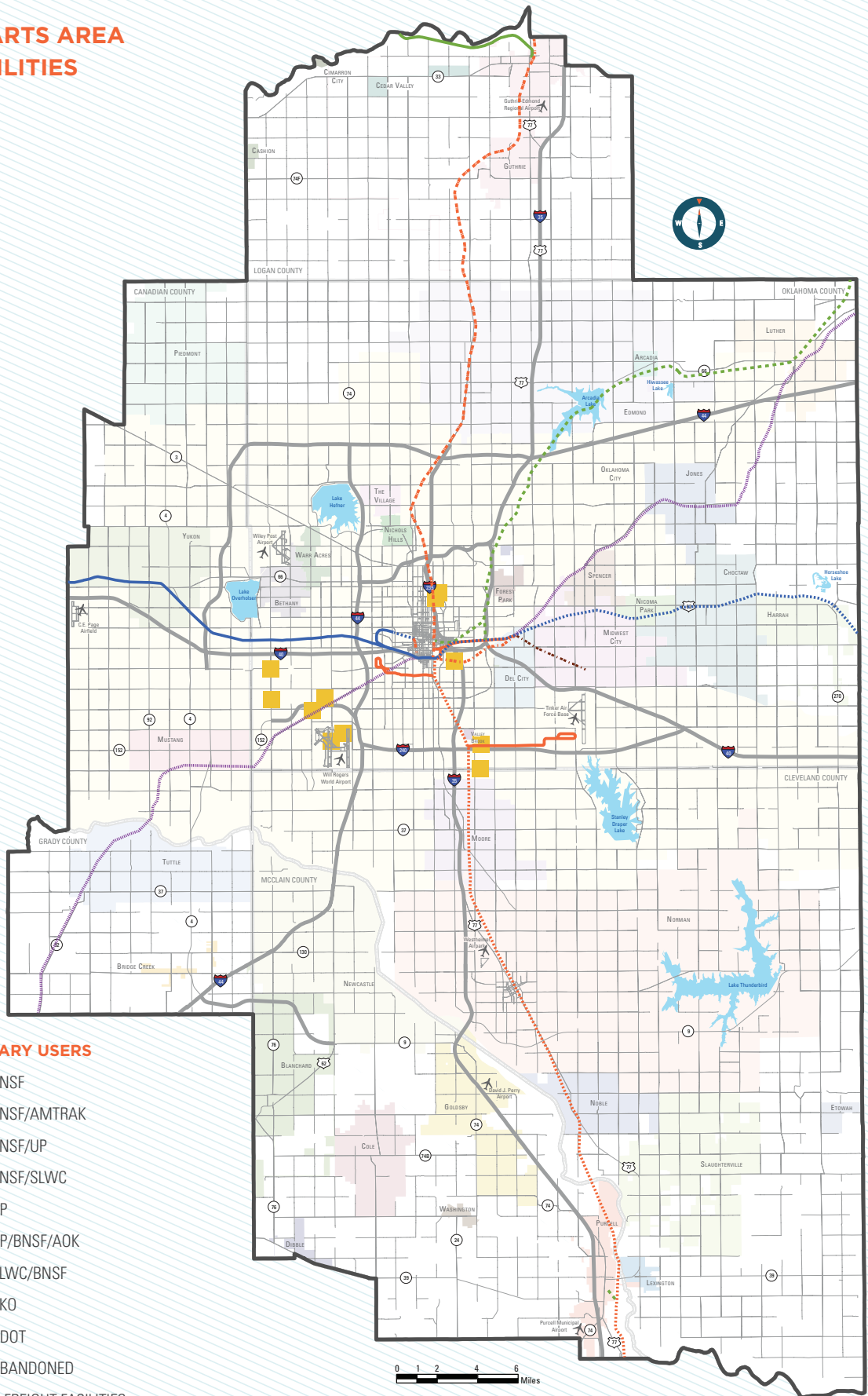
2010 OCARTS AREA RAIL FACILITIES

LEGEND

RAIL BY PRIMARY USERS

- BNSF
- - - BNSF/AMTRAK
- · - · - BNSF/UP
- · - · - BNSF/SLWC
- UP
- - - UP/BNSF/AOK
- · - · - SLWC/BNSF
- · - · - SKO
- ODOT
- - - ABANDONED

■ INTERMODAL FREIGHT FACILITIES



companies have taken up operations on multiple miles of state owned tracks, based on a long-term lease and operating agreement with the ODOT.

Table 10.3 reflects inbound, outbound, and intraregional freight tonnage moved by rail in the OCARTS area in 2012 and anticipated in 2040.

AIR FREIGHT INFRASTRUCTURE

Air cargo is suited to goods with a high time value, such as perishables, electronic parts, apparel, shoes, printed material, and pharmaceuticals. Because of time advantages, shippers are willing to pay higher transportation costs to deliver goods in days versus weeks and, thus, are more likely to pay higher costs to ensure reliable, rapid delivery.

A fraction of one percent of freight is carried in and out of the OCARTS area via air carrier operations, a trend typical for all of Oklahoma’s air freight movements. The OCARTS area does not contain a major hub airport and therefore has no significant portion of through-freight transported by air. Although representing only a small portion of total shipments, air carrier operations are critical because they have a higher proportionate share of high value shipments and carry the full load of airmail operations. The majority of OCARTS air freight is handled through the only commercial airport in the metropolitan area—Will Rogers World Airport.

The Will Rogers World Airport terminal is located approximately two miles from State Highway 152 and four miles from Interstate 44. A general warehouse at Will Rogers World Airport offers storage that can accommodate a wide variety of goods and containers, including intermodal containers on chassis. The warehouse is accessible via Interstate 44. Neither the air

freight terminals nor the airport warehouse have direct access to rail service. However, the Oklahoma City Department of Airports and the Oklahoma City Airport Trust recently designated approximately 1,000 acres on the east side of Will Rogers Airport as multi-use and multi-industry business development. Three primary areas of development have been designated. They include: direct aviation, aviation support, and retail/ industrial/office land uses. Each of these development areas will help to provide better services and access for the freight and manufacturing industries. More information on the Lariat Landing project can be found here: <http://www.flyokc.com/CurrentProjects.aspx>.

The Port Authority at Will Rogers World Airport is the governing board of Oklahoma’s largest Foreign Trade Zone (FTZ), having responsibility for a 41-county region in central and western Oklahoma. FTZs are sites within the U.S. where foreign and domestic goods are considered to be international commerce. Goods are admitted to the zone without formal U.S. Customs entry and the payment of duty is deferred and, under certain circumstances, reduced or eliminated. Within the zone, goods may be stored, tested, relabeled or repackaged, exhibited, mixed with domestic and/or foreign material, and used in assembly or manufacturing processes. Goods or finished products from a FTZ entering the U.S. commerce are subject to duty and taxes. Goods or finished products exported and destined for international commerce from the zone are not subject to duty and taxes.

More information on the FTZ can be found here:
<http://foreigntradezone106.org/index.php>.

Table 10.4 reflects the 2012 inbound and outbound airfreight tonnage within the OCARTS area and its anticipated growth through the 2040 forecast year.

TABLE 10.4: 2012 AND 2040 INBOUND AND OUTBOUND FREIGHT TRANSPORTED BY AIR

| AIR FREIGHT | 2012 TONNAGE | 2040 TONNAGE | 2012- 2040 % CHANGE | ANNUAL AVERAGE GROWTH RATE |
|---------------|--------------|--------------|---------------------|----------------------------|
| INBOUND | 7,484.50 | 12,918.10 | 72.60% | 1.97% |
| OUTBOUND | 16,563.80 | 54,094.20 | 226.58% | 4.32% |
| INTRAREGIONAL | - | - | 0.00% | 0.00% |
| TOTAL AIR | 24,048.30 | 67,012.30 | 178.66% | 3.73% |

Source: Freight Analysis Framework, Version 4, Federal Highway Administration, 2012

GOODS MOVEMENT NEEDS AND CHALLENGES

Below are goods movement issues and concerns raised as a result of the Encompass 2040 Transportation Survey, the Open House, and by freight stakeholders.

TRUCK FREIGHT

Design Improvements and Elimination of Safety Hazards

Since goods movement by truck relies on OCARTS interstates, highways, and arterials, the needs of motor carriers should be considered in the design and maintenance of the region's roads and bridges. Insufficient turning radii, insufficient queuing length at off-ramps or intersections, and other trucking safety hazards need to be considered in roadway design.

Congestion and Delays

As congestion steadily grows on the street and highway network, so do delays and costs to consumers. The growth of truck traffic and the overall growth of traffic volumes on major highway facilities through 2040 will lead to significantly increased congestion levels.

Increase of Network Capacity and Use of Intelligent Transportation Systems

Continued reliance on adding lanes as a means of congestion relief is financially and physically impractical. Capacity improvements are possible by managing the existing system more efficiently through the use of Intelligent Transportation Systems (ITS) technologies.

Truck Rerouting

According to the trucking industry, rerouting through truck traffic would result in better traffic conditions than creating separate truck lanes. This would be especially beneficial in rerouting hazardous materials around populated areas.

Diverting Truck Freight onto Rail

An interest in diverting long-haul truck freight onto rail, especially dry bulk commodities, was expressed by the trucking industry as well, thus freeing up additional roadway capacity. The key to such operations lies within increased partnerships and better intermodal connections.

Use of Triple-Trailers, Pavement and Bridge Stress

Only a few states, including Oklahoma, allow the use of double trailer rigs. The trucking industry is considering the effects of using three-trailer, six-axle vehicles, which would be capable

of carrying up to 90,000 lbs. The rationale is to be able to "take one out of every nine vehicles" off the roadway, which would free up capacity. It is also said to be less strenuous on the road pavement, which seems to be affected more by the number of trucks rather than simply the weight of the vehicle. The life-span of bridges, however, is affected differently than the pavement and reacts to the number of trucks, total weight, axle weight, axle distance, and other factors. The impact of the proposed type of truck on pavement, as well as bridges, will therefore require further study.

Change in Shipper Behavior

Although just-in-time delivery will continue to play an important role in the freight industry, some shippers have returned to larger "safety stock" inventories after the lessons learned during a 2002 port strike.

Time-definite Trucking versus Air Freight

Time-definite trucking competes directly with air freight. Shippers see an advantage in the drastically reduced transportation costs, if their freight does not require overnight forwarding.

Intermodal Trends

There has been a dramatic increase in containerization, although the OCARTS area seems a less likely candidate for these trends, due to its lack of intermodal facilities.

RAIL FREIGHT

The following rail freight issues and concerns should be considered when making improvements to the existing transportation network.

Oklahoma Freight and Passenger Rail Plan

The Oklahoma Department of Transportation is developing a new comprehensive Freight and Passenger Rail Plan in 2012 to guide the state's planning efforts for freight and passenger rail into one single coordinated effort. Issues of economy, mobility, safety, environmental sustainability and current and future needs of Oklahoma rail were evaluated. More information is available at <http://www.okladot.state.ok.us/rail/rail-plan>.

Improving Rail Service and Intermodal Connectivity

Track and rail yard construction and maintenance are the responsibility of the railroad company owning the facility. Private investments are market driven, and ODOT investments into state owned rail infrastructure are limited by the amount of special funds available.

Interstate Rail moving Freight

Rail supporters have stated a need for additional interstate rail options to transport raw materials and finished products between key locations in Oklahoma and neighboring states.

Industry Approach to Rail Freight Growth

The rail industry is able to accommodate expected growth with the existing capacities for the near future. However, its sustained ability to accommodate potential freight diverted from trucks will depend on working with ODOT to improve the intermodal capabilities of the existing rail yards, making way for an increase in trucking-rail partnerships.

Trends in Rail Transportation

Recent developments in containerization and other intermodal initiatives could prove to have a revitalizing effect on rail transportation in the OCARTS area, provided that adequate facilities will exist:

- The use of railroaders—semitrailers specially designed to travel both on highways and on rails—is increasing. The OCARTS area does not yet have a yard capable of handling railroaders.
- Another industry trend is the use of micro containers. These containers are small enough to be lifted off trains and transferred to trucks even outside of specially designed intermodal facilities.
- Additionally, a trend exists towards freight transportation in mega-sized container ships. Such shipments are capable of feeding certain northeastern ports, but could bypass the OCARTS area.

Air Quality

Due to better fuel efficiency, an increased use of rail freight over truck freight may preserve or even improve air quality within the OCARTS area. This is an important issue, especially in light of the current air quality standards and the prospect of more stringent standards in the near future.

Safety

With over 300 at-grade rail crossings within the OCARTS area, the need for grade-separated crossings and implementation of the frontage road concept remain top priorities, since a projected increase in rail freight has the potential of creating greater safety risks. Other rail safety issues include:

- Need for crossing improvements and increase in safety features at railroad intersections with urban arterials and highways;
- Concerns about possibility of broken rails causing derailments on main line railroad tracks; and

- Problems associated with the transport of chemicals and hazardous material through the heavily populated, urbanized areas.

AIR FREIGHT

The following air freight issues and concerns should be considered when making improvements to the existing transportation network.

Congestion on Airport Access Roads

In the OCARTS area, air-to-truck goods transfers are the only intermodal aspect of air freight movement. Therefore, accessibility of airports via the existing street and highway network and future connectivity to other modes of transportation is vital to maintaining traffic flow and reducing delays around area airports.

Trends in Air Freight Transportation

A 178 percent increase in air freight tonnage is projected between 2012 and 2040. Just-in-time management, as well as an increase in e-commerce volume, is factored into this development. However, complete projections of the impact of e-commerce are not available at this time and its further development should be closely monitored. Time-definite trucking competes directly with air freight, offering reliability and only slightly lower delivery speeds at a fraction of the transportation cost. Higher security stock inventories and safety concerns also have an impact on air freight logistics.

Intermodal Connectivity

Air-truck transportation is expected to continue to be the main means of intermodal air freight. Since there is currently no direct connection to railroad tracks.

Increase of Network Capacity and Use of Intelligent Transportation Systems

Physical solutions to increase the capacity of the street network that provides access to the airport are limited. Intelligent Transportation Systems (ITS) technologies should continue to be explored as a way to operate the existing system more efficiently.

Transportation Planning Coordination

The Federal Aviation Administration has asked for increased coordination of transportation planning between the top 100 airports in the nation (includes Will Rogers World Airport) and the MPOs monitoring the regions' street and highway network.

STREETS AND HIGHWAYS



The street and highway system constitutes the foundation of the region’s overall transportation infrastructure, enabling the movement of people and goods. While the roadway system primarily serves the movement of automobiles, Central Oklahoma’s public transportation and freight movements are also heavily dependent on an efficient street and highway network. Additionally, the viability of non-motorized transportation options, such as walking and bicycling, are heavily influenced by the makeup, condition and configuration of this network. The street and highway system plays a major role in supporting and realizing the region’s transportation goals.



CURRENT FACILITIES AND TRANSPORTATION NEEDS

Central Oklahoma is truly a crossroads for the nation’s transportation systems. Two of the most important interstate highways, I-40, which runs from Los Angeles to Raleigh, North Carolina, and I-35, which runs all the way from Mexico to Canada, meet in downtown Oklahoma City. The addition of I-44 that runs from Wichita Falls, Texas, to St. Louis, Missouri, as well as I-240 and I-235 reinforces Central Oklahoma’s status as an important national transportation hub.

In 2010:

- 201 linear miles of interstates, freeways, and expressways
- 59 linear miles of turnpikes
- 1,899 linear miles of arterials

In addition to serving automobile and truck traffic, the street and highway system provides the foundation for all modes of transportation, including providing the infrastructure upon which public and private transit services are operated and provides direct access to the region’s airports, trucking terminals, freight and passenger rail services, and recreational trails.

Central Oklahoma’s abundance of street and highway infrastructure has resulted in some of the lowest congestion levels for a region of its size. However, forecasted population and employment growth will make it difficult to maintain the level of movement the region currently enjoys.

ENCOMPASS 2040 BASE NETWORK AND ALTERNATE TRANSPORTATION NETWORKS

As part of Encompass 2040, an assessment of the future regional transportation system was conducted in an effort to mitigate the growing street and highway needs. The analysis was performed by reviewing 2040 roadway travel conditions under a variety of transportation funding scenarios, known as alternates. The transportation system impacts of each alternate were simulated using the regional travel demand model (RTDM). Additional base network and alternate network components can be viewed in Table 11.1. (on page 91)

BASE NETWORK

In order to calibrate the RTDM and have a baseline for evaluating future transportation system performance, a base network was developed for the analysis. For Encompass 2040, the base network included all regional streets and fixed transit routes as they existed in 2010.

ALTERNATE 1: PRESENT + COMMITTED NETWORK

The Present + Committed Network included all existing roadways and transit routes with improvements implemented since the 2010 base year, as well as those for which funding was committed through December 2016. This network—sometimes referred to as a “no build” network—would complete all projects underway, with future transportation funding focused on maintenance of the existing system. This network, referred to as Alternate 1, became the foundational network against which all other alternate networks would be compared. See Figure 11.1 (On page 88)

ALTERNATE 2: IMPROVED TRANSPORTATION NETWORK

Alternate 2 included all existing roadways and transit routes, the Present + Committed Network (Alternate 1), as well as future transportation improvements (Figure 11.2). These improvements included:

- Roughly 220 transportation projects submitted by local governments during the Encompass 2040 call for projects, including sidewalk and biking components,
- Long-range projects on the State Highway System (interstates, U.S. highways and state highways) provided by the Oklahoma Department of Transportation (ODOT),
- New OCARTS area turnpikes to be constructed by the Oklahoma Turnpike Authority as part of Driving Forward OK (SW Kilpatrick Turnpike extension and NE Oklahoma County loop),

- Roadway improvements to close gaps identified by ACOG staff, and
- Phase one improvements at the Santa Fe Station Intermodal Hub scheduled for completion in 2017, and the Oklahoma City downtown modern streetcar scheduled to open in 2018.

Alternate 2 was ultimately approved by the Intermodal Transportation Policy Committee on August 11, 2016 as the recommended 2040 street and highway network for the OCARTS area. The alternate proved to provide superior level of service over Alternate 1, while remaining financially constrained. See Table 11.2 for alternate network comparisons. (on page 92)

A listing and detailed map of all proposed street and highway projects can be found in Chapter 13 - The Adopted Plan.

ALTERNATE 3: IMPROVED TRANSPORTATION NETWORK + REGIONAL TRANSIT

The Alternate 3 Network included all existing roadways and transit routes, the Present + Committed Network (Alternate 1), future transportation improvements (Alternate 2), as well as regional commuter rail, bus rapid transit, and feeder bus routes identified by the 2014 Central Oklahoma Commuter Corridors Study and the 2005 Regional Fixed Guideway Study. The Alternate 3 Network was considered illustrative, due to the lack of dedicated funding sources to implement new regional high capacity transit improvements. See Figure 11.3.

SCENARIOS: LINKING LAND USE AND TRANSPORTATION

Each alternate network was modeled using two potential land use patterns for the region in 2040.

- **Scenario 1:** continued the region's historical trend of outward growth with no new zoning initiatives.
- **Scenario 2:** focused on growth that would encourage infill, nodal, and downtown development within communities, which would be more supportive of future regional transit.

The 2040 land use scenarios have demonstrated that the region has potential to gain more transportation efficiencies if it develops in a pattern like Scenario 2, however this pattern is dependent on future land use decisions made at the local level.

EVALUATION OF ALTERNATE STREET AND HIGHWAY NETWORKS

Table 11.2 provides a summary of the travel conditions projected for each alternate street and highway network in the year 2040, as compared to 2010 base year conditions. Evaluation factors included each network's ability to meet projected daily transportation demand, network performance in terms of congested road miles and speed, and estimated costs to implement each alternate.

Descriptions of the major evaluation factors are described below.

Congested Road Miles

In order to determine potential congestion levels for the alternate street and highway networks, the traffic volumes for the forecast year were assigned to each of the four alternates individually. After each alternate assignment, the 24-hour non-directional capacities based on level of service (LOS) E, were applied to derive volume-to-capacity (V/C) ratios for individual links on the networks. Full capacity is represented by a V/C ratio of 1.0. Thus, a roadway segment was considered moderately congested if its V/C ratio was greater than 0.69 and seriously congested if the V/C ratio was above 0.99. The purpose of this analysis was to provide a picture of the anticipated congestion levels in the year 2040 using different improvement scenarios. With the aid of these detailed modeling results, local planners, engineers, and elected officials could focus on the individual congested locations to propose localized improvements without losing sight of regional mobility and network continuity goals.

Vehicle Miles of Travel

Daily vehicle miles of travel (VMT) is an indicator of the usage of streets and highways over a 24-hour period by the traveling public. The VMT estimates were generated by the transportation modeling software, which sums the assigned volume multiplied by the associated street segment distance. Separate estimates were evaluated for freeway and non-freeway facilities. The VMT estimates were also used to project estimates of vehicle emissions, crashes, and road user costs in the calculation of benefit-cost analysis for each of the three alternates.

Vehicle Hours of Travel

Vehicle hours of travel (VHT) is another indicator of network efficiency. The VHT estimates were generated by the transportation model as well, providing a separate estimate for freeway and non-freeway facilities for each alternate.

FIGURE 11.2: ALTERNATE 2 PROJECTS

ALTERNATE 2 PROJECTS

LEGEND

**ALTERNATE 2:
IMPROVED TRANSPORTATION NETWORK**

—●— MEMBER SUBMITTED, ODOT, OTA,
AND GAP PROJECTS

ALTERNATE 1:
—●— PRESENT + COMMITTED NETWORK

BASE MAP ELEMENTS

- LIMITED ACCESS FACILITIES
- ARTERIAL ROADS
- RAIL LINES
- OCARTS BOUNDARY
- COUNTY BOUNDARIES
- CITY BOUNDARIES

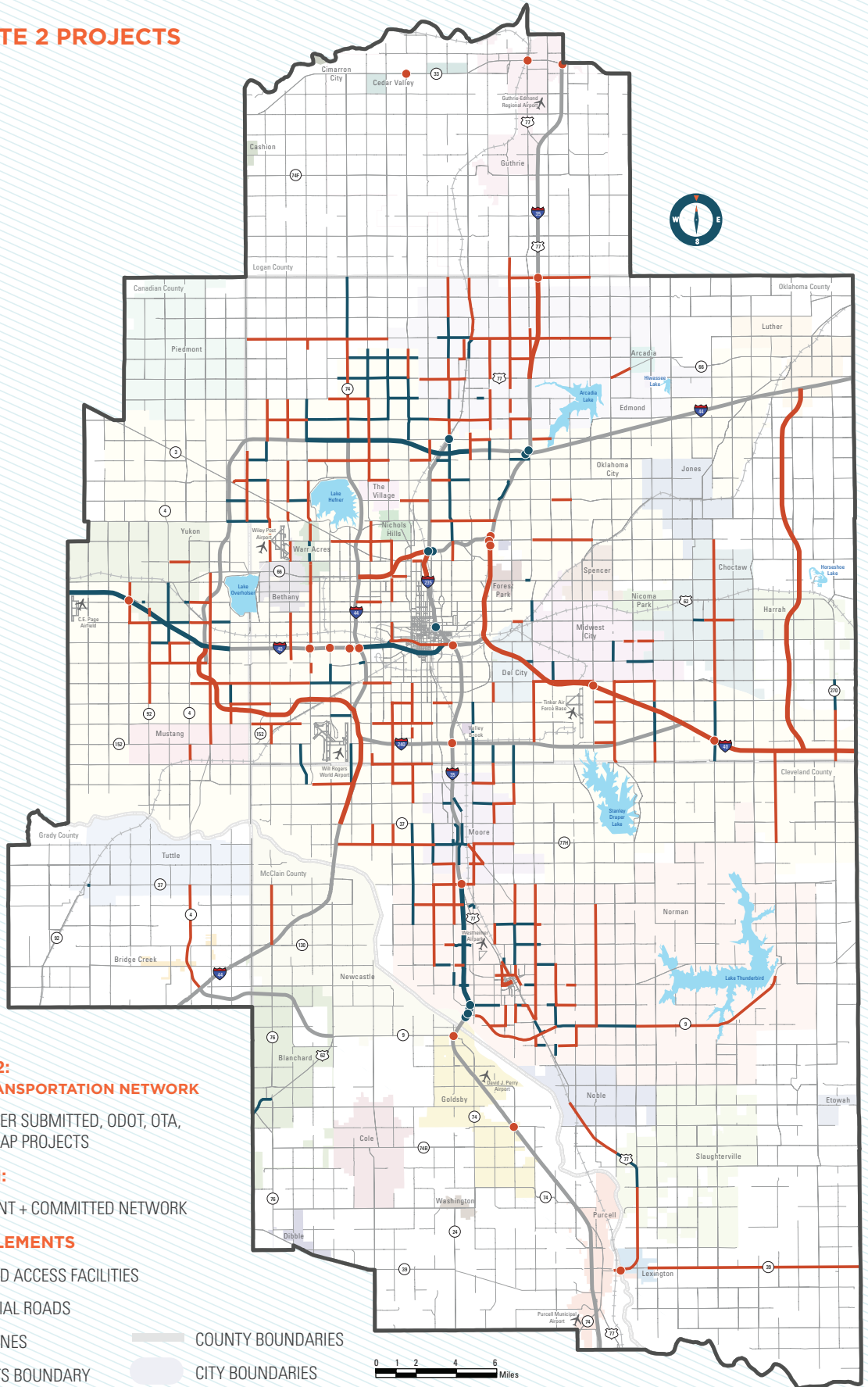


FIGURE 11.3: ALTERNATE 3 PROJECTS

ALTERNATE 3 PROJECTS

LEGEND

ALTERNATE 3:

TRANSPORTATION NETWORK + REGIONAL TRANSIT

- REGIONAL COMMUTER RAIL, BUS RAPID TRANSIT, AND SUPPORTIVE BUS ROUTES

ALTERNATES 1 AND 2:

- PRESENT + COMMITTED NETWORK AND FUTURE TRANSPORTATION PROJECTS

BASE MAP ELEMENTS

- LIMITED ACCESS FACILITIES
- ARTERIAL ROADS
- RAIL LINES
- COUNTY BOUNDARIES
- OCARTS BOUNDARY
- CITY BOUNDARIES

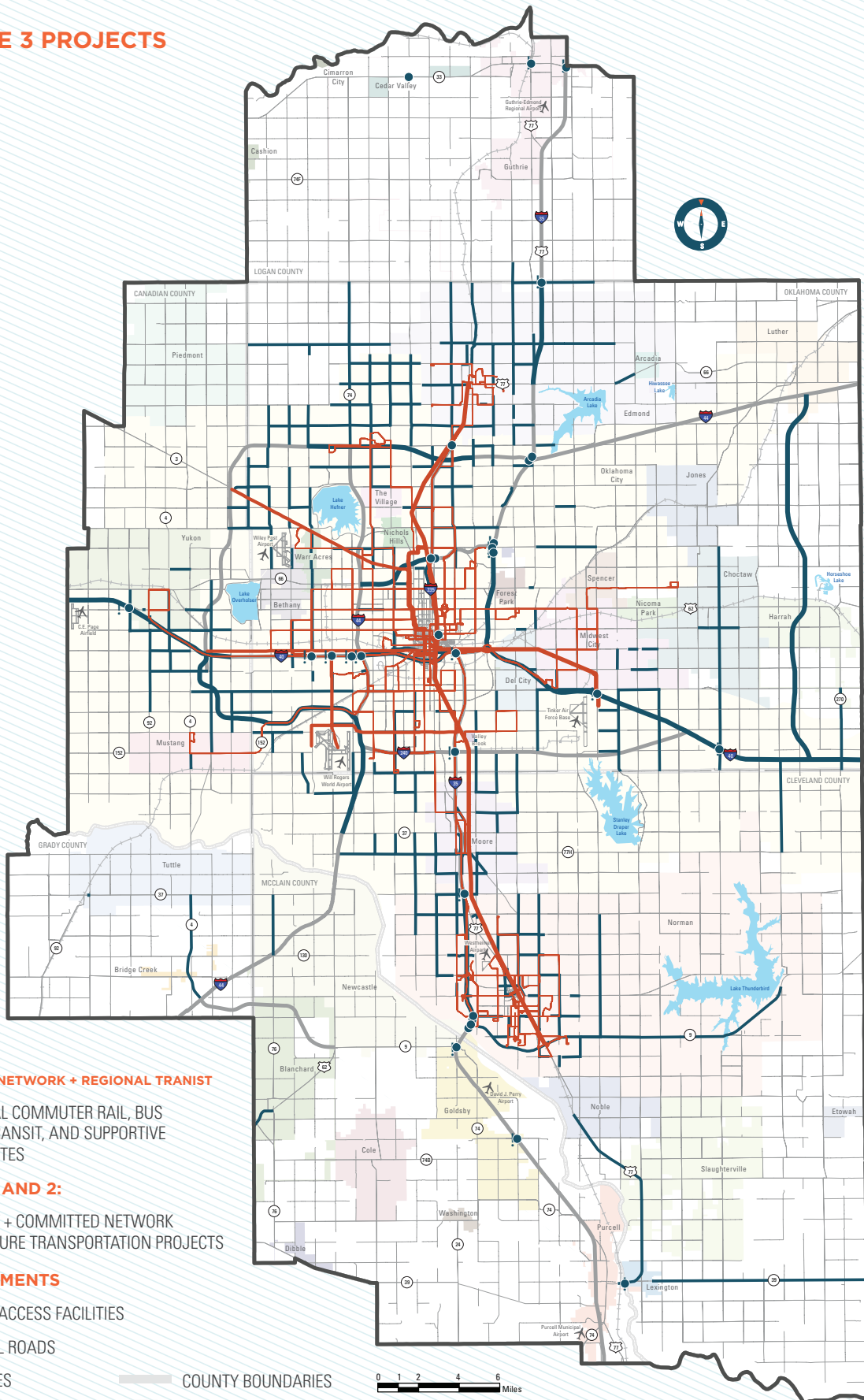


TABLE 11.1: BASE NETWORK AND ALTERNATE NETWORK COMPONENTS

| ALTERNATIVE COMPONENTS | BASE NETWORK | ALTERNATE 1 | ALTERNATE 2 | ALTERNATE 3 |
|--|--------------|-------------|-------------|-------------|
| BASE STREET NETWORK (2010) | • | • | • | • |
| BASE FIXED TRANSIT ROUTES (2010) | • | • | • | • |
| PRESENT + COMMITTED PROJECTS (2010-2016) | | • | • | • |
| ODOT 8-YEAR CONSTRUCTION WORK PLAN (THROUGH 2016) | | • | • | • |
| ENCOMPASS 2040 MEMBERS PROJECT | | | • | • |
| LONG-RANGE ODOT PROJECTS | | | • | • |
| GAP PROJECTS (IMPROVEMENTS THAT CLOSE GAPS IN THE NETWORK) | | | • | • |
| OTA TURNPIKES | | | • | • |
| DOWNTOWN OKLAHOMA CITY STREETCARS | | | • | • |
| ITS INTEGRATED CORRIDOR MANAGEMENT (RAMP METERING AND DMS) | | | • | • |
| ITS ADAPTIVE SIGNAL CONTROL (COORDINATED NETWORK OF SIGNALS) | | | • | • |
| SIGNALIZATION AT CRITICAL LOCATIONS (STOP SIGN CONVERSION) | | | • | • |
| REGIONAL TRANSIT (2030 FIXED GUIDEWAY STUDY VISION) | | | | • |
| 0.3 – 0.47% TRANSIT MODE SHARE | • | • | • | |
| 1.0% TRANSIT MODE SHARE | | | | • |

Average Speeds

Another performance measure used in the network alternate analysis was the average speed for freeways and non-freeway facilities. The speeds were calculated by dividing the VMT by the VHT for the two functional classification categories.

Other Evaluation Measures

In addition to the factors reflected in Table 11.2, the alternate street and highway networks were evaluated in terms of the recommended plan’s effect on a number of environmental and social impacts, including an environmental justice analysis of the potential impacts to low income and minority populations, and their cost effectiveness (benefit-cost ratio). Information can be found in Chapter 12 – Protecting Human Health and the Environment, and Chapter 14 – Financial Strategies, Revenues and Cost, respectively.

STREET AND HIGHWAY CHALLENGES

The street and highway network will continue to be the transportation backbone in the year 2040. Indeed, the level of service the driving public demands will be predicated on the region’s ability to construct and maintain the street and highway system. Like most transportation modes identified in this report, adequate funding will continually have to be pursued. Even if funds are readily available, it is clear from the Encompass 2040 process, that the region will be unable to build its way out of congestion. As a result, the Plan addresses the need to look at a more comprehensive approach focusing on land use practices to decrease the demand for the automobile and to continue to diversify the region’s transportation options.

TABLE 11.2: ALTERNATE COMPARISON

| RTDM NETWORK EVALUATION ¹ | | 2010 BASE NETWORK | ALTERNATE 1 SCENARIO 1 | ALTERNATE 1 SCENARIO 2 | ALTERNATE 2 SCENARIO 1 ¹⁰ | ALTERNATE 2 SCENARIO 2 | ALTERNATE 3 SCENARIO 1 | ALTERNATE 3 SCENARIO 2 |
|--------------------------------------|--|-------------------|------------------------|------------------------|--------------------------------------|------------------------|------------------------|------------------------|
| DEMOGRAPHIC DATA | | | | | | | | |
| Population | | 1,142,338 | 1,595,168 | 1,595,168 | 1,595,168 | 1,595,168 | 1,595,168 | 1,595,168 |
| Employment | | 601,839 | 875,402 | 875,402 | 875,402 | 875,402 | 875,402 | 875,402 |
| DAILY TRANSPORTATION DEMAND | | | | | | | | |
| Vehicle Miles of Travel | | 30,266,000 | 45,299,000 | 44,321,000 | 46,550,000 | 45,517,000 | 45,997,000 | 44,927,000 |
| Vehicle Miles of Travel Per Person | | 26 | 28 | 28 | 29 | 29 | 29 | 28 |
| Vehicle Hours of Travel | | 853,000 | 1,503,000 | 1,474,000 | 1,415,000 | 1,389,000 | 1,398,000 | 1,371,000 |
| Vehicle Trips | | 4,165,000 | 5,896,000 | 5,976,000 | 5,858,000 | 5,928,000 | 5,788,000 | 5,851,000 |
| Transit Ridership | | 15,700 | 22,800 | 26,200 | 22,900 | 26,600 | 91,100 | 108,900 |
| SYSTEM PERFORMANCE | | | | | | | | |
| Congested Road Miles | | 289 | 647 | 626 | 308 | 297 | 295 | 290 |
| Average Overall Speed (mph) | | 35 | 30 | 30 | 33 | 33 | 33 | 33 |
| Average Freeway Speed (mph) | | 45 | 40 | 40 | 44 | 44 | 44 | 44 |
| Average Arterial Speed (mph) | | 35 | 25 | 25 | 29 | 29 | 29 | 29 |
| Average Trip Length (miles) | | 7.27 | 7.68 | 7.42 | 7.95 | 7.68 | 7.95 | 7.68 |
| Average Trip Length (minutes) | | 12.29 | 15.3 | 14.8 | 14.49 | 14.06 | 14.49 | 14.06 |
| Daily Hours of Delay | | 138,000 | 454,000 | 425,000 | 366,000 | 340,000 | 349,000 | 322,000 |
| Delay per Trip (minutes) | | 1.99 | 4.62 | 4.27 | 3.75 | 3.45 | 3.62 | 3.31 |
| Daily Crashes ² | | 76 | 68 | 67 | 58 | 56 | 57 | 55 |
| Daily Injuries ² | | 37 | 33 | 33 | 28 | 27 | 28 | 27 |
| Daily Fatalities ² | | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |

TABLE 11.2: ALTERNATE COMPARISON *continued*

| RTDM NETWORK EVALUATION ¹ | | 2010 BASE NETWORK | ALTERNATE 1 SCENARIO 1 | ALTERNATE 1 SCENARIO 2 | ALTERNATE 2 SCENARIO 1 ¹⁰ | ALTERNATE 2 SCENARIO 2 | ALTERNATE 3 SCENARIO 1 | ALTERNATE 3 SCENARIO 2 |
|---|--|-------------------|------------------------|------------------------|--------------------------------------|------------------------|------------------------|------------------------|
| ENVIRONMENTAL ³ | | | | | | | | |
| Carbon Monoxide Emissions (tons/day) | | 564 | 116 | 113 | 111 | 109 | 110 | 107 |
| Hydrocarbon Emissions (tons/day) | | 97 | 11 | 11 | 10 | 10 | 10 | 10 |
| Nitrogen Oxide Emissions (tons/day) | | 107 | 16 | 16 | 15 | 15 | 15 | 15 |
| Daily Fuel Consumption (gallons) ^{4,5} | | 1,211,000 | 824,000 | 806,000 | 787,000 | 770,000 | 778,000 | 760,000 |
| ESTIMATED COST ⁶ | | | | | | | | |
| Street & Highway Construction | | - | 830,684,733 | 830,684,733 | 3,562,712,478 | 3,562,712,478 | 3,562,712,478 | 3,562,712,478 |
| Street & Highway Maintenance | | - | 5,368,593,180 | 5,368,593,180 | 5,217,983,029 | 5,217,983,029 | 5,217,983,029 | 5,217,983,029 |
| Transit | | - | 1,037,094,247 | 1,037,094,247 | 1,278,549,300 | 1,278,549,300 | 3,640,889,269 | 3,640,889,269 |
| Bicycle & Pedestrian | | - | - | - | 272,513,112 | 272,513,112 | 272,513,112 | 272,513,112 |
| Total ⁷ | | - | 7,236,372,160 | 7,236,372,160 | 10,331,757,919 | 10,331,757,919 | 12,694,097,888 | 12,694,097,888 |
| BENEFIT COST RATIO (COMPARING ALTERNATE 2 AND ALTERNATE 3 TO ALTERNATE 1) ⁸ | | | | | | | | |
| Road User Cost Savings/construction Costs (Annual) | | N/A | N/A | N/A | 5.30 | 5.56 | 5.11 | 5.21 |
| DAILY COST SAVINGS | | | | | | | | |
| Daily Road User Cost Savings | | N/A | N/A | N/A | 2,434,000 | 2,581,000 | 3,351,000 | 3,413,000 |
| Daily Crash Cost Savings - Property Damage ⁹ | | N/A | N/A | N/A | 133,000 | 147,000 | 147,000 | 160,000 |
| Daily Crash Cost Savings - Injuries ⁹ | | N/A | N/A | N/A | 602,000 | 604,000 | 649,000 | 654,000 |
| Daily Crash Cost Savings - Fatalities ⁹ | | N/A | N/A | N/A | 87,000 | 88,000 | 94,000 | 95,000 |
| TOTAL DAILY COST SAVINGS | | N/A | N/A | N/A | 3,257,000 | 3,420,000 | 4,241,000 | 4,321,000 |

1) Refer to alternate network assumptions matrix for additional information | 2) 2040 crashes were based on a 42% decline in crash rate from 1980 to 2010 | 3) Vehicle emissions were calculated using EPA MOVES2014a model | 4) Fuel consumption was based on current 25 miles per gallon and EPA requirement of 54.5 miles per gallon by 2025 | 5) For Alternate 2 and Alternate 3, an additional 7% was removed because of ITS | 6) Refer to financially feasibility documents for additional information on estimated plan costs | 7) Estimated total Encompass 2040 revenue is \$10,423,315,000 | 8) Cost Benefit Ratio = Annual Road user costs saved/annual construction costs, Ex: Alternate 2 Scenario 1: For every dollar spent on construction, \$5.30 was saved in road user costs, Road User Costs include (2040): Auto operating costs of \$0.85 per mile, Hourly wage costs of \$15.00 per hour, Turnpike Tolls of \$0.15 per mile, Crash costs (See 7), Construction Costs include (2040): Road construction + ROW costs + Maintenance; Transit costs; Bike/pedestrian costs | 9) 2010 Average auto crash costs are from the National Safety Council (NSC); Fatality Cost: \$1,410,000 * 1.5 inflation factor = \$2,115,000; Injury Cost: \$78,900 * 1.5 inflation factor = \$118,350; Property Damage Cost: \$8,900 * 1.5 inflation factor = \$13,350 | 10) Recommended Alternate for Encompass 2040

PROTECTING HUMAN HEALTH AND THE ENVIRONMENT



Effective transportation systems can produce multiple benefits at the local and regional level by linking communities' roadway, trail and pedestrian systems, helping to protect natural resources, and adding to the economic vitality and livability of the area. However, it is important to evaluate the potential social, environmental, and economic impacts of the plan to ensure that future transportation projects will have a positive impact on the quality of life of the people of Central Oklahoma.

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HUMAN HEALTH AND ENVIRONMENTAL IMPACTS CONSIDERED IN THE PROJECT SELECTION PROCESS

As part of the Encompass 2040 development process, ACOG staff evaluated social, environmental, and economic factors important to the study area, and developed plan goals that would promote early consideration of these factors when evaluating the potential impact of transportation projects.

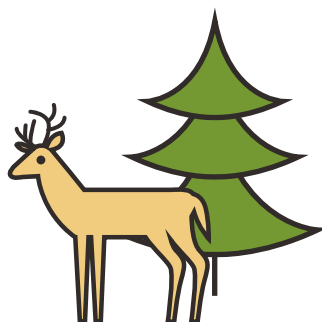
Additionally, socioeconomic and environmental data was utilized during the Encompass 2040 project evaluation and scoring process to encourage initial consideration at the local level. Projects submitted for inclusion in Encompass 2040 were evaluated against several performance criteria, including their anticipated impact on air and water quality, culturally and environmentally sensitive lands, and disadvantaged populations. These criteria were used to reward projects that would reduce the amount of vehicle miles traveled and fuel consumption, mitigate potential adverse environmental and social impacts, and improve the overall performance of the transportation system. Projects with multimodal aspects were most likely to achieve these goals.

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PROTECTING THE ENVIRONMENT

PROTECTING ENVIRONMENTAL RESOURCES

Central Oklahoma contains a wide variety of important natural resources. Geographically, it is essentially a transition buffer between the wetter and more forested Eastern Oklahoma (Cross Timbers) and the semi-arid high plains of Western Oklahoma (Southern Great Plains).



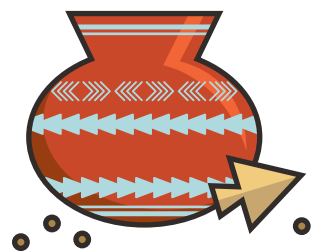
The region has an abundance of wildlife and plant species, including federally listed threatened and endangered species (e.g. Whooping Crane, Interior Least Turn and the Arkansas River Shiner). Oklahoma has the largest number of man-made lakes in the United States with Central Oklahoma containing approximately 25 square miles of lakes.

Environmental Data Evaluated:

- Parks and Recreational Areas
- Wildlife and Endangered Species
- Flood Plains
- Water Quality: Surface and Aquifers
- Hazardous Waste and Superfund Sites (LUST, LAST, and CERCLA)
- Air Quality – MOVES Evaluation

PROTECTING SOCIAL AND CULTURAL RESOURCES

For long-range transportation planning, it is important to consider the potential impacts on cultural and social resources as well as environmental resources. Transportation projects are evaluated in terms of their proximity to and their potential effect on noise sensitive community resources such as hospitals, schools, and churches. Before projects are constructed, their potential impact on historic resources must also be determined. Even though Oklahoma as a state has a relatively recent history, its archaeological record is quite extensive with an abundance of identified prehistoric and Native American sites. Nationally, the Cross Timbers of Central Oklahoma is increasingly recognized as an important location for explaining prehistoric peoples' adaptations to changing ecological situations.



Social/Cultural Data Evaluated:

- Archaeological Sites
- Tribal Lands
- National Historic Sites and Districts
- Noise Sensitive Areas/Sites

MINIMIZING SOCIO-ECONOMIC IMPACT

A major producer of natural gas, oil and agricultural goods, Oklahoma relies on an economic base of aviation, energy, telecommunications, and biotechnology. To support and foster this thriving community and its economic base, the transportation system must provide access to jobs and offer strong connections between economic centers - inside and outside of the region.



The diverse and changing population requires adapting transportation options beyond driving alone, with particular emphasis on alternatives for those who cannot drive due to financial or physical limitations, or lifestyle preference.

Economic Data Evaluated:

- Residential and Employment Displacements (due to roadway construction projects)
- Low Income and Traditionally Underserved Groups (Environmental Justice)
- Encompass 2040 Plan Costs and Revenues

PROTECTING HUMAN HEALTH FROM TRANSPORTATION SYSTEM IMPACTS

The transportation system directly and indirectly impacts the health of Central Oklahomans. Driving produces exhaust fumes and pollutants that can damage lung tissue, and is especially harmful for those with heart disease, asthma, and other chronic lung diseases.

Air pollution affects humans, animals, plant life, water quality, property, and visibility. There are numerous sources of air pollution, including those occurring naturally (vegetation, windblown dust, volcanic eruptions), transportation sources (cars, buses, planes, trucks, and trains), and other man-made stationary sources (factories, power plants).

The Clean Air Act Amendments of 1990 (CAAA) strengthened the need for improved coordination between air quality and transportation planning, and established mandatory requirements for metropolitan areas that violate federal air quality standards.

As required by EPA, ozone levels are routinely monitored by the Oklahoma Department of Environmental Quality (ODEQ) at six locations in Central Oklahoma between the months of May and October. Carbon monoxide is monitored at one site in north Oklahoma City. If the ozone standard is exceeded at just one monitoring station, the entire region is considered to be in violation.

AIR QUALITY PROGRAM ACTIVITIES

While the Oklahoma City Area Regional Transportation Study (OCARTS) area remains in attainment for all federally regulated pollutants, ground level ozone continues to be a problem. Consequently, ACOG has been proactive in its planning endeavors to reduce mobile source emissions—cars and trucks—which account for approximately 60 percent of the region’s pollution. ACOG employs proactive planning efforts to help maintain its air quality attainment status, including the following:

- Daily review of ozone and carbon monoxide monitoring sites throughout the OCARTS area
- Opting into an 8-hour Ozone Flex Program with the Environmental Protection Agency (ACOG also participated in a previous EPA program, the 8-hour Ozone Early Action Compact)
- Administration and support of regional rideshare programs
- Administration of a Public Fleet Conversion Grant program
- Administration of the Central Oklahoma Clean Cities program
- Administration of the Air Quality Awareness Grant program (2014)
- Use of an “air quality friendly” criterion in the selection of projects that will utilize the MPO’s Surface Transportation Program Urbanized Area (STBG-UZA) funds
- Award of additional points for proposed long-range transportation plan projects that reduce emissions by decreasing fuel consumption and vehicle miles traveled, as well as by improving transportation system performance
- Promotion of alternative forms of transportation
- Air quality public education initiatives including the Clean Air Alert Day program



THE ADOPTED PLAN AND PROJECT LISTS



The metropolitan transportation plan, known as Encompass 2040, was adopted on October 27, 2016. It includes both location-specific projects and policy recommendations. It contains all modes of transportation within the OCARTS area and consists of affordable improvements, as well as maintenance of those improvements, which are based on a realistic projection of transportation revenues for this region.

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POLICY RECOMMENDATIONS

The following policy recommendations are supportive of the Encompass 2040 goals adopted by the MPO policy board. In order to implement many of these policies, they will need to be supported and adopted at the local level. It is recognized that not all OCARTS local governments will choose to implement every recommendation and that, depending on the urban or rural nature of the community or parts of the community, not all recommendations are appropriate throughout the entire study area. In addition, many recommendations are multimodal in nature, thereby enhancing the concept of a seamless regional transportation system.

BICYCLE RECOMMENDATIONS

- Encourage adoption of ordinances providing for the implementation of safe bicycle facilities that meet minimum design standards of the American Association of State Highway Transportation Officials (AASHTO)
- Enforce the 2006 State law that established a minimum 3 - foot safe-passing distance from bicyclists by motorists through adoption at the local level
- Continue to encourage connections within communities by linking neighborhoods with popular destinations such as schools, employment, retail centers, tourist attractions, medical facilities, and outdoor recreation areas
- Continue to evaluate potential connections between transit routes, park-and-ride lots, pedestrian ways, and existing and planned bicycle routes for opportunities to improve connections among modes
- Continue to support local initiatives to collect bicycle and pedestrian count data either through the National Bicycle and Pedestrian Documentation Project or via their own means of collection
- Explore opportunities for preservation and/or construction of bicycle facilities within floodways, greenways, public open spaces, utility rights-of-way, abandoned railroad rights-of-way, and school land

- Encourage cooperation and coordination among cities, state agencies and the private sector regarding public awareness, education, safety, and funding relating to bicycle use
- Continue to regularly update the OCARTS area bicycle database containing existing and planned facilities
- Support cycling through activities such as Bike-to-Work Day, which promote riding a bicycle as a viable mode of transportation
- Encourage employers to provide facilities for employees who bicycle to work
- Continue to promote bicycle friendly businesses, communities, and universities
- Implement Complete Street principles, as appropriate, when constructing and/or improving streets, highways, and bridges
- Continue to promote bike-share services in the OCARTS area, such as COTPA's Spokies and CART's Crimson Cruisers

PEDESTRIAN RECOMMENDATIONS

- Encourage the adoption of ordinances requiring sidewalk construction in conjunction with residential and commercial development and redevelopment
- Explore opportunities for preservation or construction of pedestrian pathways within floodways, greenways, public open spaces, utility rights-of-way, abandoned railroad rights-of-way, and school land
- Link pedestrian systems with transit stop locations, nearby schools, and retail centers
- Continue to support local initiatives to collect bicycle and pedestrian count data either through the National Bicycle and Pedestrian Documentation Project or via their own means of collection
- Encourage cooperation and coordination among cities, state agencies and the private sector regarding public awareness, education, safety, and funding relating to pedestrian facilities
- Encourage communities to include sidewalks in conjunction with street improvement projects, and implement Complete Street principles, as appropriate
- Ensure that pedestrian projects meet or exceed ADA accessibility standards. Identify gaps and retrofit existing locations that lack accessible sidewalks
- Continue to advocate and support Open Streets initiatives in the OCARTS area

TRANSIT RECOMMENDATIONS

- Continue transit coordination discussions as begun under the Regional Transit Dialogue, and work to establish a regional transit authority, dedicated local funding source(s) to expand

public transportation, and appropriate state legislation to establish and implement a regional transit authority

- Continue implementing the recommendations of the 2005 Fixed Guideway Study
- Promote the further development of the Regional Intermodal Transportation Hub
- Encourage improved coordination between land use and transit planning, including pedestrian and bicycle connections to transit routes, practical transit stop locations, transit shelters, park-and-ride lots, access for elderly and person with disabilities, and transit oriented development
- Explore transit access to Will Rogers World Airport
- Continue to promote regional clean air goals by providing alternatives to the single occupant motor vehicle, including more express bus routes, park-and-ride opportunities, reduced or free bus fare on Ozone Alert Days, and assist with funding to purchase alternative-fueled buses
- Enhance marketing of new and existing transit services to expand ridership
- Pursue efforts to fund and expand passenger rail service linking Oklahoma City with other cities and states
- Advocate transit as an alternative mode of transportation in order to alleviate congestion in the region
- Incorporate Oklahoma City Streetcar into regional transit plans

GOODS MOVEMENT RECOMMENDATIONS

Intermodal Freight

- Encourage development of intermodal facilities and connections to enhance and integrate area freight movement
- Increase goods movement efficiency through freight specific intelligent technology
- Encourage street and highway projects that reduce bottlenecks and enhance truck movement
- Consider wider turning radii, greater pavement strength, improved access management, and elimination of safety hazards on heavily traveled commercial vehicle routes
- Work with the State and private stakeholders to study potential rerouting of through-traffic around the core metropolitan area
- Enhance MPO participation in the planning and implementation of Commercial Vehicle Operations (CVO) deployment
- Explore development of a regional truck route system

- Encourage project implementation on the OCARTS area Critical Urban Freight Corridor network

Rail Freight

- Work with ODOT Rail Division to alleviate safety concerns at railroad crossings; upgrade key crossings with mast arms, lights and/or other safety features; and eliminate unnecessary or poorly functioning crossings
- Consider grade separation at high traffic railroad crossings
- Encourage industrial development near rail corridors to enhance intermodal freight movement
- Participate in the development and implementation of the State Rail Plan

Air Freight

- Enhance MPO participation in multimodal planning efforts to ensure optimal use of the street and highway network accessing the airport facilities
- Consider implementing Travel Demand Management (TDM) strategies and Intelligent Transportation Systems (ITS) technologies to increase the capacity of the street and highway network providing access to the airport

STREET AND HIGHWAY RECOMMENDATIONS

- Implement Encompass 2040 street and highway improvements to minimize congestion and improve safety throughout the OCARTS area. The approved list of projects can be found in Table 13.4 of this report
- Make the maintenance of the existing transportation and bridge system a priority
- Improve the integration of transportation and land use to reduce automobile trips, decrease travel time, enhance mobility, and preserve agriculture and recreational lands
- Improve the efficiency of the region's transportation system by utilizing technology to improve traffic flow of the existing system, and to reduce crashes, bottlenecks, and congestion

MANAGEMENT SYSTEMS RECOMMENDATIONS

- Establish regional performance measure targets and analyze system progress
- Implement identified Congestion Management Process strategies and monitor their effectiveness
- Coordinate the implementation and maintenance of the OCARTS Regional Intelligent Transportation System Architecture
- Implement and expand the use of Intelligent Transportation Systems and Transportation System Management strategies on highways and heavily traveled arterials

- Develop a Regional Operations Plan to assist with the coordination of traffic control among jurisdictions
- Improve regional traffic incident management to include public education on the Quick Clearance law, Safe Work Zones, increased use of Dynamic Message Signs for motorist information, and development of regular multi-agency traffic incident management training sessions

SECURITY RECOMMENDATIONS

- Ensure transportation sector involvement in emergency preparedness planning efforts
- Encourage engagement of key transportation stakeholders in the security planning process
- Involve transportation sector in emergency preparedness training and exercises
- Encourage transportation sector engagement in special needs populations planning

IMPACT RECOMMENDATIONS

Accessibility

- Increase accessibility to and between centers of activity and regional employment centers
- Improve access and coordination among human service agencies as well as public and private transportation providers

Air Quality

- Continue regional air quality public education efforts that reduce vehicle trips and transportation related emissions
- Develop regional strategies that encourage more transportation efficient land use
- Develop consistency between land use and transportation plans to support reduction in auto dependency
- Encourage non-motorized transportation through the adoption of Complete Street policies that help make roadways safe, attractive, and comfortable for all users
- Encourage use of public transportation (refer to the Transit Recommendations)
- Encourage policies that reduce the use of petroleum based products by using alternative and renewable fuels, fuel economy measures, and idle reduction technologies
- Encourage system efficiency through operational and incident management, as well as increased traveler information

Equity

- Ensure participation by potentially affected populations in the decision-making process

- Ensure that transportation improvements and services are provided equitably
- Provide more materials in languages other than English where feasible and appropriate

Transportation and Land Use

- Strengthen integration of land use and transportation to create active and healthy communities
- Encourage adoption of Complete Streets policies that help make roadways safe, attractive, and comfortable for all users
- Encourage mixed use development
- Encourage land use patterns that reduce travel distance
- Improve and increase walkability of the region



PROJECT SPECIFIC RECOMMENDATIONS:

BICYCLE AND PEDESTRIAN PROJECTS

The following projects include the Planned Bicycle Facilities shown in Chapter 7 of this report, as well as the planned bicycle and pedestrian improvements that were submitted by OCARTS area local governments, primarily in conjunction with a roadway project, during the Encompass 2040 Call for Projects.

Planned projects include those which have been endorsed by the local community through inclusion in an adopted master plan, by resolution, or through a grant agreement with a state or federal funding agency (Table 13.1). This list is not intended to be all inclusive. Any additional bicycle and pedestrian facilities constructed in conjunction with road improvements, or independently, are encouraged in order to further the region's bicycle and pedestrian networks.

TABLE 13.1: LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--------------------------------|-----------------------------------|-----------------------------------|---------------------|----------------|-------------------|
| Air Depot Blvd. (24th Ave. NE) | S. 239th St. (Robinson St.) | S. 254th St. (Alameda St.) | BL, S | 1.00 | Norman |
| Air Depot Blvd. (24th Ave. SE) | S. 254th St. (Alameda St.) | S. 269th St. (Lindsey St.) | BL, S | 1.00 | Norman |
| Air Depot Blvd. (Pine St.) | University Ave. | Prairie Grove Ave. | BL | 2.00 | Guthrie |
| Airport Trail | S. 74th St. | S. 89th St. | BPS | 1.00 | Oklahoma City |
| Anderson Rd. | N. 10th St. | S. 15th St. | BL | 1.97 | Choctaw |
| Arboretum Park | E. of Kelley Ave. (Telephone Rd.) | E. of Kelley Ave. (Telephone Rd.) | BPS | 0.12 | Moore |
| Arcadia Lake Trail | S. of N. 150th St. (33rd St.) | N. 164th St. (15th St.) | BPS | 6.57 | Edmond |
| Arcadia Lake Trail | S. of N. 150th St. (33rd St.) | E. of Midwest Blvd. | BPS | 0.78 | Edmond |
| Arcadia Lake Trail | E. of Sooner Rd. | N. 178th St. (US-77/2nd St.) | BPS | 0.79 | Edmond |
| Arcadia Lake Trail | E. of Sooner Rd. | W. of Douglas Blvd. | BPS | 2.00 | Edmond |
| Arcadia Lake Trail | N. 178th St. (US-77/2nd St.) | N. 150th St. (33rd St.) | BPS | 4.06 | Edmond |
| Arcadia Lake Trail | W. of Douglas Blvd. | E. of Douglas Blvd. | BPS | 0.70 | Edmond |
| Arcadia Trail Linkage | N. of N. 122nd St. | S. of N. 50th St. | BPS | 7.79 | Oklahoma City |
| Arrowhead Linkage | N. 164th St. (15th St.) | N. 150th St. (33rd St.) | SOR | 1.67 | Edmond |
| Ayers St. | W. of Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | BL | 0.32 | Edmond |
| Bella Vista Dr. | N. 10th St. | Reno Ave. | BPS | 1.08 | Midwest City |
| Bird Creek Trail | Sooner Rd. (Division St.) | Air Depot Blvd. (Pine St.) | BPS | 1.23 | Guthrie |
| Blackwelder Ave. | S. 29th St. | S. of S. 44th St. | SOR | 1.59 | Oklahoma City |
| Blackwelder Ave. | N. 50th St. | S. of N. 36th St. | SOR | 1.57 | Oklahoma City |
| Blackwelder Ave. | N. of Pennsylvania Ave. | S. of Pennsylvania Ave. | SOR | 0.83 | Oklahoma City |
| Blake Park Linkage | S. of N. 192nd St. (Danforth Rd.) | N. of N. 192nd St. (Danforth Rd.) | SOR | 0.73 | Edmond |
| Blake Park Trail | E. of Santa Fe Ave. | Kelly Ave. | BPS | 0.89 | Edmond |
| Blake Park Trail | S. of N. 192nd St. (Danforth Rd.) | W. of Kelly Ave. | BPS | 0.40 | Edmond |
| Broadway Ave. | S. of N. 10th St. | S. of N. 10th St. | BL | 0.14 | Oklahoma City |
| Broadway Ave. | I-35 | S. of S. 119th St. (N. 12th St.) | SOR | 0.83 | Moore |
| Broadway Ave. | S. 134th St. (S. 4th St.) | S. 149th St. (S. 19th St.) | BPS | 0.98 | Moore |
| Broadway Ave. | S. 149th St. (S. 19th St.) | S. 164th St. (S. 34th St.) | SOR | 1.26 | Moore |
| Broadway Ave. Linkage | N. of Ayers St. | Ayers St. | BPS | 0.04 | Edmond |
| Brock Creek Trail | S. of S. 15th St. | S. of S. 29th St. | BPS | 1.32 | Oklahoma City |
| Bryant Ave. | S. 149th St. (S. 19th St.) | S. 179th St. (Indian Hills Rd.) | BPS | 1.99 | Moore |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--------------------------------------|-------------------------------------|----------------------------------|---------------------|----------------|-------------------|
| Bryant Ave. | N. of S. 104th St. (N. 27th St.) | S. 119th St. (N. 12th St.) | BPS | 1.50 | Moore |
| Bryant Ave. | S. 119th St. (N. 12th St.) | S. 134th St. (S. 4th St.) | BPS | 1.00 | Moore |
| Bryant Ave. | S. of S. 134th St. (S. 4th St.) | N. of S. 149th St. (S. 19th St.) | BPS | 0.46 | Moore |
| Bryant Ave. | N. of S. 149th St. (S. 19th St.) | S. 149th St. (S. 19th St.) | BPS | 0.18 | Moore |
| Bryant Ave. Linkage | S. of N. 150th St. (33rd St.) | Smiling Hill Blvd. | BPS | 0.29 | Edmond |
| Buck Thomas Park | S. 104th St. (N. 27th St.) | N. of S. 119th St. (N. 12th St.) | BPS | 0.69 | Moore |
| Buck Thomas Park | N. of S. 119th St. (N. 12th St.) | S. 119th St. (N. 12th St.) | BPS | 0.18 | Moore |
| Cemetery Rd. (N. 11th St.) | N. 50th St. (Wagner Rd.) | SH-66 (Main St.) | SOR | 1.00 | Yukon |
| Childrens Home Linkage | College Ave. | S. of College Ave. | BPS | 0.17 | Guthrie |
| Chisholm Creek Tribal Trail | Santa Fe Ave. | W. 18th St. | BPS | 0.59 | Edmond |
| Chisholm Creek Tribal Trail | Santa Fe Ave. | W. of Eastern Ave. (Boulevard) | BPS | 2.00 | Edmond |
| Chisholm Creek Tributary Trail | N. 164th St. (15th St.) | S. of N. 164th St. (15th St.) | BPS | 0.93 | Edmond |
| Chisholm Elementary Linkage | N. 164th St. (15th St.) | N. 150th St. (33rd St.) | SOR | 1.30 | Edmond |
| Chisholm Elementary Linkage | Bryant Ave. | N. 150th St. (33rd St.) | SOR | 0.95 | Edmond |
| Choctaw Creek | W. of Anderson Rd. | Hiwassee Rd. | BPS | 2.53 | Midwest City |
| Choctaw Creek Connector | N. of Reno Ave. | N. of S. 29th St. | BPS | 3.21 | Midwest City |
| Choctaw Creek Trail Link | Choctaw Creek Park | N. 10th St. | BPS | 0.36 | Choctaw |
| Choctaw Rd. | N. 50th St. | N. 36th St. | BL | 1.02 | Choctaw |
| Choctaw Rd. | N. 36th St. | N. 23rd St. | BL | 1.00 | Choctaw |
| Choctaw Rd. | N. 23rd St. | N. 10th St. | BL | 1.00 | Choctaw |
| Choctaw Rd. | N. 10th St. | S. of S. 29th St. | BL | 3.09 | Choctaw |
| Cimarron Middle School | W. of Bryant Ave. | Bryant Ave. | SOR | 0.37 | Edmond |
| Classen Blvd. | N. of N. 50th St. | N. 36th St. | SOR | 1.14 | Oklahoma City |
| Classen Dr. | N. of N. 10th St. | N. of N. 10th St. | PBL | 0.23 | Oklahoma City |
| Clegern Ave. Linkage | Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | SOR | 0.19 | Edmond |
| Coffee Creek Trail | Sunnyslane Rd. (Coltrane Rd.) | Anderson Rd. | BPS | 9.52 | Edmond |
| Coffee Creek (North) Tributary Trail | Broadway Ave. | Sunnyslane Rd. (Coltrane Rd.) | BPS | 2.74 | Edmond |
| Coffee Creek (South) Tributary Trail | Sunnyslane Rd. (Coltrane Rd.) | N. 206th St. (Covell Rd.) | BPS | 1.22 | Edmond |
| Coffee Creek (South) Tributary Trail | N. 206th St. (Covell Rd.) | S. of N. 206th St. (Covell Rd.) | BPS | 0.51 | Edmond |
| Cottonwood Creek Linkage | W. of Sunnyslane Rd. (Coltrane Rd.) | W. of Sooner Rd. (Division St.) | BPS | 2.34 | Guthrie |
| Cross Timbers Elementary Linkage | N. 234th St. (Sorghum Mill Rd.) | N. 220th St. (Coffee Creek Rd.) | SOR | 1.14 | Edmond |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--|---------------------------------------|--|---------------------|----------------|-------------------|
| Crutcho Creek | N. 23rd St. | Reno Ave. | BPS | 2.73 | Midwest City |
| Crutcho Creek Connector | S. of Reno Ave. | S. 29th St. | BPS | 2.09 | Midwest City |
| Culbertson Ave. | N. of N. 23rd St. | N. of N. 10th St. | BL | 1.08 | Oklahoma City |
| Czech Hall Rd. (Piedmont Rd.) | N. 78th St. (Wilshire Blvd.) | SH-66 (Main St.) | SOR | 3.00 | Yukon |
| Czech Hall Rd. (Cornwell Dr.) | SH-66 (Main St.) | N. 10th St. | BL | 2.00 | Yukon |
| Deep Fork River Trail | W. of Post Rd. | Henney Rd. | BPS | 5.08 | Edmond |
| Deep Fork Trail | E. of Western Ave. | W. of Eastern Ave. (Martin Luther King Ave.) | BPS | 2.97 | Oklahoma City |
| Douglas Rd. Linkage | N. of Sorghum Mill Rd | N. 178th St. (2nd St.) | BL | 5.49 | Edmond |
| Draper Lake | S. of S. 15th St. | S. 29th St. | BPS | 0.68 | Midwest City |
| E.K. Gaylord Blvd. | S. of N. 10th St. | Reno Ave. | BL | 0.56 | Oklahoma City |
| Eastern Ave. (Boulevard) Linkage | N. 248th St. (Waterloo Rd) | S. of N. 234th St. (Sorghum Mill Rd.) | SH | 1.35 | Edmond |
| Eastern Ave. (Boulevard) Linkage | S. of N. 234th St. (Sorghum Mill Rd.) | N. of N. 206th St. (Covell Rd.) | SH | 1.26 | Edmond |
| Eastern Ave. (Boulevard) Linkage | N. 220th St. (Coffee Creek Rd.) | S. of N. 220th St. (Coffee Creek Rd.) | SOR | 0.48 | Edmond |
| Eastern Ave. (Boulevard) Linkage | N. of N. 206th St. (Covell Rd.) | N. 206th St. (Covell Rd.) | BPS | 0.43 | Edmond |
| Eastern Ave. (Boulevard) Linkage | N. 192nd St. (Danforth Rd.) | S. of N. 192nd St. (Danforth Rd.) | BPS | 0.36 | Edmond |
| Eastern Ave. (Boulevard) Linkage | S. of N. 178th St. (2nd St.) | N. 164th St. (15th St.) | BL | 0.49 | Edmond |
| Eastern Ave. (Boulevard) Trail | W. of Eastern Ave. (Boulevard) | N. 206th St. (Covell Rd.) | BPS | 0.66 | Edmond |
| Eastern Ave. (Boulevard) Trail Linkage | Eastern Ave. (Boulevard) | N. 192nd St. (Danforth Rd.) | SOR | 0.42 | Edmond |
| Eastern Ave. | John Kilpatrick Turnpike | S. of N. 63rd St. | PBL | 4.56 | Oklahoma City |
| Eastern Ave. (Martin Luther King Ave.) | S. of N. 63rd St. | S. of Reno Ave. | PBL | 5.00 | Oklahoma City |
| Eastern Ave. | S. of Reno Ave. | Grand Blvd. | PBL | 2.25 | Oklahoma City |
| Eastern Ave. | S. of S. 29th St. | S. of S. 89th St. | SOR | 4.09 | Oklahoma City |
| Eastern Ave. | N. of S. 104th St. (N. 27th St.) | S. of S. 104th St. (N. 27th St.) | SOR | 0.57 | Moore |
| Eastern Ave. | S. of S. 104th St. (N. 27th St.) | N. of S. 119th St. (N. 12th St.) | SOR | 0.48 | Moore |
| Eastern Ave. | S. of S. 134th St. (S. 4th St.) | S. of S. 134th St. (S. 4th St.) | SOR | 0.11 | Moore |
| Eastern Ave. | S. 149th St. (S. 19th St.) | S. 179th St. (Indian Hills Rd.) | SOR | 1.99 | Moore |
| Eastside | N. of S. 15th St. | S. 15th St. | BPS | 0.44 | Midwest City |
| Eastside | E. of Westminster Rd. | W. of Anderson Rd. | BPS | 0.11 | Midwest City |
| Eastside | E. of Westminster Rd. | W. of Anderson Rd. | BPS | 0.09 | Midwest City |
| Eastside | E. of Westminster Rd. | W. of Anderson Rd. | BPS | 0.11 | Midwest City |
| Elementary School Connector | Midwest Blvd. | E. of Midwest Blvd. | BPS | 0.07 | Midwest City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|------------------------------|------------------------------------|------------------------------------|---------------------|----------------|-------------------|
| Exchange Ave. | W. of Pennsylvania Ave. | Western Ave. | PBL | 1.66 | Oklahoma City |
| Fairmoore Park | S. of S. 119th St. (N. 12th St.) | N. of S. 134th St. (S. 4th St.) | SOR | 0.26 | Moore |
| Fairmoore Park | W. of Kelley Ave. (Telephone Rd.) | Kelley Ave. (Telephone Rd.) | SOR | 0.24 | Moore |
| Felix Dr. | N. of S. 15th St. | Reno Ave. | BPS | 0.78 | Midwest City |
| Fink Park Linkage | S of N. 178th St. (2nd St.) | W. of Eastern Ave. (Boulevard) | SOR | 2.07 | Edmond |
| Fox Lake Linkage | N. 164th St. (15th St.) | Sooner Rd. | SOR | 1.05 | Edmond |
| General Pershing Blvd. | May Ave. | W. of Pennsylvania Ave. | PBL | 1.30 | Oklahoma City |
| Greenway Ave. | N. 23rd St. (Vandament Ave.) | S. of N. 23rd St. (Vandament Ave.) | BL | 0.60 | Yukon |
| Greenway Link Trail | W. of I-35 | Eastern Ave. | BPS | 0.96 | Oklahoma City |
| Greenway Link Trail | N. 122nd St. | N. of Reno Ave. | BPS | 13.77 | Oklahoma City |
| Guthrie Business Park Trail | W. of Prairie Grove Rd. | Air Depot Blvd. (Pine St.) | SOR | 1.49 | Guthrie |
| Guthrie Lake Trail | Sunnylane Rd. (Coltrane Rd.) | Sooner Rd. (Division St.) | BPS | 4.15 | Guthrie |
| Harper St. Extension | N. 50th St. | N. 36th St. | BPS | 1.00 | Choctaw |
| Harper St. Trail | N. 36th St. | N. 23rd St. | BPS | 1.02 | Choctaw |
| Harper St. Trail | N. 23rd St. | N. 10th St. | BPS | 1.00 | Choctaw |
| Harrah Schools Linkage | Dobbs Rd. | E. of Dobbs Rd. | BPS | 1.04 | Harrah |
| Hospital Connector | S. of N. 10th St. | N. of Reno Ave. | BPS | 0.28 | Midwest City |
| Howard Ave. | N. of S. 134th St. (S. 4th St.) | S. 134th St. (S. 4th St.) | SOR | 0.29 | Moore |
| I-35 Frontage Linkage | S. of Sunnylane Rd. (Coltrane Rd.) | N. of N. 164th St. (15th St.) | BPS | 0.17 | Edmond |
| I-35 Frontage Linkage | N. 164th St. (15th St.) | S. of N. 164th St. (15th St.) | BPS | 0.24 | Edmond |
| Independence Ave. | N. of N. 63rd St. | S. of N. 23rd St. | SOR | 4.15 | Oklahoma City |
| Independence Ave. | S. of N. 23rd St. | N. of N. 10th St. | PBL | 0.42 | Oklahoma City |
| Indian Meridian Rd. Trail | S. 15th St. | S. 29th St. | BL | 1.00 | Choctaw |
| Indiana Ave. | N. of N. 10th St. | S. of N. 10th St. | BL | 0.47 | Oklahoma City |
| Industrial Rd. | W. of University Ave. | University Ave. | BPS | 0.71 | Guthrie |
| Industrial Rd./Brackhaus Rd. | N. of University Ave. | University Ave. | BPS | 0.26 | Guthrie |
| Industrial Rd./Brackhaus Rd. | University Ave. | Industrial Rd. | BPS | 1.76 | Logan County |
| J. Barnes Connector Upgrade | S. of Reno Ave. | S. 15th St. | BPS | 0.83 | Midwest City |
| Janeway Ave. | S. 104th St. (N. 27th St.) | S. of S. 119th St. (N. 12th St.) | SOR | 1.53 | Moore |
| Janeway Ave. | W. of Telephone Rd. | S. 149th St. (S. 19th St.) | BPS | 0.27 | Moore |
| Joe Carter Ave. | N. of Reno Ave. | Reno Ave. | BL | 0.52 | Oklahoma City |
| Kelly Ave. Linkage | N. 248th St. (Waterloo Rd.) | N. 220th St. (Coffee Creek Rd.) | BPS, S | 2 | Edmond |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-------------------------------|---|---------------------------------------|---------------------|----------------|-------------------|
| Kelly Ave. Linkage | N. 220th St. (Coffee Creek Rd.) | S. of N. 220th St. (Coffee Creek Rd.) | BPS | 0.50 | Edmond |
| Kelly Ave. Linkage | N. of N. 206th St. (Covell Rd.) | N. 206th St. (Covell Rd.) | SOR | 0.50 | Edmond |
| Kelly Ave. Linkage | N. 206th St. (Covell Rd.) | N. 192nd St. (Danforth Rd.) | SOR | 1.00 | Edmond |
| Kelly Ave. Linkage | N. 192nd St. (Danforth Rd.) | N. 164th St. (15th St.) | BPS | 2.00 | Edmond |
| Kelly Ave. Linkage | N. 164th St. (15th St.) | N. 150th St. (33rd St.) | SOR | 1.01 | Edmond |
| Kelley Ave. | N. 150th St. | N. 136th St. (Memorial Rd.) | BL | 1.00 | Oklahoma City |
| Kelley Ave. (Telephone Rd.) | N. of S. 134th St. (S. 4th St.) | S. 134th St. (S. 4th St.) | SOR | 0.63 | Moore |
| Kelley Ave. (Telephone Rd.) | S. 149th St. (S. 19th St.) | S. of S. 164th St. (S. 34th St.) | SOR | 1.50 | Moore |
| Kelley Ave. (36th Ave. NW) | N. of S. 179th St. (Indian Hills Rd.) | S. 209th St. (Tecumseh Rd.) | BL, S | 2.49 | Norman |
| Kelly Park Trail | Kelly Ave. | N. 164th St. (15th St.) | BPS | 0.30 | Edmond |
| Key Blvd. | S. of S. 15th St. | Reno Ave. | BPS | 1.63 | Midwest City |
| Kickingbird Linkage | Bryant Ave. | N. 192nd St. (Danforth Rd.) | SOR | 1.18 | Edmond |
| Kickingbird Linkage | N. 192nd St. (Danforth Rd.) | Sunnylane Rd. (Coltrane Rd.) | SOR | 1.13 | Edmond |
| Kickingbird Powerline Trail | N. 192nd St. (Danforth Rd.) | N. 164th St. (15th St.) | BPS | 1.74 | Edmond |
| Kiwanis Connector | Midwest Blvd. | E. of Midwest Blvd. | BPS | 0.71 | Midwest City |
| Kiwanis Trail | College Ave. | S. of College Ave. | BPS | 0.22 | Guthrie |
| Laird Ave. | N. of N. 10th St. | S. of N. 10th St. | BL | 0.85 | Oklahoma City |
| Lake Draper Trail | Midwest Blvd. | E. of Westminster Rd. | BPS | 13.14 | Oklahoma City |
| Lake Hefner Trail | N. 93rd St. (Britton Rd.) | S. of N. 108th St. (Hefner Rd.) | BPS | 3.12 | Oklahoma City |
| Lake Hefner/Lake Overholser | Rockwell Ave. | NW Expressway | PBL | 0.82 | Oklahoma City |
| Lake Overholser | SH-66 | N. of N. 10th St. | BPS | 7.05 | Oklahoma City |
| Liberty Lake Trail | N. of Seward Rd. | Forrest Hills Rd. | BPS | 4.21 | Guthrie |
| Liberty-Guthrie Lakes Linkage | Lakewood Rd. | Seward Rd. | BPS | 1.27 | Guthrie |
| Lightning Creek Trail | E. of Pennsylvania Ave. | E. of Western Ave. | BPS | 2.20 | Oklahoma City |
| Lincoln Blvd. | N. of N. 50th St. | N. of N. 23rd St. | PBL | 4.09 | Oklahoma City |
| Lincoln Blvd. | N. of N. 23rd St. | S. of N. 10th St. | SOR | 3.31 | Oklahoma City |
| Lincoln Blvd. | S. of Reno Ave. | N. of S. 15th St. | PBL | 0.37 | Oklahoma City |
| Lions Park Connector | W. of Midwest Blvd | E. of Midwest Blvd. | BPS | 0.31 | Midwest City |
| Linwood Blvd. | E. of Pennsylvania Ave. | Western Ave. | PBL | 0.64 | Oklahoma City |
| Littler Ave. Linkage | N. of N. 178th St. (Edmond Rd./2nd St.) | N. 164th St. (15th St.) | SOR | 1.36 | Edmond |
| Lottie Ave. | N. of N. 23rd St. | S. of N. 10th St. | PBL | 1.57 | Oklahoma City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-----------------------------------|-----------------------------------|-----------------------------------|---------------------|----------------|-------------------|
| Main St. | W. of Eastern Ave. | E. of Eastern Ave. | SOR | 1.00 | Moore |
| Main St. | Kelley Ave. (Telephone Rd.) | E. of Kelley Ave. (Telephone Rd.) | SOR | 0.19 | Moore |
| Main St. | W. of Kelly Ave. (36th Ave. NW) | Eastern Ave. (24th Ave. NE) | SOR | 0.88 | Norman |
| Main St. | W. of Pennsylvania Ave. | Western Ave. | PBL | 1.75 | Oklahoma City |
| Main St. | Western Ave. | E. of Western Ave. | BL | 0.24 | Oklahoma City |
| May Ave. | N. of S. 15th St. | S. 119th St. | BPS | 7.48 | Oklahoma City |
| McKee Blvd. | N. 108th St. (Hefner Rd.) | N. 93rd St. (Britton Rd.) | SOR | 1.43 | Oklahoma City |
| McKee Blvd. | N. 93rd St. (Britton Rd.) | N. 63rd St. | SOR | 2.98 | Oklahoma City |
| McKinley Ave. | N. of S. 15th St. | S. 29th St. | SOR | 1.62 | Oklahoma City |
| Meadow Lakes Park Linkage | Kelly Ave. | W. of Eastern Ave. (Boulevard) | SOR | 0.75 | Edmond |
| Meridian Ave. | N. 122nd St. | N. 108th St. (Hefner Rd.) | PBL | 0.91 | Oklahoma City |
| Meridian Ave. | W. of Pennsylvania Ave. | E. of Pennsylvania Ave. | PBL | 1.91 | Oklahoma City |
| Mid West City Lakes | Sooner Rd. | N. of N. 36th St. | BPS | 1.99 | Midwest City |
| Mid-America Trail | W. of Midwest Blvd. | W. of Midwest Blvd. | BPS | 0.15 | Midwest City |
| Midwest Blvd. Linkage | N. 220th St. (Coffee Creek Rd.) | N. 178th St. (2nd St.) | SH | 3.01 | Edmond |
| Moore Central Park | S. 134th St. (S. 4th St.) | N. of S. 149th St. (S. 19th St.) | BPS | 0.80 | Moore |
| Moore Riverwalk | W. of Kelley Ave. (Telephone Rd.) | W. of Kelley Ave. (Telephone Rd.) | BPS | 0.10 | Moore |
| Moore Riverwalk Trail | S. 134th St. (S. 4th St.) | N. of S. 134th St. (S. 4th St.) | SOR | 0.30 | Moore |
| Multiple Locations (2007 GO Bond) | | | SOR | 350.00 | Oklahoma City |
| Mustang Rd. (Yukon Parkway) | N. 50th St. (Wagner Rd.) | N. 36th St. (Lakeshore Dr.) | SOR | 1.00 | Yukon |
| Mustang Rd. (Yukon Parkway) | N. 36th St. (Lakeshore Dr.) | N. 23rd St. (Vandament Ave.) | BL | 0.98 | Yukon |
| N. Canadian Connector | W. of Air Depot Blvd. | E. of Air Depot Blvd. | BPS | 0.64 | Midwest City |
| N. Grand Trail | W. of SH-74 (Lake Hefner Parkway) | E. of SH-74 (Lake Hefner Parkway) | PBL | 0.20 | Oklahoma City |
| N. Grand Trail | N. 63rd St. | E. of Western Ave. | SOR | 1.10 | Oklahoma City |
| N. Grand Trail | W. of Western Ave. | E. of Western Ave. | BPS | 0.37 | Oklahoma City |
| Newcastle Rd. | Meridian Ave. | May Ave. | PBL | 2.19 | Oklahoma City |
| Palmer Loop | S. 15th St. | S. 29th St. | BPS | 1.05 | Midwest City |
| Palmer Loop | E. of Midwest Blvd. | W. of Douglas Blvd. | BPS | 0.54 | Midwest City |
| Park I | W. of Cemetery Rd. | W. of Cemetery Rd. | BPS | 0.29 | Tuttle |
| Park II | W. of Cemetery Rd. | W. of Cemetery Rd. | BPS | 0.24 | Tuttle |
| Park III | W. of Cemetery Rd. | Cemetery Rd. | BPS | 0.13 | Tuttle |
| Park Link | Choctaw Creek Park | Ten Acre Lake Park | BPS | 1.34 | Choctaw |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|----------------------------------|---------------------------------|--|---------------------|----------------|-------------------|
| Park Pl. | E. of Kelley Ave. | W. of Eastern Ave. (Martin Luther King Ave.) | SOR | 0.58 | Oklahoma City |
| Phase 4 | SH-66 (Main St.) | N. 10th St. | BL | 4.67 | Yukon |
| Portland Ave. | N. of N. 63rd St. | S. of N. 23rd St. | SOR | 4.42 | Oklahoma City |
| Portland Ave. | S. of N. 23rd St. | S. of S. 29th St. | PBL | 3.84 | Oklahoma City |
| Post Rd. | N. of N. 10th St. | S. 29th St. | BPS | 3.57 | Midwest City |
| Post Rd. Linkage | N. 220th St. (Coffee Creek Rd.) | N. 178th St. (2nd St) | SH | 3.00 | Edmond |
| Prospect Ave. | N. of N. 50th St | S. of N. 23rd St. | SOR | 3.24 | Oklahoma City |
| Quinlan/Holloway Connector | E. of Sooner Rd. | W. of Air Depot Blvd. | BPS | 0.64 | Midwest City |
| Rail Trail | N. 10th St. | N. of N. 10th St. | BPS | 0.66 | Oklahoma City |
| Rail Trail | S. of N. 10th St. | N. of Reno Ave. | BPS | 1.15 | Oklahoma City |
| Rail with Trail | Sooner Rd. | E. of Air Depot Blvd. | BPS | 1.43 | Midwest City |
| Rail with Trail - East Extension | E. of Douglas Blvd. | E. of Westminster Rd. | BPS | 2.60 | Midwest City |
| Railroad Trail | Gregory Rd. | Mustang Rd. (Yukon Pkwy.) | BPS | 6.65 | Yukon |
| Rankin St. Linkage | N. 164th St. (15th St.) | S. of N. 150th St. (33rd St.) | SOR | 1.79 | Edmond |
| Ray Trent Park Extension | Eagle Lake | Vickie Dr. | BPS | 1.12 | Del City |
| Ray Trent Park Trail | Reno Ave. | Judy Dr. | BPS | 0.49 | Del City |
| Reed Pl. | E. of Sooner Rd. | W. of Air Depot Blvd. | BPS | 0.12 | Midwest City |
| Reed Pl. Extension | N. of S. 15th St. | S. of S. 15th St. | BPS | 0.59 | Midwest City |
| Reno Ave. | Rockwell Ave. | May Ave. | BL | 4.01 | Oklahoma City |
| Reno Ave. | Western Ave. | E. of Western Ave. | BL | 0.25 | Oklahoma City |
| Reno Ave. | E. of Robinson Ave. | E. of Robinson Ave. | BL | 0.22 | Oklahoma City |
| Reno Ave. | E. of Robinson Ave. | E. of Robinson Ave. | BL | 0.18 | Oklahoma City |
| Reno Ave. | W. of Shields Blvd. | W. of Shields Blvd. | BL | 0.18 | Oklahoma City |
| Reno Ave. | Eastern Ave. | I-40 | PBL | 0.78 | Oklahoma City |
| Reno Ave. | Vickie Dr. | Howard Dr. | BPS | 0.25 | Del City |
| Reno Ave. | W. of Air Depot Blvd. | E. of Midwest Blvd. | BPS | 2.68 | Midwest City |
| River Trail | Gregory Rd. | Sara Rd. | BPS | 8.25 | Yukon |
| Robinson Ave. | N. 36th St. | S. of N. 23rd St. | BL | 1.52 | Oklahoma City |
| Robinson Ave. | N. of N. 10th St. | N. 10th St. | SOR | 0.54 | Oklahoma City |
| Robinson Ave. | S. of Reno Ave. | S. of S. 44th St. | PBL | 3.28 | Oklahoma City |
| Rockwell Ave. | Reno Ave. | S. of Reno Ave. | PBL | 0.84 | Oklahoma City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--------------------------------|-------------------------------------|-------------------------------------|---------------------|----------------|-------------------|
| Rolling Lane | N. 10th St. | N. of Reno Ave. | BPS | 1.27 | Midwest City |
| Rose State Connector | W. of Air Depot Blvd. | W. of Midwest Blvd. | BPS | 1.84 | Midwest City |
| Rose State Connector | S. of S. 15th St. | N. of S. 29th St. | BPS | 0.31 | Midwest City |
| Ross School Trail | Kelly Ave. | W. of Eastern Ave. (Boulevard.) | BPS | 0.72 | Edmond |
| Santa Fe Ave. Linkage | N. 248th St. (Waterloo Rd.) | N. 220th St. (Coffee Creek Rd.) | BL | 1.99 | Edmond |
| Santa Fe Ave. Linkage | N. 220th St. (Coffee Creek Rd.) | N. 206th St. (Covell Rd.) | SH | 1.00 | Edmond |
| Santa Fe Ave. Linkage | N. 206th St. (Covell Rd.) | N. 164th St. (15th St.) | BL | 3.01 | Edmond |
| Santa Fe Ave. Linkage | Santa Fe Ave. | N. 150th St. (33rd St.) | SOR | 1.89 | Edmond |
| Santa Fe Ave. Linkage | N. 164th St. (15th St.) | N. 150th St. (33rd St.) | BL | 1.02 | Edmond |
| Santa Fe Ave. | N. 150th St. | N. 122nd St. | BL, S | 2.00 | Oklahoma City |
| Santa Fe Ave. | N. of S. 104th St. (N. 27th St.) | S. 119th St. (N. 12th St.) | SOR | 1.50 | Moore |
| Santa Fe Ave. | N. of S. 134th St. (S. 4th St.) | S. 134th St. (S. 4th St.) | BPS | 0.50 | Moore |
| Santa Fe High School Linkage | Santa Fe Ave. | N. 164th St. (15th St.) | SOR | 2.42 | Edmond |
| Santa Fe High School Linkage | W. of Kelly Ave. | N. 164th St. (15th St.) | SOR | 0.38 | Edmond |
| Santa Fe Trail | Lakewood Rd. | Sooner Rd. (Division St.) | BPS | 1.49 | Guthrie |
| Santa Fe Trail | W. of US-77 | Industrial Rd. | SOR | 2.44 | Guthrie |
| Sequoyah Middle School Linkage | Eastern Ave. (Boulevard) | Bryant Ave. | SOR | 1.20 | Edmond |
| Sequoyah Middle School Linkage | N. 192nd St. (Danforth Rd.) | E. of Bryant Ave. | SOR | 0.79 | Edmond |
| SH-4 (Ranchwood Blvd.) | SH-66 (Main St.) | N. 23rd St. (Vandament Ave.) | BL | 1.00 | Yukon |
| SH-9 | Eastern Ave. (24th Ave. SW) | Dobbs Rd. (180th St. SE) | BPS | 18.45 | Norman |
| SH-66 (Main St.) | Gregory Rd. | Frisco Rd. | SOR | 3.00 | Yukon |
| SH-66 (Main St.) | Frisco Rd. | W. of Czech Hall Rd. (Cornwell Dr.) | SOR | 1.80 | Yukon |
| SH-66 (Main St.) | W. of Czech Hall Rd. (Cornwell Dr.) | E. of Czech Hall Rd. (Cornwell Dr.) | BPS | 0.47 | Yukon |
| SH-66 (Main St.) | E. of Czech Hall Rd. (Cornwell Dr.) | Mustang Rd. (Yukon Pkwy) | BL | 0.70 | Yukon |
| SH-66 Trail | E. of Douglas Blvd. | E. of Westminster Rd. | BPS | 1.95 | Edmond |
| SH-66 | W. of Hiwassee Rd. | Pottawatomie Rd. | SH | 10.07 | Luther |
| SH-152 | Gregory Ave. | Clear Springs Ave. | SH | 4.00 | Oklahoma City |
| Shartel Ave. | N. 50th St. | S. of N. 36th St. | PBL | 1.49 | Oklahoma City |
| Shartel Ave. | S. of N. 23rd St. | S. of N. 10th St. | PBL | 1.23 | Oklahoma City |
| Sheridan Ave. | Western Ave. | E. of Western Ave. | BL | 0.25 | Oklahoma City |
| Sheridan Ave. | E. of Western Ave. | E. of Western Ave. | BL | 0.18 | Oklahoma City |
| Sheridan Ave. | Santa Fe Ave. | E. of Santa Fe Ave. | BL | 0.40 | Oklahoma City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--------------------------------------|---------------------------------------|--|---------------------|----------------|-------------------|
| Shortgrass Rd. Linkage | N. 220th St. (Coffee Creek Rd.) | N. 206th St. (Covell Rd.) | SOR | 1.64 | Edmond |
| Silver Creek | N. of N. 23rd St. | S. of N. 10th St. | BPS | 2.33 | Midwest City |
| Silver Creek Connector | W. of Midwest Blvd. | W. of Post Rd. | BPS | 2.09 | Midwest City |
| Silver Meadows | W. of Air Depot Blvd. | E. of Midwest Blvd. | BPS | 1.80 | Midwest City |
| Smiling Hill Trail | E. of Eastern Ave. (Boulevard) | Bryant Ave. | BL | 0.72 | Edmond |
| Snake Creek Trail | E. of Sunnyside Rd. (Coltrane Rd.) | W. of Sooner Rd. (Division St.) | BPS | 0.21 | Logan County |
| Soldier Creek Extension | S. of N. 23rd St. | N. of N. 10th St. | BPS | 0.79 | Midwest City |
| Sooner Rd. (Division St.) | SH-33 (Noble Ave.) | Industrial Rd. | BPS | 1.65 | Guthrie |
| Sooner Rd. (Division St.) | Industrial Rd. | S. of Triplett Rd. | BPS | 2.26 | Guthrie |
| Sooner Rd. (12th Ave. SE) | N. of SH-9 | SH-9 | BL | 0.06 | Norman |
| Sooner Rd. (12th Ave. SE) | SH-9 | S. 299th St. (Cedar Lane Rd.) | BL, S | 0.45 | Norman |
| Sooner Rd. Linkage | N. of N. 234th St. (Sorghum Mill Rd.) | N. 220th St. (Coffee Creek Rd.) | BL | 1.50 | Edmond |
| Sooner Rd. Linkage | N. 220th St. (Coffee Creek Rd.) | N. 178th St. (2nd St.) | SH | 3.05 | Edmond |
| Spencer Rd. | N. 23rd St. | N. 10th St. | BPS | 1.00 | Midwest City |
| Spring Creek Trail | W. of Bryant Ave. | E. of Bryant Ave. | BPS | 0.46 | Edmond |
| Spring Creek Trail | E. of Bryant Ave. | W. of Sooner Rd. | BPS | 1.77 | Edmond |
| Spring Creek Trail | W. of Sooner Rd. | N. 164th St. (15th St.) | BPS | 2.87 | Edmond |
| Springlake Dr. | Kelley Ave. | Eastern Ave. (Martin Luther King Ave.) | BL | 1.17 | Oklahoma City |
| Stafford Dr. | N. 136th St. (Memorial Rd.) | N. 108th St. (Hefner Rd.) | BL | 1.70 | Oklahoma City |
| Sunnyside Rd. (Coltrane Rd.) Linkage | N. of Sorghum Mill Rd. | N. 178th St. (2nd St.) | BL | 4.50 | Edmond |
| Sunnyside Rd. (Coltrane Rd.) Linkage | N. 178th St. (2nd St.) | E. 40th St. | BL | 2.50 | Edmond |
| Thatcher St. Linkage | Fretz Ave. | E. of Fretz Ave. | SOR | 0.12 | Edmond |
| Thatcher St. Linkage | Broadway Ave. | University Dr. | SOR | 0.31 | Edmond |
| Thatcher St. Linkage | E. of Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | SOR | 0.24 | Edmond |
| Tinker/Draper Trail | S. 44th St. | Air Depot Blvd. | BPS | 2.00 | Oklahoma City |
| Trail | N. 10th St. | S. 15th St. | BPS | 2.15 | Choctaw |
| Tributary 4 | W. of Post Rd. | Post Rd. | BPS | 0.60 | Midwest City |
| Tributary 4 | E. of Midwest Blvd. | E. of Douglas Blvd. | BPS | 1.51 | Midwest City |
| Tributary 4 - Alternate | Douglas Blvd. | W. of Post Rd. | BPS | 0.50 | Midwest City |
| Tributary 4 Extension | E. of Westminster Rd. | W. of Westminster Rd. | BPS | 0.64 | Midwest City |
| Tributary 4 Extension | E. of Post Rd. | Westminster Rd. | BPS | 1.29 | Midwest City |
| Tributary 4 Extension - Alternate | Post Rd. | Westminster Rd. | BPS | 0.87 | Midwest City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--|--------------------------------|---------------------------------|---------------------|----------------|-------------------|
| Tulsa Ave. | N. 63rd St. | N. 36th St. | BL | 2.30 | Oklahoma City |
| University of Central Oklahoma (UCO) Linkage | N. of N. 178th St. (2nd St.) | N. 178th St. (2nd St.) | BL | 0.40 | Edmond |
| University of Central Oklahoma (UCO) Linkage | N. 178th St. (2nd St.) | W. of Eastern Ave. (Boulevard) | BL | 0.99 | Edmond |
| University of Central Oklahoma (UCO) Linkage | W. of Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | BL | 0.33 | Edmond |
| University of Central Oklahoma (UCO) Linkage | Bryant Ave. | E. of Bryant Ave. | BL | 0.50 | Edmond |
| US-77 | Maguire Rd. | SH-39 | SH | 9.92 | Slaughterville |
| Venice Ave. | S. of N. 36th St. | N. of N. 23rd St. | BL | 0.66 | Oklahoma City |
| Villa Ave. (Agnew Ave.) | N. of S. 15th St. | S. 29th St. | PBL | 1.60 | Oklahoma City |
| Villa Ave. | N. 10th St. | S. of Reno Ave. | PBL | 1.28 | Oklahoma City |
| Villa Ave. | S. of Reno Ave. | S. of Reno Ave. | PBL | 0.10 | Oklahoma City |
| Village Parkway Linkage | Kelly Ave. | E. of Kelly Ave. | SOR | 0.62 | Edmond |
| W. I-44 Trail | NW Expressway | S. of Reno Ave. | BPS | 8.11 | Oklahoma City |
| Walker Ave. | N. of N. 10th St. | S. of N. 10th St. | PBL | 0.44 | Oklahoma City |
| Walker Ave. | N. of Reno Ave. | N. of Reno Ave. | SOR | 0.08 | Oklahoma City |
| Walker Ave. | Reno Ave. | S. 104th St. | PBL | 6.95 | Oklahoma City |
| Walnut Ave. | N. of Reno Ave. | Reno Ave. | BL | 0.52 | Oklahoma City |
| Waverly Ave./McKinley Ave. | N. 108th St. (Hefner Rd.) | N. 78th St. (Wilshire Blvd.) | SOR | 2.12 | Oklahoma City |
| Western Ave. | N. of N. 50th St. | N. 50th St. | PBL | 0.58 | Oklahoma City |
| Western Ave. | N. of N. 10th St. | S. of Reno Ave. | PBL | 1.96 | Oklahoma City |
| Western Ave. | S. of Reno Ave. | S. 59th St. | SOR | 3.28 | Oklahoma City |
| Westminster Rd. Linkage | Westminster Rd. | SH-66 | SH | 0.58 | Edmond |
| Westwood Ave. | N. of S. 15th St. | S. of S. 15th St. | PBL | 0.60 | Oklahoma City |
| Wilshire Blvd. | W. of Council Rd. | Rockwell Ave. | PBL | 1.28 | Oklahoma City |
| Youngs/Villa Ave. | N. Grand Blvd. | N. 36th St. | SOR | 3.47 | Oklahoma City |
| N. 248th St. (Waterloo Rd.) Linkage | Santa Fe Ave. | E. of Bryant Ave. | BL | 3.49 | Edmond |
| N. 220th St. (Coffee Creek Rd.) Linkage | E. of Western Ave. | Santa Fe Ave. | BL | 0.63 | Edmond |
| N. 220th St. (Coffee Creek Rd.) Linkage | Santa Fe Ave. | Douglas Blvd. | BL | 8.01 | Edmond |
| N. 220th St. (Coffee Creek Rd.) Linkage | Douglas Blvd. | N. 220th St. (Coffee Creek Rd.) | SH | 1.00 | Edmond |
| N. 206th St. (Covell Rd.) Linkage | Santa Fe Ave. | E. of Santa Fe Ave. | SOR | 0.16 | Edmond |
| N. 206th St. (Covell Rd.) Linkage | E. of Eastern Ave. (Boulevard) | Air Depot Blvd. | BPS | 3.84 | Edmond |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-------------------------------------|------------------------------------|--|---------------------|----------------|-------------------|
| N. 192nd St. (Danforth Rd.) Linkage | E. of Eastern Ave. (Boulevard) | W. of Bryant Ave. | BPS | 0.27 | Edmond |
| N. 192nd St. (Danforth Rd.) Linkage | W. of Sunnylane Rd. (Coltrane Rd.) | Sunnylane Rd. (Coltrane Rd.) | BPS | 0.50 | Edmond |
| N. 192nd St. (Danforth Rd.) Linkage | Sunnylane Rd. (Coltrane Rd.) | Westminster Rd. | SH | 6.01 | Edmond |
| N. 175th St. (5th St.) Linkage | W. of Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | SOR | 0.85 | Edmond |
| N. 173rd St. (7th St.) Linkage | W. of Kelly Ave. | W. of Eastern Ave. (Boulevard) | SOR | 0.83 | Edmond |
| N. 171st St. (9th St.) | W. of Eastern Ave. (Boulevard) | Bryant Ave. | BL | 1.24 | Edmond |
| N. 164th St. (15th St.) Linkage | Santa Fe Ave. | E. of Santa Fe Ave. | SOR | 0.36 | Edmond |
| N. 164th St. (15th St.) Linkage | E. of Santa Fe Ave. | W. of Kelly Ave. | BPS | 0.33 | Edmond |
| N. 164th St. (15th St.) Linkage | Eastern Ave. (Boulevard) | E. of Eastern Ave. (Boulevard) | BPS | 0.29 | Edmond |
| N. 164th St. (15th St.) Linkage | W. of Sunnylane Rd. (Coltrane Rd.) | W. of Sooner Rd. | BPS | 0.85 | Edmond |
| N. 164th St. (15th St.) Linkage | E. of Sooner Rd. | Arcadia Lake | SH | 2.27 | Edmond |
| N. 150th St. (33rd St.) Linkage | Santa Fe Ave. | Kelly Ave. | BL | 1.00 | Edmond |
| N. 150th St. (33rd St.) Linkage | Kelly Ave. | W. of Sunnylane Rd. (Coltrane Rd.) | BL | 2.69 | Edmond |
| N. 150th St. (33rd St.) Linkage | W. of Sunnylane Rd. (Coltrane Rd.) | W. of Sooner Rd. | BPS | 1.24 | Edmond |
| N. 108th St. (Hefner Rd.) | E. of Morgan Rd. | E. of MacArthur Blvd. | SOR | 4.93 | Oklahoma City |
| N. 108th St. (Hefner Rd.) | W. of SH-74 (Lake Hefner Parkway) | E. of Pennsylvania Ave. | BPS | 2.78 | Oklahoma City |
| N. 108th St. (Hefner Rd.) | E. of Pennsylvania Ave. | I-235 (Broadway Extension) | PBL | 2.07 | Oklahoma City |
| N. 108th St. (Hefner Rd.) | I-235 (Broadway Extension) | Eastern Ave. | SOR | 1.95 | Oklahoma City |
| N. 108th St. (Hefner Rd.) | Eastern Ave. | E. of Westminster Rd. | SOR | 8.52 | Oklahoma City |
| N. 93rd St. (Britton Rd.) | Council Rd. | MacArthur Blvd. | PBL | 2.01 | Oklahoma City |
| N. 51st St. | E. of SH-74 (Lake Hefner Parkway) | E. of Pennsylvania Ave. | SOR | 1.57 | Oklahoma City |
| N. 50th St. (Wagner Rd.) | W. of Western Ave. | W. of Western Ave. | SOR | 0.21 | Oklahoma City |
| N. 50th St. | Cemetery Rd. (N. 11th St.) | Sara Rd. | SOR | 3.00 | Yukon |
| N. 50th St. | Western Ave. | E. of Western Ave. | PBL | 0.50 | Oklahoma City |
| N. 50th St. | I-235 | Eastern Ave. (Martin Luther King Ave.) | SOR | 2.24 | Oklahoma City |
| N. 50th St. | Harper Rd. | Choctaw Rd. | BL | 0.49 | Choctaw |
| N. 50th St. | E. of MacArthur Blvd. | W. of Pennsylvania Ave. | PBL | 3.27 | Oklahoma City |
| N. 36th St. (Lakeshore Dr.) | Mustang Rd. (Yukon Pkwy) | E. of Mustang Rd. (Yukon Pkwy) | SOR | 0.50 | Yukon |
| N. 36th St. | MacArthur Blvd. | W. of I-44 | PBL | 2.38 | Oklahoma City |
| N. 36th St. | W. of I-44 | W. of May Ave. | PBL | 0.38 | Oklahoma City |
| N. 36th St. | W. of Pennsylvania Ave. | W. of Pennsylvania Ave. | BL | 0.25 | Oklahoma City |
| N. 36th St. | E. of Western Ave. | I-235 | SOR | 0.63 | Oklahoma City |
| N. 36th St. | I-235 | Lincoln Blvd. | BPS | 0.62 | Oklahoma City |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

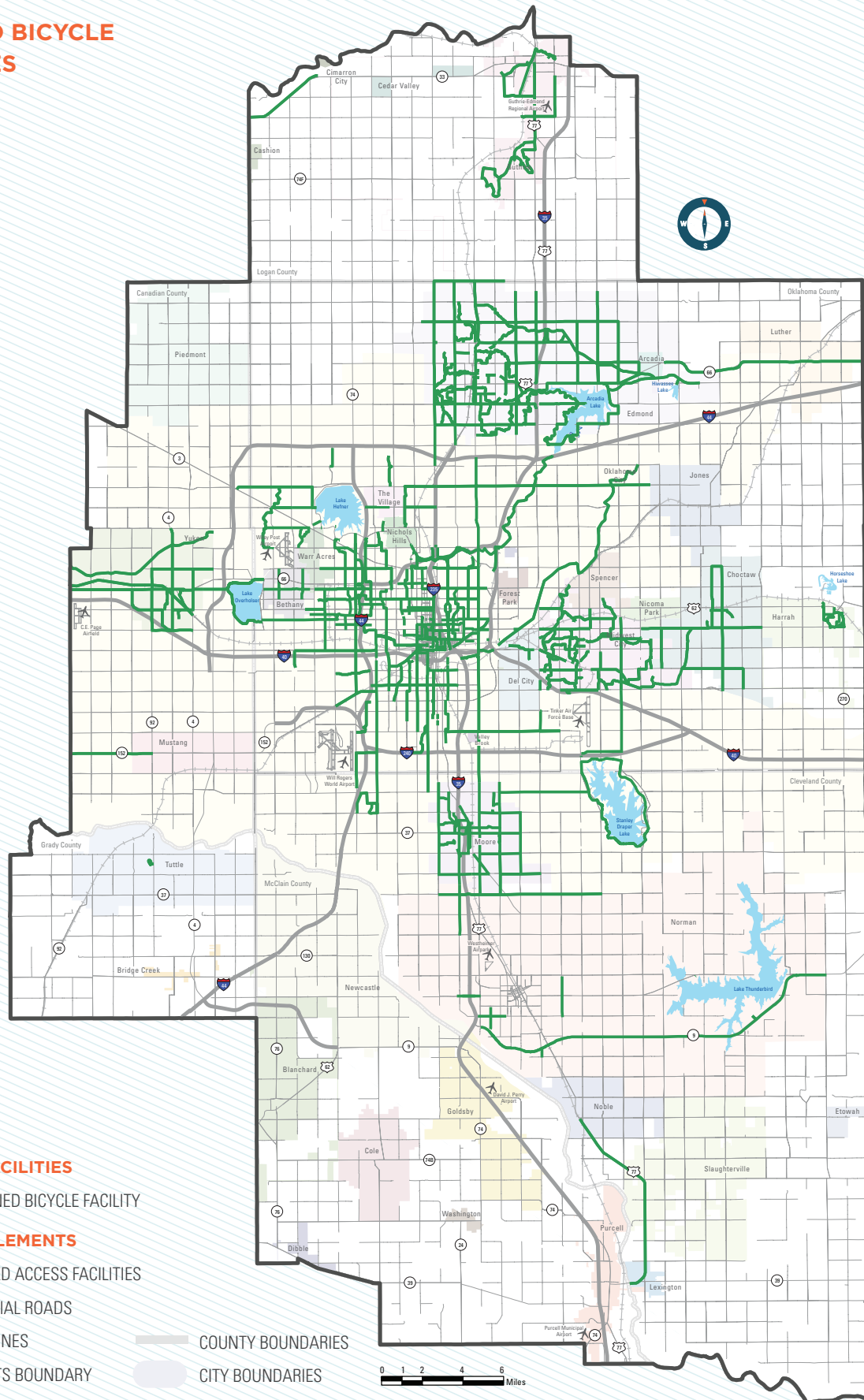
| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|--|--|---------------------|----------------|-------------------|
| N. 36th St. | Lincoln Blvd. | Kelley Ave. | BL | 0.50 | Oklahoma City |
| N. 36th St. | Kelley Ave. | E. of Eastern Ave. (Martin Luther King Ave.) | SOR | 1.43 | Oklahoma City |
| N. 36th St. | W. of Sara Rd. | Morgan Rd. | SOR | 1.32 | Oklahoma City |
| N. 30th St. | E. of MacArthur Blvd. | Portland Ave. | SOR | 1.93 | Oklahoma City |
| N. 30th St. | Portland Ave. | W. of I-44 | BPS | 0.41 | Oklahoma City |
| N. 30th St. | E. of Portland Ave. | W. of Santa Fe Ave. | SOR | 3.72 | Oklahoma City |
| N. 30th St. | Lincoln Blvd. | Eastern Ave. (Martin Luther King Ave.) | SOR | 1.49 | Oklahoma City |
| N. 24th St. | E. of Pennsylvania Ave. | W. of Santa Fe Ave. | SOR | 1.30 | Oklahoma City |
| N. 24th St. | Kelley Ave. | E. of Kelley Ave. | SOR | 0.28 | Oklahoma City |
| N. 23rd St. (Vandament Ave.) | Czech Hall Rd. (Cornwell Dr.) | Mustang Rd. (Yukon Pkwy.) | BL | 0.98 | Yukon |
| N. 23rd St. (Vandament Ave.)/Holly Ave. | SH-66 (Main St.) | N. 10th St. | BL | 1.99 | Yukon |
| N. 23rd St. | W. of MacArthur Blvd. | E. of MacArthur Blvd. | SOR | 0.98 | Oklahoma City |
| N. 23rd St. | Sooner Rd. | E. of Sooner Rd. | BPS | 0.47 | Midwest City |
| N. 22nd St. | E. of Pennsylvania Ave. | W. of Santa Fe Ave. | SOR | 1.48 | Oklahoma City |
| N. 19th St. | Meridian Ave. | W. of May Ave. | BL | 1.83 | Oklahoma City |
| N. 16th St. | E. of County Line Rd. | E. of Meridian Ave. | BL | 4.09 | Oklahoma City |
| N. 16th St. | Portland Ave. | I-44 | SOR | 0.19 | Oklahoma City |
| N. 16th St. | E. of Lincoln Blvd. | Kelley Ave. | SOR | 0.37 | Oklahoma City |
| N. 13th St. | Western Ave. | E. of Kelley Ave. | PBL | 2.32 | Oklahoma City |
| N. 12th St. | E. of I-44 | E. of Pennsylvania Ave. | PBL | 1.84 | Oklahoma City |
| N. 12th St. | E. of Pennsylvania Ave. | E. of Pennsylvania Ave. | PBL | 0.19 | Oklahoma City |
| N. 10th St. | Cemetery Rd. | W. of Czech Hall Rd. (Cornwell Dr.) | BL | 0.80 | Yukon |
| N. 10th St. | Czech Hall Rd. (Cornwell Dr.) | Mustang Rd. (Yukon Pkwy.) | BL | 1.00 | Yukon |
| N. 10th St. | W. of Broadway Ave. | E. of Lincoln Blvd. | SOR | 1.36 | Oklahoma City |
| N. 10th St. | W. of Eastern Ave. (Martin Luther King Ave.) | E. of Eastern Ave. (Martin Luther King Ave.) | PBL | 0.68 | Oklahoma City |
| N. 10th St. | Sooner Rd. | E. of Midwest Blvd. | BPS | 2.50 | Midwest City |
| N. 10th St. | Westminster Rd. | Triple X Rd. | BL | 5.94 | Choctaw |
| N. 8th St. | W. of Eastern Ave. (Martin Luther King Ave.) | Eastern Ave. (Martin Luther King Ave.) | SOR | 0.33 | Oklahoma City |
| N. 6th St. | Western Ave. | E. of Western Ave. | PBL | 0.24 | Oklahoma City |
| N. 4th St. | Western Ave. | Lincoln Blvd. | PBL | 1.57 | Oklahoma City |
| N. 4th St. | Lincoln Blvd. | Lottie Ave. | PBL | 0.71 | Oklahoma City |
| N. 3rd St. | W. of Eastern Ave. | W. of Eastern Ave. | BPS | 0.25 | Moore |

LIST OF PLANNED BICYCLE/PEDESTRIAN PROJECTS *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---------------------------------|----------------------------------|-----------------------------------|---------------------|----------------|-------------------|
| S. 3rd St. | SH-66 (Main St.) | N. 23rd St. (Vandament Ave.) | SOR | 1.13 | Yukon |
| S. 3rd St. | W. of Western Ave. | E. of Western Ave. | BL | 0.39 | Oklahoma City |
| S. 15th St. | Meridian Ave. | E. of Portland Ave. | SOR | 1.69 | Oklahoma City |
| S. 15th St. | W. of Santa Fe Ave. | Santa Fe Ave. | SOR | 0.59 | Oklahoma City |
| S. 15th St. | Santa Fe Ave. | Kelley Ave. (High Ave.) | PBL | 0.99 | Oklahoma City |
| S. 15th St. | S. 15th St. | N. of S. 29th St. | BPS | 1.89 | Midwest City |
| S. 15th St. | Sooner Rd. | E. of Midwest Blvd. | BPS | 2.07 | Midwest City |
| S. 15th St. | E. of Midwest Blvd. | W. of Douglas Blvd. | BPS | 0.36 | Midwest City |
| S. 15th St. Trail | Hiwassee Rd. | Choctaw Rd. | BPS | 1.99 | Choctaw |
| S. 15th St. | Choctaw Rd. | Conner Rd. | BL | 0.63 | Choctaw |
| S. 15th St. | Conner Rd. | Indian Meridian Rd. | BL | 0.37 | Choctaw |
| S. 25th St. | W. of May Ave. | W. of Pennsylvania Ave. | SOR | 0.90 | Oklahoma City |
| S. 25th St. | W. of Pennsylvania Ave. | Kelley Ave. (High Ave.) | BL | 4.38 | Oklahoma City |
| S. 29th St. | Air Depot Blvd. | E. of Air Depot Blvd. | BPS | 0.34 | Midwest City |
| S. 29th St. | E. of Air Depot Blvd. | E. of Midwest Blvd. | BPS | 1.25 | Midwest City |
| S. 59th St. | W. of Kelley Ave. (High Ave.) | Air Depot Blvd. | PBL | 5.62 | Oklahoma City |
| S. 104th St. | Bryant Ave. | E. of Midwest Blvd. | BPS | 4.35 | Oklahoma City |
| S. 134th St. (S. 4th St.) | Santa Fe Ave. | E. of Santa Fe Ave. | BPS | 0.20 | Moore |
| S. 134th St. (S. 4th St.) | E. of Santa Fe Ave. | Kelley Ave. (Telephone Rd.) | BPS | 0.80 | Moore |
| S. 134th St. (S. 4th St.) | Kelley Ave. (Telephone Rd.) | Sunnylane Ave. | BPS | 3.01 | Moore |
| S. 141st St. (S. 11th St.) | Santa Fe Ave. | E. of Santa Fe Ave. | SOR | 0.55 | Moore |
| S. 141st St. (S. 11th St.) | E. of Santa Fe Rd. | W. of Kelley Ave. (Telephone Rd.) | BPS | 0.22 | Moore |
| S. 149th St. (S. 19th St.) | W. of I-35 | E. of I-35 | SOR | 0.41 | Moore |
| S. 149th St. (S. 19th St.) | Eastern Ave. | Sunnylane Ave. | SOR | 2.00 | Moore |
| S. 164th St. (S. 34th St.) | Santa Fe Ave. | Kelley Ave. (Telephone Rd.) | SOR | 1.00 | Moore |
| S. 164th St. (S. 34th St.) | Kelley Ave. (Telephone Rd.) | W. of Eastern Ave. | BPS | 0.67 | Moore |
| S. 164th St. (S. 34th St.) | W. of Eastern Ave. | E. of Eastern Ave. | SOR | 2.14 | Moore |
| S. 164th St. (S. 34th St.) | Bryant Ave. | Sooner Rd. | SOR | 2.01 | Moore |
| S. 179th St. (Indian Hills Rd.) | Santa Fe Ave. (48th Ave. NW) | Douglas Blvd. (48th Ave. NE) | SOR | 8.00 | Norman |
| S. 254th St. (Alameda St.) | W. of Henney Rd. (108th Ave. NE) | W. of Henney Rd. (108th Ave. NE) | SH | 0.03 | Norman |
| S. 269th St. (Lindsey St.) | I-35 | E. of Bryant Ave. (Berry Rd.) | BL, S | 1.52 | Norman |

FIGURE 13.1: PLANNED BICYCLE PROJECTS

PLANNED BICYCLE FACILITIES



LEGEND

PLANNED FACILITIES

— PLANNED BICYCLE FACILITY

BASE MAP ELEMENTS

— LIMITED ACCESS FACILITIES

— ARTERIAL ROADS

— RAIL LINES

— OCARTS BOUNDARY

— COUNTY BOUNDARIES

— CITY BOUNDARIES

0 1 2 4 6 Miles

FIGURE 13.2: PLANNED PEDESTRIAN PROJECTS

PLANNED PEDESTRIAN PROJECTS

LEGEND

PLANNED PROJECTS

SUBMITTED DURING THE ENCOMPASS 2040 CALL FOR PROJECTS

— PLANNED PEDESTRIAN FACILITIES

BASE MAP ELEMENTS

— LIMITED ACCESS FACILITIES

— ARTERIAL ROADS

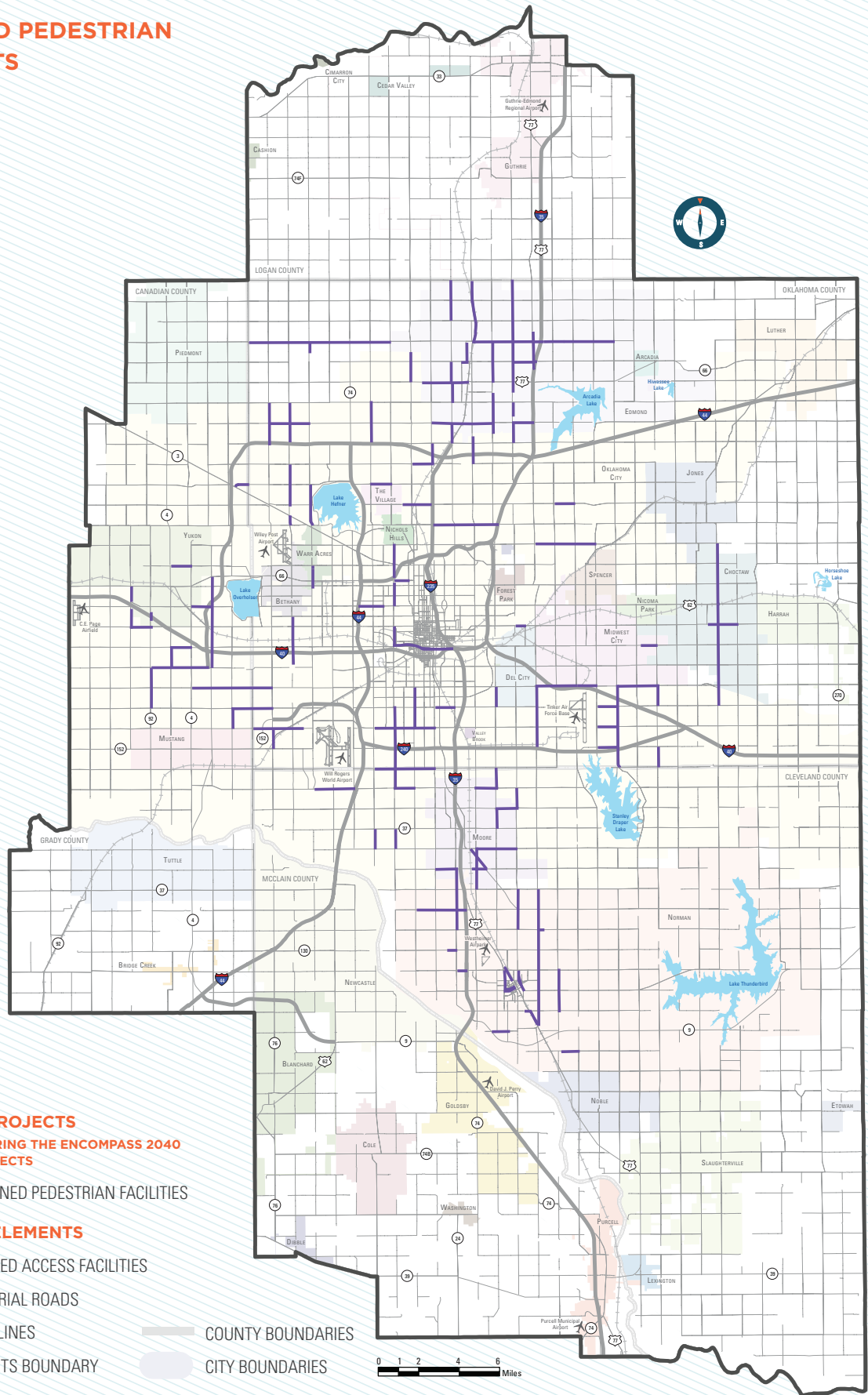
— RAIL LINES

— OCARTS BOUNDARY

— COUNTY BOUNDARIES

— CITY BOUNDARIES

0 1 2 4 6 Miles



PROJECT SPECIFIC RECOMMENDATIONS:

TRANSIT PROJECTS

In addition to ongoing capital, maintenance, operating, and planning of the region's public bus systems (EMBARK, CART, and Citylink), Encompass 2040 includes the following transit projects. These projects are included in the Plan's financial capacity analysis (Chapter 14) as part of the affordable plan.

Project: Oklahoma City Downtown Streetcar

- Sponsor: Central Oklahoma Transportation and Parking Authority
- General Location: The initial alignment is 4.6-miles linking the Oklahoma City central business district, midtown, and Bricktown. (See map in Chapter 8)
- Description: Modern Streetcar
- Funding Source(s): City of Oklahoma City (MAPS 3)

Project: Intermodal Transportation Hub

- Sponsor: City of Oklahoma City
- General Location: Santa Fe Depot on E.K. Gaylord Blvd. in Oklahoma City
- Description: Initial efforts included in Encompass 2040: Acquisition of the Santa Fe Depot property, renovation of the depot to create a grand hall and common area for the entire hub, Amtrak station area (ticketing, baggage and waiting areas), bike rental facility, pedestrian tunnel through the existing elevated railroad structure to connect Bricktown and downtown, and streetscape, bicycle and pedestrian enhancements on E.K. Gaylord Blvd.
- Funding Source(s): City of Oklahoma City (MAPS 3), FTA Discretionary funds, State (ODOT) in-kind funding, STBG-UZA (ACOG)

PROJECT SPECIFIC RECOMMENDATIONS:

STREET AND HIGHWAY PROJECTS

Encompass 2040 street and highway projects are presented in three tables. Some projects were underway (funded, under construction and/or completed) during the period of time that the plan was being developed (2010 – 2016), while other projects will be implemented throughout the remaining 25 years of the plan through 2040.

Table 13.2 reflects the projects that were completed prior to plan adoption between Jan. 1, 2010 and Dec. 31, 2016, Table 13.3 includes projects that were funded within the same period, but not completed, and Table 13.4 lists the planned street and highway improvements.

Planned projects were submitted by the Oklahoma Department of Transportation (ODOT) and OCARTS member local governments in response to the Encompass 2040 Call for Projects. The sponsoring entity of each project estimated its implementation phase as being either short-range (by 2020), medium-range (2021-2030), or long-range (2031-2040). The phasing is non-binding and served as a guide for estimating future plan costs as part of the financial capacity described in Chapter 14.

All federally funded transportation projects are implemented through the Transportation Improvement Program (TIP), which identifies the region's short-range funding priorities, from the long-range plan, that will be funded and constructed over the next few years. A new TIP is prepared every three years in coordination with OCARTS area local governments, ODOT, the local transit providers, and area airports.



STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JANUARY 2010 AND DECEMBER 2016

TABLE 13.2: STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JAN. 2010 AND DEC. 2016

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--|---|---|---------------------|----------------|-------------------|
| Air Depot Blvd. | S. 15th St. | S. 29th St. | 4 to 5 | 1.00 | Midwest City |
| Air Depot Blvd. (24th Ave. E.) | S. 269th St. (Lindsey St.) | SH-9 | 2 to 4 | 1.00 | Norman |
| Air Depot Blvd. (24th Ave. E.) | S. 299th St. (Cedar Lane Rd.) | 0.5 mi. S. of S. 299th (Cedar Lane) | 0 to 2 | 0.50 | Norman |
| Broadway (US-77) & N. 136th (Memorial) Interchange | | | Reconstruct | 1.92 | OKC/Edmond |
| Broadway Ave. | S. 134th St. (S. 4th St.) | S. 149th St. (S. 19th St.) | 3 to 4 | 1.00 | Moore |
| Broadway Ave. | N. 18th St. | S. 119th St. (N. 12th St.) | 4 to 2 | 0.25 | Moore |
| Broadway Ave. | S. 119th St. (N. 12th St.) | N. 5th St. | 4 to 3 | 0.50 | Moore |
| Bryant Ave. | S. 74th St. | S. 89th St. | 2 to 4 | 1.00 | OKC |
| Cimarron Rd. | Pine St. | 150' S of SH-37 (Main St.) | 2 to 3 | 0.14 | Tuttle |
| Classen Blvd. | Constitution St. | SH-9 | 4 to 5 | 0.45 | Norman |
| Council Rd. | N. 136th St. (Memorial Rd.) | N. 122nd St. | 2 to 4 | 1.00 | OKC |
| Czech Hall Rd. | I-40 | Reno Ave. | 2 to 5 | 1.00 | OKC |
| Eastern Ave. | S. 44th St. | S. 74th St. | 2 to 4 | 2.00 | OKC |
| Eastern Ave. | S. 74th St. | 0.5 mile N. of S. 104th St. | 2 to 4 | 1.50 | OKC |
| Eastern Ave. | 0.5 mile N. of S. 104th St. (N. 27th St.) | S. 104th St. (N. 27th St.) | 2 to 4 | 0.50 | Moore |
| Eastern Ave. (24th Ave. W.) | S. 194th St. (Franklin Rd.) | 1,270' S of S. 194th St. (Franklin Rd.) | 2 to 3 | 0.24 | Norman |
| Eastern Ave. (Boulevard) | N. 206th St. (Covell Rd.) | N. 192nd St. (Danforth Rd.) | 2 to 4 | 1.00 | Edmond |
| I-235 & I-44 Interchange | | | SB & WB Ramps | | OKC |
| I-35 | 0.5 mile N. of S. 254th St. (Main St.) | 0.5 mile S. of S. 254th St. (Main St.) | 4 to 6 | 1.00 | Norman |
| I-35 | S. of S. 239th St. (Robinson St.) | N. of S. 269th St. (Lindsey St.) | 4 to 6 | 1.00 | Norman |
| I-35 | S. 179th St. (Indian Hills Rd.) | 0.5 mile N. of S. 254th St. (Main St.) | 4 to 6 | 4.60 | Norman |
| I-35 (South) | S. 209th St. (Tecumseh Rd.) | S. 254th St. (Main St.) | 4 to 6 | 4.00 | Norman |
| I-35 East Service Rd. | S. 149th St. (S. 19th St.) | 0.5 mile N. of S. 164th St. (S. 34th St.) | 2 to 3 | 0.50 | Moore |
| I-35 Frontage Rd. | N. 108th St. (Hefner Rd.) | N. 93rd St. (Britton Rd.) | 2 to 3 | 0.13 | OKC |
| I-35 West Service Rd. | S. 134th St. (S. 4th St.) | S. 149th St. (S. 19th St.) | 2 to 3 | 1.00 | Moore |
| I-35/S. 254th St. (Main St.) Interchg. | | | Reconstruct | | Norman |
| I-35/S. 269th St. (Lindsey St.) Interchg. | | | Reconstruct | | Norman |
| I-35/SH-9 West Interchg. | | | Reconstruct | | Norman |
| I-40 | Gregory Rd. | | 4 to 6 | 4.00 | OKC/Yukon |
| I-40 | 0.5 mi. W of Cemetery (Garth Brooks) | | 4 to 6 | 1.50 | Canadian Co. |



STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JANUARY 2010 AND DECEMBER 2016 *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--|--|--|---------------------|----------------|-------------------|
| I-40 Crosstown (Realignment)+33:60 | I-44 | I-235 | New 10-Lane | 3.50 | OKC |
| Kelly Ave. | 300' S. of N. 206th St. (Covell Rd.) | 0.5 mile N. of N. 192nd St. (Danforth Rd.) | 2 to 4 | 0.30 | Edmond |
| Kelly Ave. | N. 164th St. (15th St.) | N. 150th St. (33rd St.) | 4 to 4 Divided | 1.00 | Edmond |
| Kelly Ave. | N. 220th St. (Coffee Creek Rd.) | N. 206th St. (Covell Rd.) | 2 to 4 Divided | 1.00 | Edmond |
| Kelly Ave. | 0.5 mi. N of N. 192nd St. (Danforth Rd.) | N. 192nd St. (Danforth Rd.) | 2 to 4 Divided | 0.50 | Edmond |
| Kelly Ave. (36th Ave. W.) | Bob White Ave. | S. 254th St. (Main St.) | 4 to 5 | 0.75 | Norman |
| Kelly Ave. (36th Ave. W.) | Carrington Ln. | Bridgeport Rd. | 2 to 3 | 0.23 | Norman |
| Kilpatrick Turnpike | MacArthur Blvd. | Eastern Ave. | 4 to 6 | 8.00 | OKC |
| MacArthur Blvd. | N. 150th St. | John Kilpatrick Turnpike | 2 to 4 | 1.00 | OKC |
| MacArthur Blvd. | N. 63rd St. | N. 50th St. | 4 to 5 | 1.00 | Warr Acres |
| MacArthur Blvd. (Realignment-Renamed Regina) | S. 74th St. | S. 89th St. | New 4-Lane | 1.00 | OKC |
| MacArthur Blvd. (Realignment-Renamed Regina) | S. 89th St. | S. 104th St. | New 4-Lane | 1.00 | OKC |
| May Ave. | 0.5 mile N. of N. 192nd St. | N. 178th St. | 2 to 4 | 1.50 | OKC |
| May Ave. | N. 178th St. | N. 164th St. | 2 to 4 | 1.00 | OKC |
| May Ave. | N. 164th St. | N. 150th St. | 2 to 4 | 1.00 | OKC |
| Pennsylvania Ave. | N. 178th St. | N. 164th St. | 2 to 4 | 1.00 | OKC |
| Pennsylvania Ave. | N. 164th St. | N. 150th St. | 2 to 4 | 1.00 | OKC |
| Portland Ave. | S. 74th St. | S. 104th St. | 2 to 4 | 2.00 | OKC |
| Post Rd. | Reno Ave. | S. 15th St. | 2 to 4 | 1.00 | Midwest City |
| Reno Ave. | Czech Hall Rd. | Mustang Rd. | 2 to 4 | 1.00 | OKC |
| Santa Fe Ave. | S. 149th St. (S. 19th St.) | S. 164th St. (S. 34th St.) | 2 to 4 | 1.00 | Moore |
| Santa Fe Ave. | S. 134th St. (S. 4th St.) | S. 149th St. (S. 19th St.) | 2 to 4 | 1.00 | Moore/OKC |
| Santa Fe Ave. | S. 134th St. (S. 4th St.) | S. 149th St. (S. 19th St.) | 2 to 4 | 1.00 | Moore |
| SH-4 (Ranchwood Blvd.) | Main St. (Yukon) | N. 23rd St. (Vandament Ave.) | 2 to 4 | 1.25 | Yukon |
| SH-4 (S. Yukon Parkway) (Mustang) | N. 23rd St. (Vandament Ave.) | N. 10th St. | 2 to 4 | 1.00 | Yukon |
| SH-74 (Portland Ave.) | N. 248th St. (Waterloo Rd.) | N. 234th St. (Sorghum Mill Rd.) | 2 to 5 | 1.00 | OK Co. |
| SH-74 (Portland Ave.) | N. 234th St. (Sorghum Mill Rd.) | N. 206th St. (Covell Rd.) | 2 to 5 | 2.00 | OK Co. |
| SH-9 | Classen Blvd. (US-77) | 0.2 mile E. of Classen Blvd. (US-77) | 3 to 4 | 0.20 | Norman |
| SH-74 (Portland Ave.) | N. 234th St. (Sorghum Mill Rd.) | N. 206th St. (Covell Rd.) | 2 to 5 | 2.00 | OK Co. |
| SH-9 | Classen Blvd. (US-77) | 0.2 mile E. of Classen Blvd. (US-77) | 3 to 4 | 0.20 | Norman |



STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JANUARY 2010 AND DECEMBER 2016 *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-----------------------------|---------------------------------------|--|---------------------|----------------|-------------------|
| SH-9 | Air Depot Blvd. (24th Ave. E.) | 0.25 mi. E of Midwest Blvd. (36th Ave. E.) | 2 to 4 | 1.25 | Norman |
| SH-9W over I-35 | | | Interchange | | Norman |
| Sooner Rd. | N. 23rd St. | N. 10th St. | 2 to 4 | 1.00 | Midwest City |
| Stubberman Ave. | Terry Dr. | S. 239th St. (Robinson St.) | 3 to 4 | 0.34 | Norman |
| Sunnylane Rd. (Porter Ave.) | S. 209th St. (Tecumseh Rd.) | S. 224th St. (Rock Creek Rd.) | 3 to 4 | 1.00 | Norman |
| Sunnylane Rd. (Porter Ave.) | S. 224th St. (Rock Creek Rd.) | S. 239th St. (Robinson St.) | 3 to 5 | 0.90 | Norman |
| Telephone Rd. | S. 17th Street | S. 149th St. (S. 19th St.) | 4 to 5 | 0.20 | Moore |
| Turner Turnpike (I-44) | Westbound on-ramp, Eastbound off-ramp | | New Interchange | | OKC |
| Turner Turnpike (I-44) | Eastbound on-ramp, Westbound off-ramp | | Interchng. Modif. | | OKC |
| US-62 | County Line Rd. | Tyler Ave. | 2 to 5 | 1.50 | Blanchard |
| Western Ave. | N. 150th St. | N. 136th St. (Memorial Rd.) | 2 to 4 | 1.00 | OKC |
| Western Ave. | N. 178th St. | N. 164th St. | 2 to 4 | 1.00 | OKC |
| Western Ave. | N. 164th St. | N. 150th St. | 2 to 4 | 1.00 | OKC |
| Western Ave. | S. 134th St. | S. 179th St. (Indian Hills Rd.) | 2 to 4 | 3.00 | OKC |
| Western Ave. (60th Ave. W.) | S. 179th St. (Indian Hills Rd.) | S. 209th St. (Tecumseh Rd.) | 2 to 4 | 2.00 | Norman |
| N. 206th St. (Covell Rd.) | Marilyn Williams Dr. | Thomas Dr. | 2 to 4 Divided | 1.50 | Edmond |
| N. 206th St. (Covell Rd.) | Thomas Dr. | Eastern Ave. (Broadway Ave.) | 2 to 4 | 0.52 | Edmond |
| N. 192nd St. | Portland Ave. | May Ave. | 2 to 4 | 1.00 | OKC |
| N. 192nd St. | May Ave. | Pennsylvania Ave. | 2 to 4 | 1.00 | OKC |
| N. 192nd St. | Pennsylvania Ave. | 0.5 mile W. of Santa Fe Ave. | 2 to 4 | 1.50 | OKC |
| N. 192nd St. (Danforth Rd.) | Sunnylane Rd. (Coltrane Rd.) | 850' W. of Sunnylane Rd. (Coltrane Rd.) | 2 to 4 | 0.16 | Edmond |
| N. 178th St. | 0.5 mile W. of Portland Ave. | Portland Ave. | 2 to 4 | 0.50 | OKC |
| N. 178th St. | Portland Ave. | May Ave. | 2 to 4 | 1.00 | OKC |
| N. 178th St. | Pennsylvania Ave. | Western Ave. | 2 to 4 | 1.00 | OKC |
| N. 164th St. | Pennsylvania Ave. | Western Ave. | 2 to 4 | 1.00 | OKC |
| N. 164th St. | Western Ave. | 0.5 mile E. of Western Ave. | 2 to 4 | 0.50 | OKC |
| N. 164th St. (15th St.) | Edgewood Dr. | Pine Oak Dr. | 4 to 5 | 0.40 | Edmond |
| N. 150th St. | Meridian Ave. | Portland Ave. | 2 to 4 | 1.00 | OKC |
| N. 150th St. | Portland Ave. | May Ave. | 2 to 4 | 1.00 | OKC |
| N. 150th St. | May Ave. | Pennsylvania Ave. | 2 to 4 | 1.00 | OKC |



STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JANUARY 2010 AND DECEMBER 2016 *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|------------------------------|---------------------------------|--------------------------------|---------------------|----------------|-------------------|
| N. 150th St. | May Ave. | Pennsylvania Ave. | 2 to 4 | 1.00 | OKC |
| N. 150th St. | Western Ave. | Santa Fe Ave. | 2 to 4 | 1.00 | OKC |
| N. 150th St. (33rd St.) | Santa Fe Ave. | Kelly Ave. | 2 to 4 | 1.00 | Edmond |
| N. 122nd St. | County Line Rd. | Council Rd. | 2 to 4 | 1.00 | OKC |
| N. 122nd St. | Broadway Extension | Kelley Ave. | 2 to 4 | 1.00 | OKC |
| N. 122nd St. | Sunnylane Rd. (Coltrane Rd.) | Sooner Rd. | 2 to 4 | 1.00 | OKC |
| N. 108th St. (Hefner Rd.) | County Line Rd. | Council Rd. | 2 to 4 | 1.00 | OKC |
| N. 108th St. (Hefner Rd.) | Kelley Ave. | Eastern Ave. | 2 to 4 | 1.00 | OKC |
| N. 93rd St. (Britton Rd.) | Rockwell Ave. | MacArthur Blvd. | 2 to 4 | 1.00 | OKC |
| N. 78th St. (Wilshire Rd.) | Morgan Rd. | County Line Rd. | 2 to 4 | 1.00 | OKC |
| N. 78th St. (Wilshire Rd.) | County Line Rd. | Council Rd. | 2 to 4 | 1.00 | OKC |
| N. 36th St. | 0.2 mile W. of Sooner Rd. | Sooner Rd. | 2 to 4 | 0.20 | OKC |
| N. 23rd St. (Vandament Ave.) | Ranchwood Blvd. | Mustang Rd. (S. Yukon Parkway) | 2 to 4 | 0.20 | Yukon |
| N. 23rd St. (Vandament Ave.) | Wal-Mart Dr. | Westport Blvd. | 2 to 4 | 0.10 | Yukon |
| N. 10th St. | Garth Brooks Blvd./Cemetery Rd. | S. Yukon Parkway/Mustang Rd. | 2 to 4 | 2.00 | Yukon |
| N. 10th St. | Sara Rd. | Morgan Rd. | 2 to 4 | 1.00 | OKC |
| N. 10th St. | Henney Rd. | Harper Rd. | 2 to 4 | 0.50 | Choctaw |
| S. 15th St. | Dell Dr. | I-44 | 4 to 5 | 0.25 | OKC |
| S. 15th St. | Vickie Dr. | Sooner Rd. | 4 to 5 | 0.50 | Del City |
| S. 29th St. | MacArthur Ave. | Meridian Ave. | 2 to 4 | 1.00 | OKC |
| S. 29th St. | Meridian Ave. | Portland Ave. | 2 to 4 | 1.00 | OKC |
| S. 29th St. | Air Depot Blvd. | Midwest Blvd. | 4 to 4 Divided | 1.00 | Midwest City |
| S. 54th St. | MacArthur Blvd. | Portland Ave. | 2 to 4 | 2.00 | OKC |
| S. 119th St. (N. 12th St.) | Janeway Ave. | I-35 West Service Rd. | 4 to 5 | 0.50 | Moore |
| S. 119th St. (N. 12th St.) | Eastern Ave. | Bryant Ave. | 2 to 4 | 1.00 | Moore |
| S. 149th St. (S. 19th St.) | Santa Fe Ave. | Kelley Ave. (Telephone Rd.) | 2 to 4 | 1.00 | Moore |
| S. 149th St. (S. 19th St.) | Kelley Ave. (Telephone Rd.) | I-35 West Service Rd. | 5 to 8 | 0.20 | Moore |
| S. 149th St. (S. 19th St.) | I-35 West Service Rd. | Broadway Ave. | 4 to 5 | 0.30 | Moore |
| S. 194th St. (Franklin Rd.) | Flood Ave. (US-77) | Eastern Ave. (24th Ave. W.) | 3 to 4 | 0.28 | Norman |
| S. 209th St. (Tecumseh Rd.) | Bryant Ave. (12th Ave. W.) | Sunnylane Rd. (Porter Ave.) | 2 to 4 | 1.00 | Norman |



STREET AND HIGHWAY IMPROVEMENTS COMPLETED BETWEEN JANUARY 2010 AND DECEMBER 2016 *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|----------------------------------|--|---------------------|----------------|-------------------|
| S. 209th St. (Tecumseh Rd.) | Sunnylane Rd. (Porter Ave.) | Sooner Rd. (12th Ave. E.) | New 4-Lane | 1.00 | Norman |
| S. 224th St. (Rock Creek Rd.) | Kelly Ave. (36th Ave. W.) | N. Interstate Dr. | 2 to 4 | 0.41 | Norman |
| S. 224th St. (Rock Creek Rd.) | N. Interstate Dr. | Eastern Ave. (24th Ave. W.) | 0 to 4 | 0.34 | Norman |
| S. 224th St. (Rock Creek Rd.) | Sunnylane Rd. (Porter Ave.) | Sooner Rd. (12th Ave. E.) | 2 to 4 | 1.00 | Norman |
| S. 224th St. (Rock Creek Rd.) | Sooner Rd./SH-77H (12th Ave. E.) | Queenston Ave. | 2 to 4 | 0.25 | Norman |
| S. 239th St. (Robinson St.) | Santa Fe Ave. (48th Ave. W.) | Brookhaven Blvd. | 2 to 4 | 0.80 | Norman |
| S. 239th St. (Robinson St.) | Sooner Rd. (12th Ave. E.) | Air Depot Blvd. (24th Ave. E.) | 2 to 4 | 1.00 | Norman |
| S. 239th St. (Robinson St.) and BNSF Railroad Underpass | | | Grade Separation | | Norman |
| S. 254th St. (Main St.) | Ed Noble Parkway | Interstate Dr. | 4 to 6 | 0.50 | Norman |
| S. 254th St. (Main St./Alameda St.) | Carter Ave. | Sooner Rd. (12th Ave. E.) | 2 to 4 | 0.50 | Norman |
| S. 269th St. (Lindsey St.) | Jenkins Ave. | Classen Blvd. | 2 to 4 | 0.60 | Norman |
| S. 269th St. (Lindsey St.) | Oakhurst Ave. | Air Depot Blvd. (24th Ave. E.) | 2 to 5 | 0.45 | Norman |
| S. 299th St. (Cedar Lane Rd.) | Sooner Rd. (12th Ave. E.) | 0.5 mi. E. of Air Depot Blvd. (24th Ave. E.) | 2 to 4 | 1.50 | Norman |



FIGURE 13.3: STREET AND HIGHWAY IMPROVEMENTS COMPLETED AND COMMITTED BETWEEN 2010-2016

**STREET AND HIGHWAY
IMPROVEMENTS COMPLETED
AND COMMITTED BETWEEN
2010 - 2016**

LEGEND

COMPLETED PROJECTS OR PROJECTS UNDER CONSTRUCTION

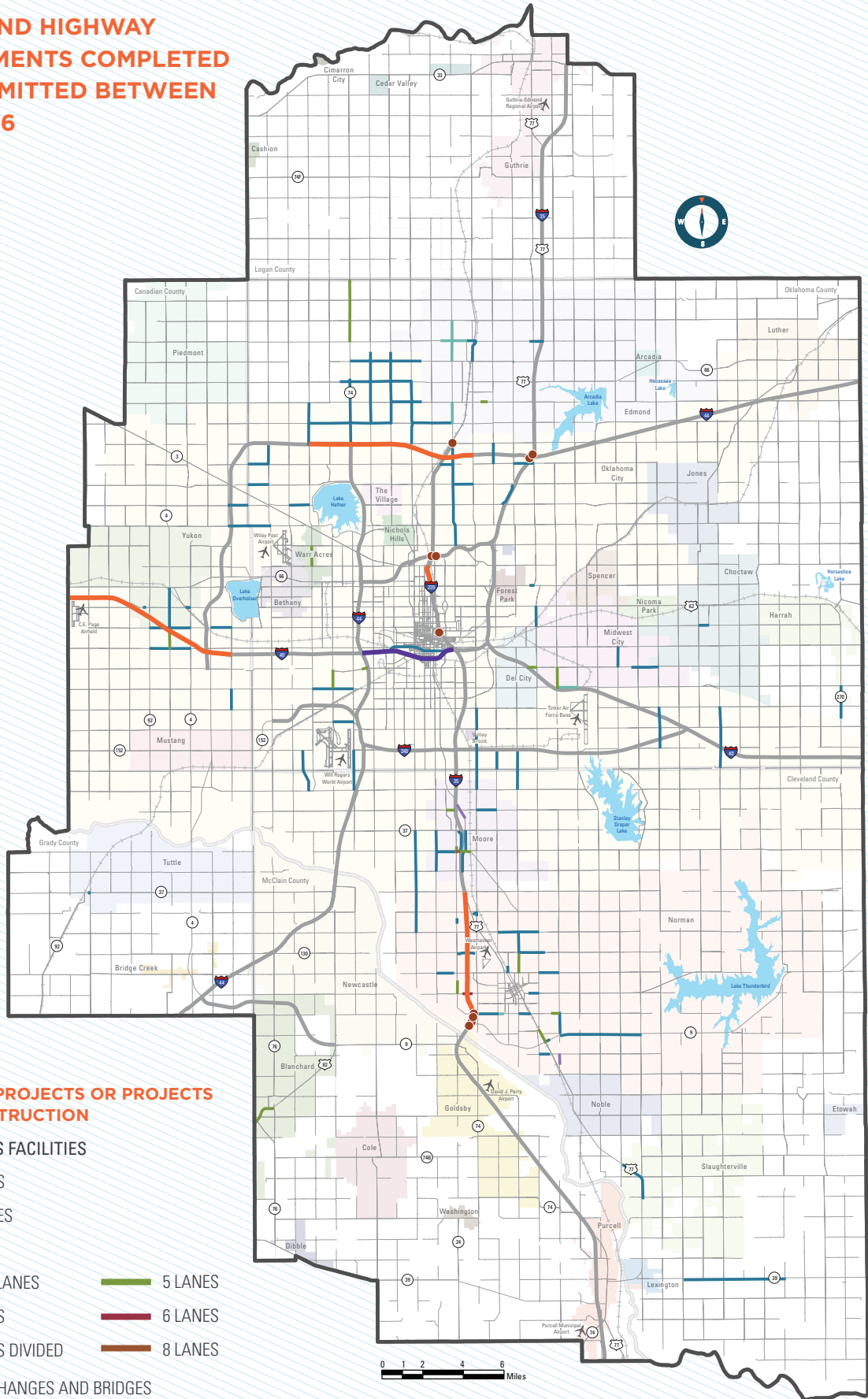
LIMITED ACCESS FACILITIES

- 8 LANES
- 10 LANES

ARTERIALS

- 2 OR 3 LANES
- 5 LANES
- 4 LANES
- 6 LANES
- 4 LANES DIVIDED
- 8 LANES

- INTERCHANGES AND BRIDGES



STREET AND HIGHWAY IMPROVEMENTS FUNDED BUT NOT COMPLETED PRIOR TO DECEMBER 2016

TABLE 13.3: STREET AND HIGHWAY IMPROVEMENTS FUNDED BUT NOT COMPLETED PRIOR TO DECEMBER 2016

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|------------------------------|------------------------------|---------------------|----------------|-----------------------|
| Anderson Rd. | S. 44th St. | S. 59th St. | 2 to 4 | 1.00 | OKC |
| Anderson Rd. | S. 59th St. | S. 74th St. | 2 to 4 | 1.00 | OKC |
| Bryant Ave. | N. 136th St. (Memorial Rd.) | N. 122nd St. | 2 to 4 | 1.00 | OKC |
| Choctaw Rd. | S. 44th St. | S. 59th St. | 2 to 4 | 1.00 | OKC |
| Choctaw Rd. | S. 59th St. | S. 74th St. | 2 to 4 | 1.00 | OKC |
| Choctaw Rd. | S. 74th St. | S. 89th St. | 2 to 4 | 1.00 | OKC |
| E.K. Gaylord Blvd. | E. Sheridan Ave. | E. Reno Ave. | 6 to 4 | 0.20 | OKC |
| Harrah Rd. (SH-270) | S. 29th St. | 0.5 mi S of S. 44th St. | 2 to 4 | 1.50 | Harrah/OKC/ OK Co. |
| I-235 | N. 50th St. | BNSF Railroad Tracks | 4 to 6 | 0.10 | OKC |
| I-235 | BNSF Railroad Tracks | N. 36th St. | 4 to 6 | 1.00 | OKC |
| I-235 & I-44 Interchange | | | EB to SB Ramps | | OKC |
| I-235/Harrison Ave. NB Off Ramp at N. 10th St. | | | Relocate off ramp | | OKC |
| I-35 @ SH-9 (South half) | | | Interchange | | Norman |
| I-35 @ SH-9E and Lindsey St. | | | Interchanges | | Norman |
| Kelley Ave. | N. 136th St. (Memorial Rd.) | N. 122nd St. | 2 to 4 | 1.00 | OKC |
| Kelley Ave. | N. 122nd St. | N. 108th St. (Hefner Rd.) | 2 to 4 | 1.00 | OKC |
| Kelley Ave. | N. 108th St. (Hefner Rd.) | N. 93rd St. (Britton Rd.) | 2 to 4 | 1.00 | OKC |
| Kelley Ave. | N. 93rd St. (Britton Rd.) | N. 78th St. (Wilshire Rd.) | 2 to 4 | 1.00 | OKC |
| Kelley Ave. | N. 78th St. (Wilshire Rd.) | N. 63rd St. | 2 to 4 | 1.00 | OKC |
| MacArthur Blvd. | N. 164th St. | N. 150th St. | 2 to 4 | 1.00 | OKC |
| Meridian Ave. | Canadian River | S. 29th St. | 4 to 5 | 1.25 | OKC |
| Morgan Rd. | S. 29th St. | S. 44th St. | 2 to 4 | 1.00 | OKC |
| Oklahoma City Blvd. - Crosstown Blvd. (Old I-40 Alignment.) | Pennsylvania Ave. | I-235 | New 4-Lane | 3.00 | OKC |
| Pennsylvania Ave. | 0.5 mile N. of N. 192nd St. | N. 192nd St. | 2 to 4 | 0.50 | OKC |
| Pennsylvania Ave. | N. 192nd St. | N. 178th St. | 2 to 4 | 1.00 | OKC |
| Portland Ave. (SH-74) | 0.25 mile N. of N. 164th St. | 0.25 mile S. of N. 150th St. | 2 to 4 | 1.50 | OKC |
| Reno Ave. | Cemetery Rd. | Czech Hall Rd. | 2 to 4 | 1.00 | OKC |
| SH-39 | 2.0 mi. E of US-77 | 7.0 mi. E of US-77 | 2 to 4 | 5.00 | Cleveland Co. |



STREET AND HIGHWAY IMPROVEMENTS FUNDED BUT NOT COMPLETED PRIOR TO DECEMBER 2016 *continued*

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|----------------------------|---|----------------------------------|---------------------|----------------|-------------------|
| SH-74 | 3.2 MI. N OF N. 136TH ST. (MEMORIAL RD.) | N. 136TH ST. (MEMORIAL RD.) | WIDEN | 3.20 | OKC |
| SH-9 | Douglas Blvd. (48th Ave. E.) | Westminster Rd. (72nd Ave. E.) | 2 to 4 | 2.00 | Norman |
| SH-9 | 0.25 mi. E of Midwest Blvd. (36th Ave. E) | Douglas Blvd. (48th Ave E.) | 2 to 4 | 0.75 | Norman |
| Sunnylane Rd. | S. 74th St. | S. 89th St. | 2 to 4 | 1.00 | OKC |
| Sunnylane Rd. | S. 89th St. | S. 104th St. | 2 to 4 | 1.00 | OKC |
| US-77 | 6.25 mi. N of SH-39 (Banner Rd.) | 4.05 mi. N of SH-39 (Bryant Rd.) | 2 to 4 | 2.50 | Slaughterville |
| N. 206th St. (Covell Rd.) | Fairfax | I-35 | 2 to 4 Divided | 0.54 | Edmond |
| N. 150th St. | MacArthur Blvd. | Meridian Ave. | 2 to 4 | 1.00 | OKC |
| N. 93rd St. (Britton Rd.) | Morgan Rd. | County Line Rd. | 2 to 4 | 1.00 | OKC |
| S. 15th St. | Lynn Fry Blvd. | Anderson Rd. | 2 to 4 | 1.30 | Midwest City |
| S. 269th St. (Lindsey St.) | I-35 | Bryant Ave. (Berry Rd.) | 3 to 4 Divided | 2.00 | Norman |
| S. 269th St. (Lindsey St.) | Bryant Ave. (Berry Rd.) | Pickard Ave. | 2 to 4 Divided | 1.00 | Norman |



TABLE 13.4: ENCOMPASS 2040 PLANNED STREET AND HIGHWAY IMPROVEMENTS

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--|--|--|---------------------|----------------|-----------------------------------|
| Air Depot Blvd. (24th Ave. SE) | S. 239th St. (Robinson St.) | S. 269th St. (Lindsey St.) | 2 to 4 | 2.00 | Norman |
| Cemetery Rd. (Garth Brooks Blvd.) | Andrew Dr. | Health Center Pkwy. | 4 to 5 | 0.45 | Yukon |
| Crosstown Boulevard | Pennsylvania Ave. | I-35/I-235 | New 4 Divided | 4.00 | OKC |
| Frisco Rd. | SH-66 (W. Main St.) | 0.5 mile S. of SH-66 (W. Main St.) | 2 to 4 | 0.50 | Yukon/OKC |
| Frisco Rd. | 0.5 mile S. SH-66 (W. Main St.) | N.23rd St. (Vandament Ave.) | 2 to 4 | 0.60 | Yukon/OKC |
| Frisco Rd. | N. 23rd St. (Vandament Ave.) | N. 10th St. | 2 to 4 | 1.00 | Yukon/OKC |
| I-35/Deep Fork Creek & Service Rd. Br. | | | | | OKC |
| I-35/I-240 (SH-3) Interchange | | | | | OKC |
| I-35/Ladd Rd. Bridge | | | | | Goldsby |
| I-40/I-44/I-240 Interchange | | | | | OKC |
| James Gamer Ave. | Flood Ave. | Acres St. | New 2-lane | 1.00 | Norman |
| MacArthur Blvd. | N. 206th St. (Covell Rd.) | MacArthur Blvd. | 2 to 4 | 0.50 | OK Co. |
| MacArthur Blvd. | N. 50th St. | N. 47th St. | 4 to 5 | 0.15 | Warr Acres |
| MacArthur Blvd. | N. 47th St. | N. 36th St. | 4 to 5 | 0.85 | Warr Acres/OKC |
| Mustang Rd. | SH-152 | SLWC RR | 2 to 3 | 0.75 | Mustang |
| Northeast OK County Loop (Turnpike) | Turner Turnpike (I-44) E. of N. Luther Rd. | I-40 E. of S. Luther Rd. | New 4-lane | 21.00 | Luther/OK Co./ Harrah/OKC |
| SH-33/Cottonwood Creek Bridge/RR | | | | | Guthrie |
| SH-39 | 0.5 miles E. of 144th St. | Pottawatomie County Line | 2 to 4 | 4.43 | CLV Co. |
| SH-66 | Post Rd. | Westminster Rd. | 2 to 4 | 1.10 | Edmond |
| SH-74 (Portland Ave.) | N. 206th St. (Covell Rd.) | N. 136th St. (Memorial Rd.) | 2 to 4 | 5.00 | OKC/OK Co. |
| Sooner Rd. | 0.5 mile N. of N. 206th St. (Covell Rd.) | N. 206th St. (Covell Rd.) | 2 to 4 | 0.50 | Edmond |
| Sooner Rd. (12th Ave. SE) | SH-9 | S. 299th St. (Cedar Lane Rd.) | 2 to 4 | 0.50 | Norman |
| Southwest Kilpatrick Turnpike Ext. | John Kilpatrick Turnpike at S. 15th St. | SH-152 (Airport Rd.) | New 4-lane | 7.00 | OKC |
| Sunnylane Rd. (Coltrane Rd.) | Simmons Rd. | N. 248th St. (Waterloo Rd.) | 2 to 3 | 1.00 | Logan Co. |
| Thomas Dr. | N. 206th St. (Covell Rd.) | N. 192nd St. (Danforth Rd.) | 2 to 3 | 1.00 | Edmond |
| US-77 | Lexington Ave. | 4.05 miles N. of Lexington Ave | 2 to 4 | 4.05 | Slaugh/Lexington/ Purcell/CLV Co. |
| US-77 | Post Rd. (60th Ave. SE) | 3.25 miles N. of Post Rd. (60th Ave. SE) | 2 to 4 | 3.25 | Noble/CLV Co. |
| US-77/Canadian River Bridge | | | | | Lexington |
| Western Ave. | 0.5 mile N. of N. 192nd St. | N. 178th St. | 2 to 4 | 1.50 | OKC |
| N. 206th St. (Covell Rd.) | Broadway Ave. | Fairfax Blvd. | 2 to 4 Divided | 2.80 | Edmond |
| N. 206th St. (Covell Rd.) | I-35 | 0.5 mile E. of Air Depot Blvd. | 2 to 4 | 1.00 | Edmond |



ENCOMPASS 2040 SHORT-RANGE PROJECTS (2010 - 2020) continued

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-------------------------------|---------------------------|-----------------------------|---------------------|----------------|-----------------------------|
| N. 192nd St. (Danforth Rd.) | Fretz Ave. | Thomas Dr. | 4 to 5 | 0.50 | Edmond |
| S. 29th St. | Midwest Blvd. | Douglas Blvd. | 4 to 4 Divided | 1.00 | Midwest City/OKC/ OK Co. |
| S. 164th St. (S. 34th St.) | Santa Fe Ave. | Kelley Ave. (Telephone Rd.) | 2 to 4 | 1.00 | Moore |
| S. 209th St. (Tecumseh Rd.) | US-77 (12th Ave. NE) | Hollister Tr. | 2 to 4 | 0.35 | Norman |
| S. 224th St. (Rock Creek Rd.) | Grandview Ave. | Kelly Ave. (36th Ave. NW) | 2 to 3 | 0.50 | Norman |
| S. 239th St. (Robinson St.) | Kelly Ave. (36th Ave. NW) | I-35 | 4 to 6 | 0.50 | Norman |



ENCOMPASS 2040 MEDIUM-RANGE PROJECTS (2021 - 2030)

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|-------------------------------------|-----------------------------------|---------------------------------|---------------------|----------------|-------------------------------|
| Broadway Ave. | S. 149th St. (S. 19th St.) | S. 164th St. (S. 34th St.) | 2 to 4 | 1.00 | Moore |
| Bryant Ave. | S. 119th St. (N. 12th St.) | S. 134th St. (S. 4th St.) | 2 to 3 | 1.00 | Moore |
| Bryant Ave (12th Ave. NW) | US-77 (S. 209th St./Tecumseh Rd.) | S. 224th St. (Rock Creek Rd.) | 2 to 4 | 1.00 | Norman |
| Cemetery Rd. | N. 10th St. | S. 15th St. | 2 to 4 | 2.00 | OKC |
| Chautauqua Ave. | S. 269th St. (Lindsey St.) | S. 284th St. (Imhoff Rd.) | 2 to 4 | 1.00 | Norman |
| Classen Blvd. | S. 269th St. (Lindsey St.) | US-77 (Sooner Rd./12th Ave. SE) | 3 to 4 | 0.75 | Norman |
| County Line Rd. | N. 122th St. | SH-3 (NW Expressway) | 2 to 4 | 2.00 | OKC |
| County Line Rd. | SH-3 (NW Expressway) | N. 78th St. (Wilshire Blvd.) | 2 to 4 | 1.55 | OKC |
| I-35 | I-44 | I-40 (Fort Smith Jct.) | 4 to 6 | 5.00 | OKC |
| I-35/SH-33 Interchange | | | | | Guthrie/Logan Co. |
| I-35/Waterloo Rd. (N. 248th) Intchg | | | | | OK Co./ Logan Co. |
| I-35/N. 63rd St. Bridge | | | | | OKC |
| I-35/Indian Hills Rd. Bridge | | | | | Norman |
| I-40/Frisco Rd. Interchange | | | | | OKC/Yukon |
| I-40/MacArthur Bridge | | | 6 to 8 | | OKC |
| I-40/Meridian Bridge | | | 6 to 8 | | OKC |
| I-40/Portland Bridge | | | 6 to 8 | | OKC |
| I-40/I-35 Interchange | | | | | OKC |
| I-40 | I-35 (Fort Smith Jct.) | Air Depot Blvd. | 6 to 8 | 3.87 | OKC/Del City/ Midwest City |














ENCOMPASS 2040 MEDIUM-RANGE PROJECTS (2021 - 2030) continued










| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|--------------------------------|--------------------------------|---------------------------------|---------------------|----------------|-------------------|
| I-40/Douglas Blvd. Interchange | | | | | OKC/Midwest City |
| I-40 | Industrial Blvd. | I-240 | 4 to 6 | 6.00 | Midwest City/OKC |
| I-40/Choctaw Rd. Interchange | | | | | OKC |
| I-40 | I-240 | Pottawatomie County Line | 4 to 6 | 8.50 | OKC |
| I-44 | Pennsylvania Ave. | I-235 | 6 to 8 | 2.15 | OKC |
| I-235 | I-44 | N. 36th St. | 4 to 6 | 1.23 | OKC |
| Jenkins Ave. | S. 269th St. (Lindsey St.) | Constitution St. | 2 to 4 | 0.90 | Norman |
| Kelley Ave. (36th Ave. NW) | S. 209th St. (Tecumseh Rd.) | S. 179th St. (Indian Hills Rd.) | 2 to 4 | 2.50 | Norman |
| Kelly Ave. | N. 248th St. (Waterloo Rd.) | N. 220th St. (Coffee Creek Rd.) | 2 to 4 Divided | 2.00 | Edmond |
| Kelly Ave. | N. 192nd St. (Danforth Rd.) | N. 178th St. (Edmond Rd.) | 4 to 4 Divided | 1.00 | Edmond |
| Kelly Ave. | N. 178th St. (Edmond Rd.) | N. 164th St. (S. 15th St.) | 4 to 4 Divided | 1.00 | Edmond |
| Kelly Ave. | N. 150th St. (S. 33rd St.) | 0.5 miles S. of N. 150th St. | 4 to 4 Divided | 0.50 | Edmond/OKC |
| Main-Gray St. | Flood Ave. | Porter Ave. | 6 to 4 | 1.00 | Norman |
| Midwest Blvd. (36th Ave. SE) | SH-9 | S. 299th St. (Cedar Lane Rd.) | 2 to 4 | 1.00 | Norman |
| Reno Ave. | Friendly Rd. | Anderson Rd. | 2 to 4 | 0.86 | Midwest City |
| SH-9 | Midwest Blvd. (36th Ave. SE) | Douglas Blvd. (48th Ave. SE) | 2 to 4 | 1.00 | Norman |
| SH-9 | Westminster Rd. (72nd Ave. SE) | Peebly Rd. (156th Ave. SE) | 2 to 4 | 7.50 | Norman |
| SH-9/I-35 Interchange | | | | | Goldsby/Newcastle |
| SH-33/Gar Creek Bridge | | | | | Logan Co. |
| SH-39 | 2 miles E. of US-77 | 0.5 miles E. of 144th St. | 2 to 4 | 5.00 | Lexington/CLV Co. |
| SH-152 (Airport Rd.) | Council Rd. | MacArthur Blvd. | 4 to 6 | 2.30 | OKC |
| SH-76 (Council Rd.) | SH-37 (N. 32nd St.) | SH-130 (Fox Ln.) | 2 to 4 | 3.00 | Newcastle |
| Sunnylane Rd. (Coltrane Rd.) | N. 206th St. (Covell Rd.) | N. 192nd St. (Danforth Rd.) | 2 to 4 | 1.00 | Edmond |
| Sunnylane Rd. (Coltrane Rd.) | N. 192nd St. (Danforth Rd.) | Borgata Way | 2 to 4 | 1.50 | Edmond |
| Sunnylane Rd. (Coltrane Rd.) | N. 164th St. (15th St.) | Randolph Rd. | 2 to 4 | 0.70 | Edmond |
| Sunnylane Rd. (Coltrane Rd.) | N. 150th St. (33rd St.) | N. 136th St. (Memorial Rd.) | 2 to 4 | 1.00 | Edmond/OKC |
| Telephone Rd. | S. 164th St. (S. 34th St.) | South City Limit | 2 to 4 | 0.50 | Moore |
| N. 248th St. (Waterloo Rd.) | Sunnylane Rd. (Coltrane Rd.) | Douglas Blvd. | 2 to 4 | 4.00 | OK Co./Logan Co. |
| N. 192nd St. (Danforth Rd.) | Sunnylane Rd. (Coltrane Rd.) | I-35 (US-77) | 2 to 4 | 1.20 | Edmond |
| N. 164th St. | Meridian Ave. | May Ave. | 2 to 4 | 2.00 | OKC/OK Co. |
| N. 150th St. (S. 33rd St.) | Sunnylane Rd. (Coltrane Rd.) | I-35 | 2 to 4 | 1.00 | Edmond |
| N. 136th St. (Memorial Rd.) | I-35 (SH-66) | Lake Arcadia Rd. | 2 to 4 | 1.00 | OKC |



ENCOMPASS 2040 MEDIUM-RANGE PROJECTS (2021 - 2030) continued





| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|-----------------------------------|-----------------------------------|---------------------|----------------|-------------------|
|  N. 108th St. (Hefner Rd.) | US-77 (Broadway Ext. Service Rd.) | Kelley Ave. | 2 to 4 | 0.94 | OKC |
|  N. 10th St. | Frisco Rd. | Cemetery Rd. (Garth Brooks Blvd.) | 2 to 4 | 1.00 | Yukon/OKC |
|  N. 10th St. | Harper Rd. | Indian Meridian Rd. | 2 to 4 | 1.50 | Choctaw |
|  S. 29th St. | Council Rd. | MacArthur Blvd. | 2 to 4 | 2.00 | OKC |
|  S. 29th St. | Post Rd. | Anderson Rd. | 2 to 4 | 2.00 | Midwest City/OKC |
|  S. 104th St. (N. 27th St.) | Eastern Ave. | Bryant Ave. | 2 to 4 | 1.00 | Moore |
|  S. 119th St. (N. 12th St.) | Bryant Ave. | Sunnylane Rd. | 2 to 4 | 1.00 | Moore |
|  S. 149th St. (S. 19th St.) | Eastern Ave. | Bryant Ave. | 2 to 4 | 1.00 | Moore |
|  S. 164th St. (S. 34th St.) | BNSF RR | Broadway Ave. | 2 to 4 | 1.00 | Moore |
|  S. 254th St. (Alameda St.) | Ridge Lake Blvd. | Midwest Blvd. (36th Ave. NE) | 2 to 5 | 0.50 | Norman |
|  S. 299th St. (Cedar Lane Rd.) | Black Locust Ct. | Midwest Blvd. (36th Ave. SE) | 2 to 4 | 1.10 | Norman |

ENCOMPASS 2040 LONG-RANGE PROJECTS (2031 - 2040) continued

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|---------------------------------|---------------------------------|---------------------|----------------|------------------------|
|  Acres St. | Bryant Ave. (Berry Rd.) | Sunnylane Rd. (Porter Ave.) | 2 to 3 | 1.35 | Norman |
|  Anderson Rd. | S. 29th St. | S. 44th St. | 2 to 4 | 1.00 | OKC |
|  Anderson Rd. | S. 74th St. | S. 89th St. | 2 to 4 | 1.00 | OKC |
|  Broadway Ave. | N. 248th St. (Waterloo Rd.) | N. 220th St. (Coffee Creek Rd.) | 2 to 4 Divided | 2.00 | Edmond |
|  Broadway Ave. | N. 220th St. (Coffee Creek Rd.) | N. 206th St. (Covell Rd.) | 2 to 4 Divided | 1.00 | Edmond |
|  Bryant Ave. | N. 206th St. (Covell Rd.) | N. 178th St. (US-77/2nd St.) | 4 to 4 Divided | 2.00 | Edmond |
|  Bryant Ave. | S. 9th St. | N. 150th St. (S. 33rd St.) | 4 to 4 Divided | 1.50 | Edmond |
|  Bryant Ave. | S. 29th St. | S. 44th St. | 2 to 4 | 1.00 | OKC/Del City |
|  Bryant Ave. | S. 89th St. | S. 104th St. | 2 to 4 | 1.00 | OKC/Moore |
| Cemetery Rd. | S. 15th St. | S. 29th St. | 2 to 4 | 1.00 | OKC |
| Cemetery Rd. | S. 29th St. | S. 44th St. | 2 to 4 | 1.00 | OKC |
| Choctaw Rd. | N. 63rd St. | US-62 (N. 23rd St.) | 2 to 3 | 3.00 | Choctaw/OK Co. |
| Choctaw Rd. | US-62 W-BD (N. 23rd St.) | US-62 E-BD | New 4-lane | 0.30 | Choctaw |
| Choctaw Rd. | US-62 (N. 23rd St.) | S. 29th St. | 2 to 4 | 4.30 | Choctaw/OKC/ OK Co. |

ENCOMPASS 2040 LONG-RANGE PROJECTS (2031 - 2040) continued

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|------------------------------|------------------------------|----------------------------------|---------------------|----------------|----------------------------|
| Choctaw Rd. | S. 32nd St. | S. 44th St. | 2 to 4 | 0.80 | OKC |
| Council Rd. | N. 164th St. | N. 136th St. (Memorial Rd. E-BD) | 2 to 4 | 1.00 | OKC |
| Council Rd. | N. 108th St. (Hefner Rd.) | N. 50th St. | 4 to 5 | 4.00 | OKC |
| Council Rd. | S. 59th St. | S. 74th St. | 2 to 4 | 1.00 | OKC |
| Czech Hall Rd. | Reno Ave. | S. 15th St. | 2 to 4 | 1.00 | OKC |
| Douglas Blvd. (48th Ave. NE) | S. 194th St. (Franklin Rd.) | SH-9 (S. 284th St./Imhoff Rd.) | 2 to 3 | 6.00 | Norman |
| Eastern Ave. | N. 140th St. | N. 122nd St. | 4 to 5 | 1.35 | OKC |
| Eastern Ave. | S. 149th St. (S. 19th St.) | S. 164th St. (S. 34th St.) | 2 to 4 | 1.00 | Moore |
| Eastern Ave. | S. 164th St. (S. 34th St.) | S. 179th St. (Indian Hills Rd.) | 2 to 4 | 1.00 | Moore/Norman |
| Flood Ave. | S. 239th St. (Robinson St.) | S. 254th St. (Main St.) | 2 to 4 | 1.00 | Norman |
| Harrah Rd. | S. 52nd St. | S. 89th St. | 2 to 4 | 2.50 | OKC/OK Co. |
| I-35 (US-77) | N. 248th St. (Waterloo Rd.) | SH-66 (US-77/E. 2nd St.) | 4 to 6 | 5.00 | Edmond/OK Co. |
| I-44/I-35 Interchange | | | | | OKC |
| I-44 | SH-74 | Pennsylvania Ave. | 6 to 8 | 2.00 | OKC |
| I-44 | SH-152 (Airport Rd.) | SH-37 (S. 134th St.) | 4 to 6 | 7.20 | OKC |
| Kelley Ave. | N. 63rd St. | N. 50th St. | 2 to 4 | 1.00 | OKC |
| Kelly Ave. | 0.5 miles S. of N. 150th St. | N. 136th St. (Memorial Rd.) | 4 to 5 | 0.30 | OKC |
| MacArthur Blvd. | N. 108th St. (Hefner Rd.) | N. 78th St. (Wilshire Blvd.) | 4 to 5 | 2.00 | OKC |
| MacArthur Blvd. | SH-3 (NW Expressway) | N. 63rd St. | 4 to 5 | 0.90 | Warr Acres |
| MacArthur Blvd. | N. 36th St. | Reno Ave. | 4 to 5 | 3.00 | OKC/Bethany/ Warr Acres |
| MacArthur Blvd. | S. 15th St. | S. 22nd St. | 4 to 5 | 0.47 | OKC |
| May Ave. | N. 164th St. | N. 136th St. (Memorial Rd.) | 4 to 5 | 2.00 | OKC |
| May Ave. | N. 136th St. (Memorial Rd.) | N. 108th St. (Hefner Rd.) | 4 to 5 | 2.00 | OKC |
| May Ave. | N. 78th St. (Wilshire Blvd.) | N. 50th St. | 4 to 5 | 2.00 | OKC |
| May Ave. | S. 80th St. | S. 89th St. | 4 to 5 | 0.56 | OKC |
| May Ave. | S. 134th St. | S. 149th St. | 2 to 4 | 1.00 | OKC |
| Morgan Rd. | S. 44th St. | S. 59th St. | 2 to 4 | 1.00 | OKC |
| Peebly Rd | S. 104th St. | S. 119th St. | 2 to 4 | 4.52 | OKC |
| Pennsylvania Ave. | N. 63rd St. | I-44 | 4 to 5 | 1.50 | OKC |
| Pennsylvania Ave. | N. 38th St. | N. 23rd St. | 4 to 5 | 1.14 | OKC |
| Pennsylvania Ave. | N. 10th St. | N. 1st St. | 4 to 5 | 1.00 | OKC |

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|-----------------------------------|----------------------------------|---------------------|----------------|-----------------------------------|
|  Pennsylvania Ave. | S. 44th St. | S. 104th St. | 4 to 5 | 4.00 | OKC |
|  Pennsylvania Ave. | S. 134th St. | S. 149th St. | 2 to 4 | 1.00 | OKC |
|  Post Rd. | S. 29th St. | S. 89th St. | 2 to 4 | 4.00 | OKC |
|  Reno Ave. | Czech Hall Rd. | SH-4 (Mustang Rd.) | 4 to 6 | 1.00 | OKC |
| Reno Ave. | 0.5 mile W. of Westminster Rd. | Westminster Rd. | 2 to 4 | 0.50 | Midwest City |
| Rockwell Ave. | N. 164th St. | N. 136th St. (Memorial Rd. W-BD) | 2 to 4 | 2.00 | OKC |
| Rockwell Ave. | N. 122nd St. | N. 93rd St. (Britton Rd.) | 4 to 5 | 2.00 | OKC |
| Rockwell Ave. | SH-3 (NW Expressway) | N. 78th St. (Wilshire Blvd.) | 4 to 5 | 0.50 | OKC |
| Rockwell Ave. | N. 63rd St. | N. 50th St. | 4 to 5 | 1.00 | OKC/Bethany |
| Rockwell Ave. | N. 16th St. | North Canadian River | 4 to 5 | 2.30 | OKC |
| Santa Fe Ave. | Memorial Rd. | N. 122nd St. | 4 to 5 | 1.00 | OKC |
| Santa Fe Ave. (48th Ave. NW) | S. 179th St. (Indian Hills Rd.) | S. 239th St. (Robinson St.) | 2 to 3 | 4.00 | Norman |
| Sara Rd. | N. 39th Expressway (SH-66) | S. 15th St. | 2 to 4 | 4.50 | OKC |
| Sara Rd. | S. 15th St. | S. 59th St. | 2 to 4 | 3.00 | OKC |
| Sara Rd. | S. 59th St. | SH-152 (S. 74th St.) | 2 to 4 | 1.00 | Mustang |
| SH-4 | SH-37 | I-44 (HE Bailey Turnpike) | 2 to 4 | 5.24 | Tuttle/Bridge Creek/ Grady Co. |
| SH-9 | I-35 | Air Depot Blvd. (24th Ave. SE) | 4 to 6 | 4.20 | Norman |
| SH-152 (Airport Rd.) | MacArthur Blvd. | I-44 | 4 to 6 | 2.30 | OKC |
| Sooner Rd. | N. 206th St. (Covell Rd.) | I-35 SB Ramp | 2 to 4 | 1.50 | Edmond |
| Sooner Rd. | S. 29th St. | S. 74th St. | 4 to 5 | 3.00 | OKC/Del City |
| Sooner Rd. (SH-77H/12th Ave. NE) | S. 179th St. (Indian Hills Rd.) | Classen Blvd. | 4 to 6 | 6.75 | Norman |
| Sunnylane Rd. (Coltrane Rd.) | N. 248th St. (Waterloo Rd.) | N. 206th St. (Covell Rd.) | 2 to 4 | 3.50 | Edmond/OK Co. |
| Sunnylane Rd. | S. 104th St. | S. 119th St. | 2 to 4 | 1.00 | OKC/Moore |
| Sunnylane Rd. (Porter Ave.) | US-77 (S. 209th St./Tecumseh Rd.) | S. 179th St. (Indian Hills Rd.) | 2 to 4 | 2.00 | Norman |
| Sunnylane Rd. (Porter Ave.) | S. 239th St. (Robinson St.) | S. 254th St. (Alameda St.) | 4 to 5 | 1.20 | Norman |
| Western Ave. | S. 29th St. | S. 59th St. | 4 to 5 | 2.00 | OKC |
| Western Ave. | S. 62nd St. | S. 70th St. | 4 to 5 | 0.55 | OKC |
| Western Ave. | S. 89th St. | S. 119th St. | 4 to 5 | 2.00 | OKC |
| N. 206th St. (Covell Rd.) | County Line Rd. | Pennsylvania Ave. | 2 to 4 | 7.00 | OK Co. |
| N. 206th St. (Covell Rd.) | Sooner Rd. | I-35 | 2 to 4 | 0.50 | Edmond |
| N. 206th St. (Covell Rd.) | 0.5 mile E. of Air Depot Blvd. | Post Rd. | 2 to 4 | 2.50 | Edmond |

ENCOMPASS 2040 LONG-RANGE PROJECTS (2031 - 2040) continued

| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|------------------------------|---|--------------------------|---------------------|----------------|-------------------|
| N. 178th St. (Edmond Rd.) | 0.5 mile W. of Santa Fe Ave. | Kelly Ave. | 4 to 4 Divided | 1.50 | Edmond |
| N. 178th St. (Edmond Rd.) | Kelly Ave. | Broadway Ave. | 4 to 4 Divided | 0.80 | Edmond |
| N. 150th St. | Council Rd. | MacArthur Blvd. | 2 to 4 | 2.00 | OKC |
| N. 150th St. (S. 33rd St.) | Santa Fe Ave. | Bryant Ave. | 4 to 4 Divided | 3.00 | Edmond/OKC |
| N. 136th St. (Memorial Rd.) | Eastern Ave. (Boulevard) | Bryant Ave. | 4 to 5 | 1.00 | OKC |
| N. 122nd St. | MacArthur Blvd. | SH-74 | 4 to 5 | 1.00 | OKC |
| N. 122nd St. | SH-74 (Lake Hefner Parkway/Portland Ave.) | Pennsylvania Ave. | 4 to 5 | 2.00 | OKC |
| N. 122nd St. | Western Ave. | Santa Fe Ave. | 4 to 5 | 1.00 | OKC |
| N. 108th St. (Hefner Rd.) | SH-3 (NW Expressway) | County Line Rd. | 2 to 4 | 0.70 | OKC |
| N. 108th St. (Hefner Rd.) | May Ave. | Pennsylvania Ave. | 4 to 5 | 1.01 | OKC/The Village |
| N. 93rd St. (Britton Rd.) | Waverly Ave. | Broadway Ext. | 4 to 5 | 1.35 | OKC |
| N. 93rd St. (Britton Rd.) | Air Depot Blvd. | Midwest Blvd. | 2 to 4 | 1.00 | OKC |
| N. 78th St. (Wilshire Blvd.) | US-77 (Broadway Ext.) | I-35 | 2 to 4 | 3.20 | OKC |
| N. 63rd St. | Meridian Ave. | Pennsylvania Ave. | 4 to 5 | 3.00 | OKC/Nichols Hills |
| N. 63rd St. | Air Depot Blvd. | Midwest Blvd. | 2 to 4 | 3.00 | OKC |
| N. 50th St. (Wagner Rd.) | SH-4 (N. Piedmont Rd.) | Mustang Rd. (Yukon Pkwy) | 2 to 4 | 1.00 | Yukon |
| N. 50th St. | Western Ave. | Hudson Ave. | 4 to 5 | 0.54 | OKC |
| N. 39th St. | Pennsylvania Ave. | Classen Blvd. | 4 to 5 | 0.71 | OKC |
| N. 23rd St. | Mustang Rd. | Sara Rd. | 2 to 4 | 1.00 | OKC/Yukon |
| N. 23rd St. | I-44 | Villa Ave. | 4 to 5 | 1.30 | OKC |
| N. 10th St. | SH-4 (Mustang Rd.) | Sara Rd. | 2 to 4 | 1.00 | OKC |
| N. 10th St. | Sunnyslane Rd. | Vickie Dr. | 4 to 5 | 0.46 | OKC/Del City |
| S. 15th St. | Cemetery Rd. | John Kilpatrick Turnpike | 2 to 4 | 2.80 | OKC |
| S. 29th St. | SH-4 (Mustang Rd.) | Council Rd. | 2 to 4 | 4.00 | OKC |
| S. 29th St. | Independence Ave. | Pennsylvania Ave. | 4 to 5 | 1.50 | OKC |
| S. 29th St. | Sooner Rd. | Midwest Blvd. | 4 to 5 | 2.00 | OKC/Midwest City |
| S. 44th St. | Morgan Rd. | Council Rd. | 2 to 4 | 2.00 | OKC |
| S. 44th St. | Pennsylvania Ave. | Western Ave. | 4 to 5 | 1.00 | OKC |
| S. 44th St. | Santa Fe Ave. | High Ave. (Kelly Ave.) | 4 to 5 | 1.00 | OKC |
| S. 44th St. | Douglas Blvd. | Post Rd. | 2 to 4 | 1.00 | OKC |
| S. 59th St. | County Line Rd. | Regina Ave. | 2 to 4 | 2.50 | OKC |

ENCOMPASS 2040 LONG-RANGE PROJECTS (2031 - 2040) continued















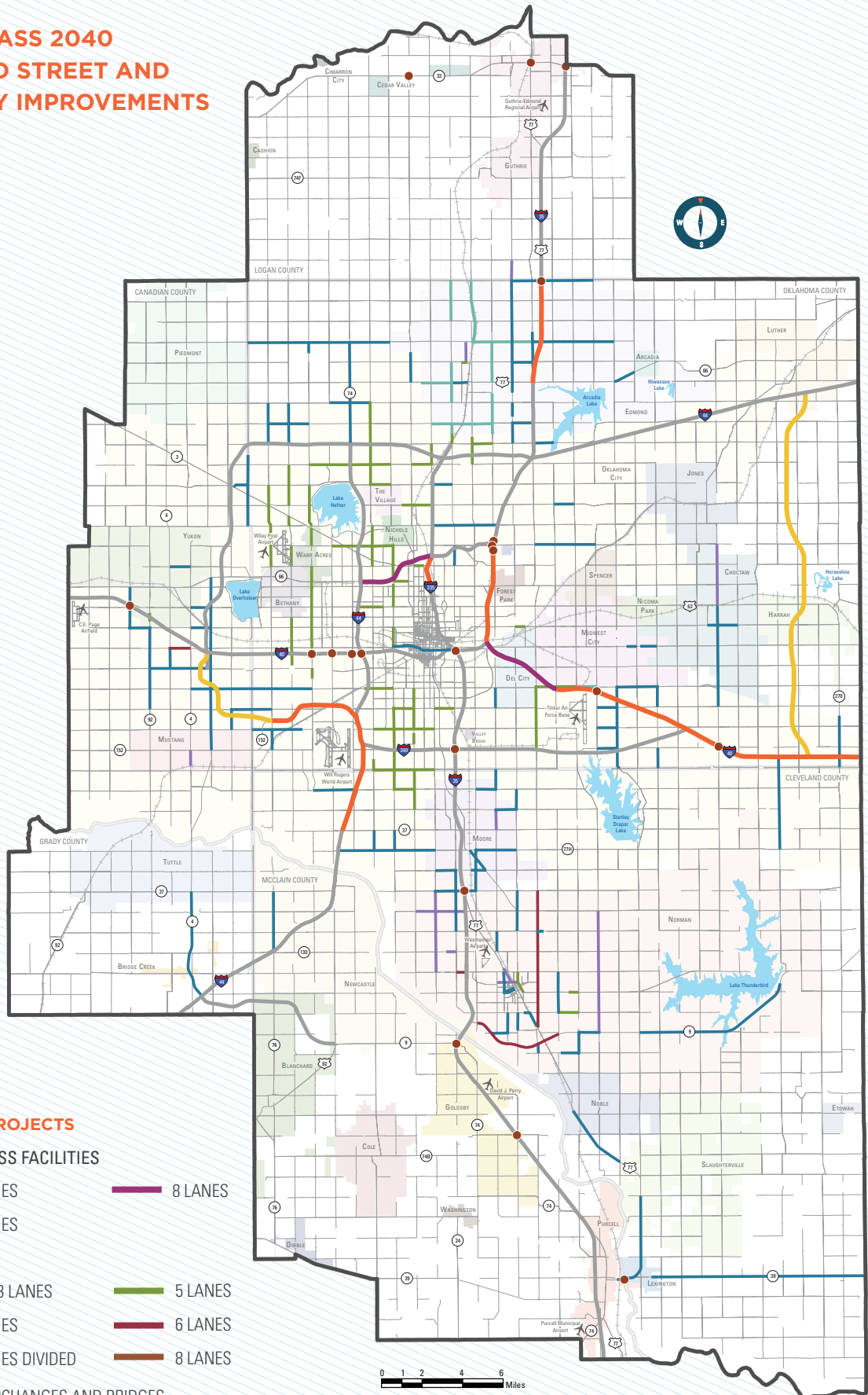
| IMPROVEMENT LOCATION | FROM | TO | IMPROVEMENT (LANES) | LENGTH (MILES) | ENTITIES IMPACTED |
|---|--------------------------------|------------------------------|---------------------|----------------|-------------------|
|  S. 59th St. | May Ave. | Santa Fe Ave. | 4 to 5 | 3.00 | OKC |
|  S. 59th St. | Douglas Blvd. | Post Rd. | 2 to 4 | 1.00 | OKC |
|  S. 74th St. | Douglas Blvd. | Post Rd. | 2 to 4 | 1.00 | OKC |
|  S. 89th St. | May Ave. | Santa Fe Ave. | 4 to 5 | 3.00 | OKC |
|  S. 104th St. | MacArthur Blvd. | Meridian Ave. | 2 to 4 | 1.00 | OKC |
|  S. 104th St. | Meridian Ave. | Portland Ave. | 2 to 4 | 1.00 | OKC |
|  S. 104th St. | Pennsylvania Ave. | Western Ave. | 4 to 5 | 1.00 | OKC |
|  S. 149th St. | I-44 | Pennsylvania Ave. | 2 to 4 | 2.70 | OKC |
|  S. 149th St. | Pennsylvania Ave. | Santa Fe Ave. | 2 to 4 | 2.00 | OKC/ Moore |
|  S. 149th St. (S. 19th St.) | Bryant Ave. | Sunnyside Ave. | 2 to 4 | 1.00 | Moore |
|  S. 179th St. (Indian Hills Rd.) | Santa Fe Ave. (48th Ave. NW) | Eastern Ave. (24th Ave. NW) | 2 to 4 | 2.00 | Norman |
|  S. 194th St. (Franklin Rd.) | Western Ave. (60th Ave. NW) | N. Interstate Dr. | 2 to 3 | 2.50 | Norman |
|  S. 269th St. (Lindsey St.) | George Ave. | Classen Blvd. | RR Grade Sep. | 0.25 | Norman |
|  S. 269th St. (Lindsey St.) | Air Depot Blvd. (24th Ave. SE) | Midwest Blvd. (36th Ave. SE) | 2 to 5 | 1.00 | Norman |
|  S. 284th St. (Imhoff Rd.) | SH-9 | Chautauqua Ave. | 2 to 4 | 0.75 | Norman |

FIGURE 13.4: ENCOMPASS 2040 PLANNED STREET AND HIGHWAY IMPROVEMENTS

**ENCOMPASS 2040
PLANNED STREET AND
HIGHWAY IMPROVEMENTS**



LEGEND

PLANNED PROJECTS

LIMITED ACCESS FACILITIES

4 LANES 8 LANES

6 LANES

ARTERIALS

2 OR 3 LANES 5 LANES

4 LANES 6 LANES

4 LANES DIVIDED 8 LANES

● INTERCHANGES AND BRIDGES

0 1 2 4 6 Miles

AMENDING THE PLAN

Encompass 2040 was developed based on future projections of population, housing, employment, land use and other socioeconomic factors. Change in each of these areas is inevitable, and must be addressed through periodic update of the plan. Changes in revenue forecasts and cost assumptions are also an integral part of the plan update process.

Currently, federal law requires that long-range transportation plans for air quality attainment areas, like the OCARTS area, be prepared every five years. In order to accommodate policy changes that may arise before the next plan update, the Intermodal Transportation Policy Committee may consider and approve amendments to the plan.

Upon resolution of its governing body, an amendment request may be made by any OCARTS member city or county, the Oklahoma Department of Transportation, the Oklahoma Turnpike Authority (OTA), the Central Oklahoma Transportation and Parking Authority (COTPA), Cleveland Area Rapid Transit (CART), or ACOG. Public input is sought on each requested amendment, and the Policy Committee receives a recommendation from the Intermodal Transportation Technical Committee and the Citizens Advisory Committee prior to final action. Each plan amendment must reflect estimated costs and revenues, by funding source, to demonstrate that the plan will remain affordable, as required by federal regulation.

SOCIAL, ENVIRONMENTAL, AND ECONOMIC IMPACTS OF THE ADOPTED PLAN

As part of the Encompass 2040 development process, ACOG staff evaluated social, economic, and environmental factors important to the study area. The data was reviewed by ACOG's citizen, technical, and policy committees, and it was presented to the public during the Encompass 2040 public meetings.

To promote early consideration of potential transportation impacts, plan goals were established that sought to improve regional mobility and increase economic vitality, while lessening the adverse impacts the transportation system may have on environmental or cultural resources. Additionally, impact data was utilized during the Encompass 2040 Call for Projects, projects scoring process, and transportation model alternates evaluation to encourage consideration at the local level.

A more in-depth impact data analysis was performed for the Encompass 2040 Plan's recommended alternate network, summarized in the succeeding tables. It is important to note that the Encompass 2040 impact analysis is regional in scale and does not replace project-level environmental assessments required by the National Environmental Policy Act (NEPA) for federally funded transportation improvements. However, it is useful in providing local governments and other transportation agencies with information on critical areas that may need special attention during project development.

Table 13.5 summarizes the potential social, economic, and environmental impacts that were identified in the development of Encompass 2040.



TABLE 13.5: POTENTIAL SOCIAL, ENVIRONMENTAL, AND ECONOMIC IMPACTS OF ENCOMPASS 2040

| SOCIAL FACTORS | CONSIDERATION | ANTICIPATED IMPACTS |
|---|--|--|
| ARCHAEOLOGICAL SITES | There are approximately 800 archaeological sites within the OCARTS area | Minor accommodation may be necessary for specific projects; no significant impact anticipated |
| TRIBAL LANDS | The federal tribal trust lands within the OCARTS boundary are mostly located in the eastern parts of Cleveland, McClain, and Oklahoma counties | The Bureau of Indian Affairs (BIA) and individual tribes must be contacted to determine exact locations; otherwise no significant impact anticipated |
| NATIONAL HISTORIC SITES AND DISTRICTS | There are 146 sites and 24 districts in the OCARTS region listed on the National Park Service's National Register of Historic Places | Minor accommodation may be necessary for specific projects; otherwise no significant impact anticipated |
| NOISE SENSITIVE LOCATIONS | There are roughly 4,200 noise sensitive locations (e.g. daycare centers, schools, nursing homes, hospitals) within the OCARTS area | Street widening and construction projects could increase noise levels for noise sensitive locations and residential areas; accommodations may be necessary for specific projects |
| TRAFFIC SAFETY (Projected Annual for Recommend Plan) | Crashes: 21,170 Injuries: 10,220 Fatalities: 73 | Project level design should strive to resolve potential safety hazards |
| ENVIRONMENTAL FACTORS | CONSIDERATION | ANTICIPATED IMPACTS |
| PARKS AND RECREATIONAL AREAS | Proposed bike or pedestrian paths will have minimal impacts on the natural environment; increased costs to handle additional stormwater runoff may develop | Minor accommodations may be necessary for specific projects |
| WILDLIFE AND ENDANGERED SPECIES | There are five federally listed endangered or threatened species in the OCARTS region. A portion of the South Canadian River, between McClain and Cleveland counties, has been designated a critical habitat by the US Fish and Wildlife Service; the exact habitat of endangered and threatened avian species is unpredictable from year to year due to changes in migratory behavior | Minor accommodations may be necessary for specific projects |
| FLOOD PLAINS | Street widening and construction projects, especially across or near Cottonwood Creek, Walnut Creek, or North Fork, Deep Fork, Cimarron, Little, North Canadian or South Canadian Rivers, or other major flood prone areas, will likely incur increased construction costs | Accommodations may be necessary for specific projects |

TABLE 13.5 SOCIAL, ENVIRONMENTAL, AND ECONOMIC IMPACTS OF ENCOMPASS 2040 *continued*

| ENVIRONMENTAL FACTORS | CONSIDERATION | ANTICIPATED IMPACTS | | | | | | | | | | |
|--|---|--|------------------|-------------------|------------------|----------|------------------|---------------------|----------------|---------------|-------------------------|---|
| WATER QUALITY: SURFACE AND GROUND WATER | Street widening and construction projects will likely incur increased costs to protect surface and groundwater resources from additional stormwater runoff and construction activities | Minor accommodations may be necessary for specific projects | | | | | | | | | | |
| HAZARDOUS WASTE AND SUPERFUND SITES | There are 136 hazardous waste sites (some of which may require remediation) and 5 superfund sites within the OCARTS region. There are also approximately 105 open investigations of suspected or confirmed leaking underground storage tanks in the OCARTS region. Removal of tanks and remediation could delay progress on intersection improvements or street widening projects | Planning and design of street widening construction projects near these sites will require special attention | | | | | | | | | | |
| ECONOMIC FACTORS | CONSIDERATION | ANTICIPATED IMPACTS | | | | | | | | | | |
| RESIDENTIAL AND BUSINESS DISPLACEMENTS | Approximately 140 residential units and 34 businesses will be displaced <i>(for short-range projects only)</i> | Accommodations may be necessary for specific projects | | | | | | | | | | |
| LOW INCOME OR TRADITIONALLY UNDERSERVED GROUPS (Environmental Justice) | Acquisition of rights-of-way and/or proximity of improvements may negatively impact low income or traditionally underserved groups | Accommodations may be necessary for specific projects | | | | | | | | | | |
| ESTIMATED PLAN COSTS | <table border="0"> <tr> <td>Road Construction:</td> <td>\$ 3,562,712,478</td> </tr> <tr> <td>Road Maintenance:</td> <td>\$ 5,217,983,029</td> </tr> <tr> <td>Transit:</td> <td>\$ 1,278,549,300</td> </tr> <tr> <td>Bicycle/Pedestrian:</td> <td>\$ 272,513,112</td> </tr> <tr> <td>Total:</td> <td>\$10,331,757,919</td> </tr> </table> | Road Construction: | \$ 3,562,712,478 | Road Maintenance: | \$ 5,217,983,029 | Transit: | \$ 1,278,549,300 | Bicycle/Pedestrian: | \$ 272,513,112 | Total: | \$10,331,757,919 | None: With an estimated revenue of \$10,423,315,000, the Encompass 2040 Plan is financially constrained. |
| Road Construction: | \$ 3,562,712,478 | | | | | | | | | | | |
| Road Maintenance: | \$ 5,217,983,029 | | | | | | | | | | | |
| Transit: | \$ 1,278,549,300 | | | | | | | | | | | |
| Bicycle/Pedestrian: | \$ 272,513,112 | | | | | | | | | | | |
| Total: | \$10,331,757,919 | | | | | | | | | | | |

FINANCIAL STRATEGIES, REVENUES, AND COST



U.S. Department of Transportation guidelines require that metropolitan transportation plans (MTP) include a financial plan that demonstrates how the adopted MTP can be implemented. The plan must ensure that the total estimated costs to operate and maintain the region's transportation system will not exceed reasonably expected transportation revenues available from public and private sources. Additionally, the financial plan must:

- ensure the maintenance and preservation of the existing transportation system,
- contain system-level estimates of cost and revenue sources,
- identify and ensure the availability of any new funding sources, and
- reflect year-of-expenditure dollars for funding estimates included in the plan.

This chapter describes the projected revenues for the OCARTS area over the 30-year plan period, 2010–2040, and the estimated costs associated with construction and maintenance of the region's planned street and highway network, bicycle and pedestrian trails, and public transportation system. The financial strategy presented in the following sections demonstrates that Encompass 2040 is an affordable plan which can be implemented using reasonably anticipated revenues. For the purposes of financial capacity analysis, highway and transit funds were accounted for separately despite the fact that current federal law allows a portion of some categories of federal funds to be "flexed" between highway and transit purposes. There are several limitations on the ability to accurately predict future revenues and costs, including the following:

- Projections are for a period of 30 years, during which significant changes to transportation financing and priorities are possible at both the federal and local level.
- Future federal funding involves a great deal of uncertainty due to shifts in transportation budgeting and deficit-reduction policies and because these funds are primarily administered on a statewide basis.
- Cost estimates for projects beyond the first few years of the plan period may involve significant future changes due to the long-range nature of the plan, modifications to project scope, uncertainty about future inflation, and the absence of detailed project design.
- The analysis combines federal, state and local funding and compares the total against the aggregate expenditures identified in the plan. Except for the distinction between highway and transit, this doesn't account for the fact that certain funding sources are available only for specific purposes.

ANTICIPATED REVENUES FOR ENCOMPASS 2040

A 30-year projection of transportation revenue was developed by the MPO and approved by the Intermodal Transportation Policy Committee (as updated) in August 2016. Transportation revenues historically available to, or spent within, the OCARTS area were identified from a variety of federal, state and local sources, and reflect funding for all transportation modes that move both people and goods. The total revenue projection is just over \$10.4 billion.

Federal and state funds spent within the OCARTS area during the first five years of the plan period (FFY 2010 – FFY 2014) served as the historical basis to develop an annual average that was projected over the 30-year planning period. Additionally, federal discretionary funds, tied to specific OCARTS projects, were included in the estimated federal revenues, and local revenues were estimated based on a survey of OCARTS area local governments. More detailed information on the MPO's revenue projection for Encompass 2040 is included in a separate report available from ACOG.

The funding categories listed below are part of the Encompass 2040 revenue projection. Federal sources spent between FY 2010 and FY 2014 spanned the two previous Federal Surface Transportation laws—the 2005 Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) and the 2012 Moving Ahead for Progress in the 21st Century Act (MAP 21)—as identified on pages 138 and 139.

FEDERAL REVENUE SOURCES

STREETS AND HIGHWAYS

Federal Highway Administration Formula Programs¹:

- Bridge Replacement and Rehabilitation (BR), SAFETEA-LU
- Congestion Mitigation/Air Quality (CMAQ), MAP-21
- Highway Safety Improvement Program (HSIP), MAP-21
- Interstate Maintenance (IM), SAFETEA-LU
- National Highway System (NHS), SAFETEA-LU
- Safe Routes to School (SRTS), SAFETEA-LU
- Surface Transportation Program (STP), MAP-21
(Statewide, Urbanized Area, Enhancement, and Safety)
- Transportation Alternatives Program (TAP), MAP-21

STREETS AND HIGHWAYS

Federal Highway Administration Discretionary Programs:

- American Recovery and Reinvestment Act of 2009 (ARRA)
- Emergency Relief (ER)
- Intelligent Transportation Systems (ITS)
- I-40 Crosstown (OKCY-XTWN)
- Transportation Community Systems Preservation (TCSP)
- Other Discretionary Earmarks

TRANSIT

Federal Transit Administration Formula Programs²:

- **Sec. 5307:** Urbanized Area Funds, MAP-21 (Oklahoma City UZA and Norman UZA)
- **Sec. 5310:** Elderly and Persons with Disabilities Program, MAP-21
- **Sec. 5311:** Non-Urbanized Area Formula Program, MAP-21
- **Sec. 5316** – Jobs Access and Reverse Commute (JARC), SAFETEA-LU
- **Sec. 5317:** New Freedom (NF), SAFETEA-LU
- Congestion Mitigation/Air Quality (CMAQ), Transferred from FHWA to FTA, MAP-21

FOOTNOTES:

1: Indicates the more recent federal law in which the federal source was a separate funding program. Under MAP-21, NHPP replaced BR, IM and NHS. TAP replaced SRTS and STP-Enhancement.

2: Indicates the latest federal law in which the federal source was a separate funding program. Under MAP-21, JARC was consolidated into the Sec. 5307 Program and New Freedom into the Section 5310 Program.

TRANSIT

Federal Transit Administration Discretionary Programs:

- **Sec. 5309:** Discretionary Capital Program, MAP-21
- American Recovery and Reinvestment Act of 2009 (ARRA)
- Transportation Investment Generating Economic Recovery (TIGER) Grant, Other

STATE REVENUE SOURCES

STREETS AND HIGHWAYS

- State Highway Maintenance Funds
- State Bridge and Road Funds: Asset Preservation
- State Railroad Revolving Fund
- County Road and Bridge Funds
- Industrial Access Program
- Lake Access Program
- State Taxes & Fees Distributed to Counties for Roads
- State Taxes & Fees Distributed to Cities and Towns
- Oklahoma Turnpike Authority (OTA)

TRANSIT

- Public Transit Revolving Fund

LOCAL REVENUE SOURCES

Dedicated to Arterial Street, Bicycle and Pedestrian Improvements:

- General Fund
- General Obligation Bonds
- Earmarked Sales Tax
- Street and Alley Fund
- Contributions by Developers

TRANSIT

- Municipal and County funds: Budgeted for transit
- University funds: Budgeted for transit
- Farebox: Advertising and other revenues
- General Obligation Bonds
- MAPS 3 Sales Tax: Budgeted for Streetcar and Intermodal Hub
- Project 180 Budgeted for Intermodal Hub

Table 14.1 summarizes the total OCARTS area revenue projection. All figures are rounded, and an inflation factor was not applied to the projected revenues.



TABLE 14.1: ESTIMATED TRANSPORTATION REVENUES

| A. STREETS & HIGHWAYS - FFY 2010-2040 | ESTIMATED 30 YEAR TOTAL |
|---|------------------------------------|
| Federal Sources | |
| Federal-aid Formula Funds - Includes NHPP, HSIP, & STP Funds (UZA, Statewide) - a portion of STP funds will be spent on bicycle & pedestrian improvements | \$3,139,606,500 |
| Discretionary Funds - FFY 2010-2014 - Includes ARRA, ER, ITS, I-40 Crosstown earmarks & TCSP | \$254,937,500 |
| Future Discretionary Funds - FFY 2015-2017 - Includes remaining I-40 Crosstown earmarks & TCSP | \$57,329,300 |
| State Sources | |
| State Maintenance, Industrial Access and Lake Access Programs - Includes County Road & Bridge Funds and State Road, Bridge & RR Maint. Funds | \$1,016,761,000 |
| Oklahoma Turnpike Authority (OTA) - (equals estimated turnpike costs) | \$736,526,100 |
| State Taxes & Fees Distributed Directly to Counties for Roads - Includes Gasoline, Diesel & Special Fuel Taxes, Gross Production Taxes, and Motor Vehicle Collections | \$887,321,500 |
| State Taxes & Fees Distributed Directly to Cities and Towns - Includes Gasoline Excise Tax, Motor Vehicle Collections | \$341,961,400 |
| Local Sources | |
| Local Funds for Roadway Construction and Maintenance - Includes funding for roadways from: General Fund, Dedicated Sales Taxes, General Obligation Bonds, Street & Alley Fund, and Developer Contributions | \$2,435,101,700 |
| Street & Highway Subtotal | \$8,869,545,000 |
| B. BICYCLE & PEDESTRIAN MODES - FFY 2010-2040 | |
| ESTIMATED 30 YEAR TOTAL | |
| Federal Sources | |
| Federal-aid Formula Funds - Includes TAP (UZA, Statewide) | \$68,682,600 |
| Local Sources | |
| Local Funds for Bicycle & Pedestrian Construction and Maintenance - Includes funding for bicycle & pedestrian improvements from: General Fund, Dedicated Sales Taxes, General Obligation Bonds, and Developer Contributions | \$206,538,100 |
| Bicycle & Pedestrian Subtotal | \$275,220,700 |

Note: Estimated Revenues are not inflated. Figures are rounded.

TABLE 14.1: ESTIMATED TRANSPORTATION REVENUES *continued*

| C. TRANSIT MODE - FFY 2010-2040 | ESTIMATED 30 YEAR TOTAL |
|--|----------------------------|
| Federal Sources | |
| Federal-aid Formula Funds - Includes FTA Sec. 5307, 5310, 5311, JARC, New Freedom, and CMAQ Transfers | \$339,441,800 |
| Discretionary Funds - FFY 2010-2014 - Includes FTA Sec. 5309, ARRA, and TIGER | \$63,607,800 |
| State Sources | |
| Transit Revolving Funds for COTPA, CART, Citylink, First Capital Trolley, and Delta Public Transit (partial) | \$43,846,800 |
| Local Sources | |
| Includes municipal, university & private funds for urban and rural operators | \$831,652,900 |
| Transit Subtotal | \$1,278,549,300 |
| TOTAL ESTIMATED REVENUES FOR ENCOMPASS 2040 | \$10,423,315,000 |

Note: Estimated Revenues are not inflated. Figures are rounded.

ESTIMATED COSTS

COST INFLATION ASSUMPTIONS

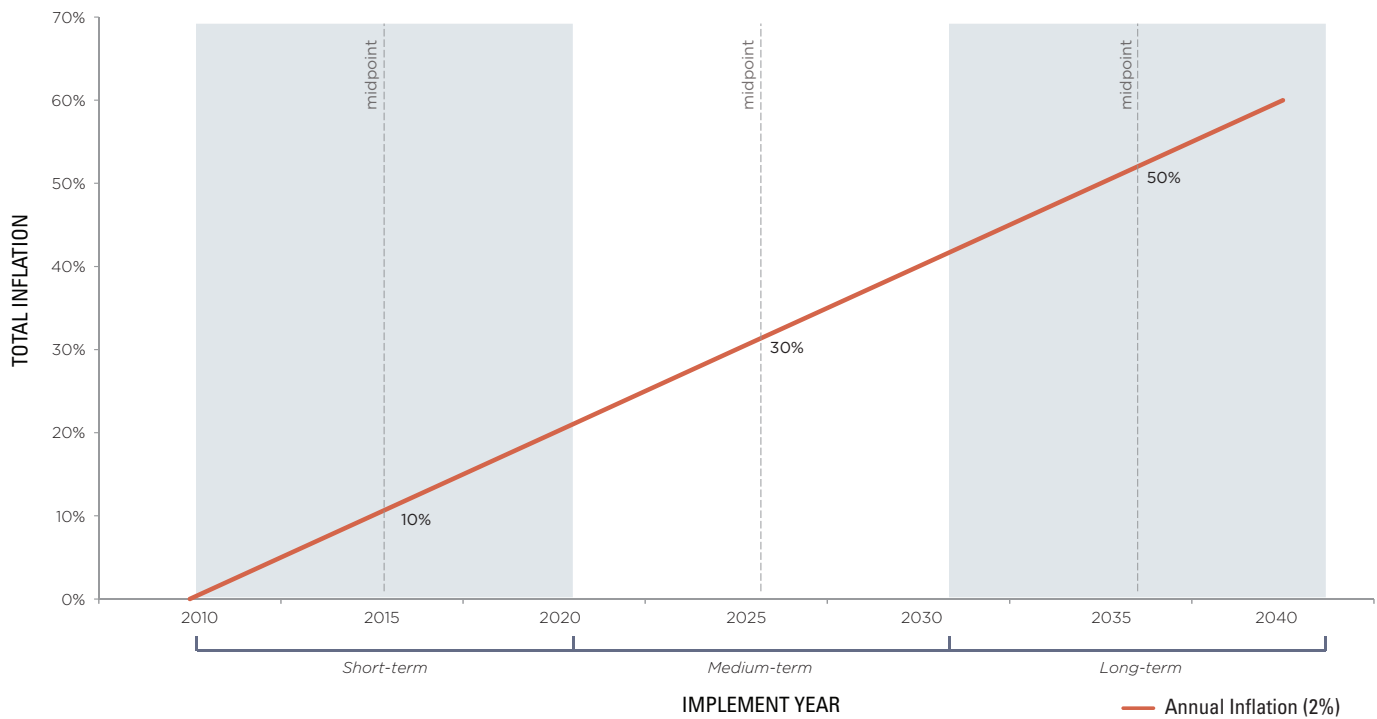
The Safe Accountable Flexible Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) introduced, and subsequent federal law has continued, the requirement that MPOs consider inflation in the development of transportation plans and programs. Specifically, federal law requires that costs must reflect “year of expenditure” (YOE) dollars. This proved to be challenging since there is no federal guidance or common best practices available to MPOs for estimating future inflation. ACOG staff developed the following methodology to address the YOE inflation requirement.

Project cost estimates were inflated using an estimated growth rate of two percent per year as the basis, which equates to a 60 percent increase over the life of the 30-year plan. The two percent annual increase was based on national economic indicators which showed a gradual downward trend between 2010 and 2015. According to the U.S. Bureau of Labor Statistics and Bureau of Economic Analysis, the Consumer Price Index reflected an average annual growth rate of approximately 1.68

percent over the five-year period (ranging from 3.16 percent between 2010 and 2011 to 0.12 percent between 2014 and 2015). The MPO rounded the 1.68 percent average annual growth rate up to 2.0 percent as its estimated annual rate of growth throughout the plan period.

Since the implementation of projects and maintenance will be spread out over the 30 year plan period, three separate inflation bands were assumed in order to create year-of-expenditure project cost estimates. Base year (2010) costs were inflated by 10 percent for projects expected to be constructed in the short-term (2010-2020), 30 percent for projects expected to be constructed in the medium-term (2021-2030), and 50 percent for long-term projects (2031-2040). The amount of inflation (10, 30, or 50 percent) correlates to the 10-year period in which construction is estimated to occur, as provided by the state or local government project sponsor. The inflation estimates used for the short, medium, and long-term bands reflect the average, or mid-point, of inflation for the respective 10-year period, as shown in Figure 14.1. Maintenance costs were inflated by the same factors correlating to the 10-year period in which the maintenance would occur.

FIGURE 14.1: ENCOMPASS 2040 YEAR-OF-EXPENDITURE (YOE) INFLATION



ALTERNATE NETWORKS AND SCENARIOS

The following alternates were developed and modeled with projected 2040 traffic volumes as part of the Encompass 2040 plan development process:

Alternate 1—Present + Committed Network

The Present + Committed Network included all existing roadways and transit routes with improvements implemented since the 2010 base year, as well as those for which funding was committed through December 2016. This network—sometimes referred to as a “no build” network—would complete all projects underway, with future transportation funding focused on maintenance of the existing system. Alternate 1 was an affordable option, but it would not address growing traffic congestion anticipated through 2040.

Alternate 2—Improved Transportation Network

Alternate 2 included all existing roadways and transit routes, the Present + Committed Network (Alternate 1), as well as future transportation improvements. These improvements included:

- Transportation projects submitted by local governments during the Encompass 2040 call for projects, including sidewalk and biking components,

- Long-range projects on the State Highway System (interstates, U.S. highways and state highways) provided by the Oklahoma Department of Transportation (ODOT),
- New OCARTS area turnpikes to be constructed by the Oklahoma Turnpike Authority as part of Driving Forward OK (SW Kilpatrick Turnpike extension and NE Oklahoma County loop),
- Roadway improvements to close gaps identified by ACOG staff, and
- Phase one improvements at the Santa Fe Station Intermodal Hub scheduled for completion in 2017, and the Oklahoma City downtown modern streetcar scheduled to open in 2018.

More than 200 projects were received, evaluated and scored using the Encompass 2040 Project Selection Criteria. Alternate 2 was deemed affordable using revenues anticipated to be available to the OCARTS area during the 30-year plan period, and became the adopted 2040 network.

Alternate 3—Improved Transportation Network + Regional Transit

The Alternate 3 network included all existing roadways and transit routes, the Present + Committed Network (Alternate 1), future transportation improvements (Alternate 2), as well as

regional commuter rail, bus rapid transit, and feeder bus routes identified by the 2014 Central Oklahoma Commuter Corridors Study and the 2005 Regional Fixed Guideway Study. The Alternate 3 network was considered illustrative, due to the lack of dedicated funding sources to implement new regional high capacity transit improvements.

Scenarios—Historical Trend and Nodal Growth

Each Alternate network was modeled using two potential land use patterns for the region in 2040. Scenario 1 continued the region’s historical trend of outward growth with no new zoning initiatives. Scenario 2 focused on growth that would encourage infill, nodal, and downtown development within communities, which would be more supportive of future regional transit. The scenarios were used to demonstrate how potential land use changes could improve the efficiency of the transportation system, but they did not impact the estimated costs of the alternates.

DEVELOPMENT OF TRANSPORTATION COSTS BY MODE

ESTIMATED COSTS FOR ROADWAY CONSTRUCTION, MAINTENANCE AND RIGHT-OF-WAY

Each of the Encompass 2040 plan alternates was assigned an estimated cost by the MPO. Street and highway costs were based mostly on estimated unit costs developed from recent construction information provided by the Oklahoma Department of Transportation (ODOT) and by local entities for non-highway facilities.

Table 14.2 provides the OCARTS area unit costs approved by the Policy Committee in January 2016 and used for estimating the costs of construction, maintenance, and right-of-way acquisition for Encompass 2040. Unit costs for construction include engineering, grading, drainage, surface and base improvements, utility relocation, sodding, signing, and structure costs (such as bridges, interchanges, curbs, and gutters). Unit costs for maintenance on interstates, turnpikes and freeways include resurfacing with concrete, and unit costs for maintenance on arterials and collectors include base repair and resurfacing with a 2-3 inch asphalt overlay.

Costs for roadway segments vary based upon federal functional classification and their urban or rural location. The four functional classifications included in the OCARTS network are interstates/turnpikes/ freeways, principal arterials, minor

arterials, and urban collectors. Since the costs of construction and maintenance of interstate, turnpike and freeway facilities are significantly higher than other classifications, separate unit costs were applied to those facilities.

Typically, it is more expensive to build or widen roadways in the urban portion of the region than in rural areas due to increased development, higher right-of-way costs, and greater expenses to relocate utilities and remove encroachments. As a result, unit costs were prepared for both urban and rural facilities. The urban/rural designation was based on the Oklahoma City Urban Area Boundary map approved by the MPO and the Oklahoma Division of the Federal Highway Administration in 2013.

The approved unit costs reflect 2010 base year dollars, which were later inflated, by project, using the cost inflation methodology described previously. Each existing link on the network was assumed to require maintenance over the 30-year plan period a total of three times. Where improvements were planned (new construction, reconstruction or widening), the number of maintenance cycles included was relative to the project’s proposed implementation phase. Maintenance costs for segments planned for improvement during the short and medium-term periods were calculated once, subsequent to the improvement, at the highest inflation rate of 50 percent.

Lump sum cost estimates for several major projects were provided by ODOT and the Oklahoma Turnpike Authority (OTA) rather than applying the unit costs provided in Table 14.2. These were developed through recent studies or project scoping and design.

Below is a description of the projects for which separate costs were received, and later added to the network calculations to arrive at total network costs.

The Alternate 1 (Present + Committed) Network includes cost estimates for completion of major interchange improvements at the following locations:

- Turner Turnpike near Peebly Road (eastbound on, westbound off)
- Broadway Extension/Memorial Road
- I-235/I-44 (part)
- I-35/Lindsey Street in Norman
- I-35/Main Street in Norman
- I-35/SH-9 (south half)

The Present + Committed Network also includes costs for completion of final project components of the I-40 Crosstown relocation, as well as construction of the Oklahoma City Boulevard. The boulevard will be an at-grade street within the right-of-way of the former elevated I-40 structure, providing direct access to Bricktown and downtown Oklahoma City.

The Alternate 2 and Alternate 3 Networks include the following additional interchange modifications and turnpike construction projects, as provided by ODOT and OTA:

- I-35/SH-33
- I-35/Waterloo Road
- I-35/I-240 (Crossroads Interchange)
- I-40/Frisco Road
- I-40/I-44/I-240
- I-40/I-35
- I-40/Douglas Boulevard
- I-40/Choctaw Road
- I-44/I-35
- Kilpatrick Turnpike extension from SW 15th Street to Airport Road
- NE Oklahoma County Turnpike Loop from Turner Turnpike (I-44) to I-40

Additional Network costs include system wide operational improvements using transportation system management (TSM), regional travel demand management (RTDM), and intelligent transportation system (ITS) technologies, as well as numerous interstate bridge widening projects identified by ODOT.

GOODS MOVEMENT COSTS

Within the OCARTS area, goods are moved by truck, rail and air as described in the Chapter 10 of this report. All of these modes for transporting goods are reliant upon the street and highway system for a seamless trip from the manufacturer to the customer. Therefore, the costs for improving access to airport terminals, rail yards, warehouses and intermodal facilities are reflected in the street and highway alternates. Costs for upkeep and improvement of freight rail tracks and yards are the responsibility of the owning entity. Long-range planning and costs for improving access and mobility within the “fence line” of area airports are the responsibility of the airport administrators and are reflected in their airport comprehensive plans and budgets, and thus are not included in this Plan.

ESTIMATED COSTS FOR BICYCLE AND PEDESTRIAN IMPROVEMENTS

Federal law encourages metropolitan areas to develop regional trails networks. Similar to street and highway planning, these networks require coordinated planning among multiple jurisdictions and should be linked to one another, as well as to transit stops, schools, parks, retail, and medical centers in order to provide transportation options for the community.

Several OCARTS communities have adopted trails master plans to develop biking and walking facilities within their individual jurisdictions. In 2014, ACOG completed the OCARTS Regional Bicycle Master Plan in cooperation with its planning partners and local government members. The Plan identifies priority corridors for future regional bicycle connections among communities to supplement existing and planned local bike facilities. The regional corridors are intended to get bicyclists around the region safely and quickly; however, the total system may take decades to complete.

Encompass 2040 does not include a regional sidewalk plan. However, all OCARTS communities are encouraged to provide accessible sidewalks that connect residential, commercial and public areas, especially near transit stops. Often, communities require sidewalk construction by private developers at the time construction permits are sought. Chapter 7 of this report provides more information about the region’s bicycle and pedestrian plans and priorities.

Many of the projects submitted during the Encompass 2040 Call for Projects contained bicycle and pedestrian components. Similar to the unit costs developed for arterials and collectors, the bicycle/pedestrian unit costs were developed by local government members and were based on recent construction costs. Table 14.3 provides the Encompass 2040 unit costs used to estimate the costs of local bicycle and pedestrian facilities.

The unit costs below were converted from current (2015) costs to 2010 base year dollars, and subsequently inflated to YOE dollars based upon project implementation phasing. Cost estimates for additional planned bicycle and pedestrian improvements were estimated from locally adopted trails master plans. In total, the cost for OCARTS area bicycle and pedestrian improvements through 2040 was estimated at \$272.5 million.

TABLE 14.2: PROJECT UNIT COSTS (PER LANE-MILE) IN 2010 DOLLARS

| PROJECT CONSTRUCTION TYPE | INTERSTATES, TURNPIKES, FREEWAYS | PRINCIPAL & MINOR ARTERIALS, COLLECTORS |
|---|--|---|
| URBAN AREA | | |
| 1. NEW CONSTRUCTION | | |
| Construction on New Alignment | \$ 13,781,500 | \$ 918,800 |
| 2. WIDENING | | |
| Reconstruction - Widening with Access Roads | \$ 1,344,400 | N/A |
| Reconstruction - Widening without Access Roads | \$ 983,100 | \$ 1,102,500 |
| Reconstruction - Widening, Divided Parkway | N/A | \$ 1,148,500 |
| 3. MAINTENANCE | | |
| Mill and Overlay with necessary Base Repair | \$ 174,600 | \$ 137,800 |
| 4. OTHERS | | |
| Bridges (if constructed separately) - per square foot | \$ 150 | \$ 150 |
| Right-of Way - per acre | \$ 324,200 | \$ 202,100 |
| RURAL AREA | | |
| 1. NEW CONSTRUCTION | | |
| Construction on New Alignment | \$ 5,053,200 | \$ 803,900 |
| 2. WIDENING | | |
| Reconstruction - Widening without Access Roads | \$ 983,100 | \$ 551,300 |
| 3. MAINTENANCE | | |
| Mill and Overlay with necessary Base Repair | \$ 174,600 | \$ 128,600 |
| 4. OTHERS | | |
| Bridges (if constructed separately) - per square foot | \$ 150 | \$ 150 |
| Right-of Way - per acre | \$ 55,000 | \$ 60,600 |

Unit costs for Interstates, Turnpikes & Freeways were based on ODOT awards and provided by the Pre-Construction Program Manager, ODOT Chief Engineer Office, June 2015 and updated Jan. 2016. | Unit costs for Arterials and Collectors reflect discussion at a meeting held at ACOG on July 30, 2015, attended by representatives of Edmond, Midwest City, Norman, Oklahoma City, Oklahoma County and ACOG (with subsequent follow-up). | 2015 costs were converted to 2010 dollars using the Bureau of Labor Statistics CPI Inflation Calculator. Final unit costs are rounded and were approved by the ITPC January 28, 2016.

TABLE 14.3: ESTIMATED UNIT COSTS FOR SIDEWALKS AND BICYCLE FACILITIES

| FACILITY TYPE | 2010 BASE YEAR COST | UNIT |
|--|---------------------|------------|
| Sidewalks, Concrete (4-5 ft. wide) | \$60 | Linear Ft. |
| Multi-Purpose Trail, Asphalt (10 ft. wide) | \$130 | Linear Ft. |
| Bike Lanes (both sides of street) | \$800,000 | Mile |
| Bike Routes | \$5,500 | Mile |

Figures are for construction and do not include maintenance. | Bike lanes include widening or reconstruction of the roadway to accommodate sufficient width for bicycles and pavement markings, usually on both sides of the street. | Bike routes include signage and pavement markings on existing roadway widths.

ESTIMATED COSTS FOR URBAN AND RURAL PUBLIC TRANSPORTATION

Most of the estimated costs for public transportation capital and operations were based on historical federal, state, and local funding spent within the OCARTS area between FFY 2010 and FY 2014. Information was gathered from the Federal Transit Administration’s National Transit Database (NTD) reports, as well as from local transit operators/administrators—the Central Oklahoma Transportation and Parking Authority (COTPA), Cleveland Area Rapid Transit (CART), Edmond Citylink, and the Transit Programs Division³ of the Oklahoma Department of Transportation. This information was used to develop an annual estimate that was projected over the 30-year plan period. The 30-year estimated transit costs are presented in Table 14.4.

FOOTNOTE: 3 The ODOT Transit Programs Division administers the FTA Sec. 5311 Rural Public Transit Program, which provides transit service within portions of the OCARTS area via First Capital Trolley in Guthrie and Delta Public Transit in the southern part of the region.

Federal transit funding sources available to the region for preparation of Encompass 2040 included:

- Sec. 5307 Urbanized Area Formula Program
- Sec. 5309 Discretionary Capital Program
- Sec. 5311 Rural Area Formula Program
- Sec. 5310 Elderly and Persons with Disabilities Program
- Job Access and Reverse Commute (JARC) Program (unspent balance prior to MAP-21)
- New Freedom Program (unspent balance prior to MAP-21)

JARC and New Freedom were discontinued as separate FTA funding programs under MAP-21. JARC was combined into the Sec. 5307 Program, and New Freedom was incorporated into the Sec. 5310 Program.

Additional non-recurring federal sources included funding provided to COTPA and CART under the 2009 American Recovery and Reinvestment Act (ARRA) and TIGER grant funds awarded to the City of Oklahoma City for improvement of the Santa Fe Station Intermodal Hub.

An additional federal source is the Congestion Mitigation/ Air Quality (CMAQ) Program. CMAQ funds are provided by the Federal Highway Administration (FHWA) and are considered flexible because federal law allows them to be used for transit improvements as well. Each year, a portion of Oklahoma’s CMAQ funds are provided to ACOG and transferred to FTA for use by COTPA.

At the state level, the Oklahoma Legislature annually appropriates funding to the Public Transit Revolving Fund to assist with the provision of urban and rural transit services throughout the state. The level of funding received by CART, First Capital Trolley, and Delta Public Transit is based on their previous year’s revenue miles. COTPA’s share is limited to roughly 20 percent of the statewide total, even though its revenue miles would justify a greater portion.

Locally, fares are collected from patrons who ride the bus, except for Citylink service which is provided free of charge. These farebox revenues generate approximately 12 percent of the cost of providing the region’s transit services. The Cities of Oklahoma City, Norman, and Edmond also budget a portion of their General Fund revenues annually to provide their respective transit services. Other cities and universities that receive transit service from COTPA, CART, or Citylink also provide some local funds. Several non-profit organizations contract with COTPA and participate in funding special programs that serve elderly and persons with disabilities..

TABLE 14.4: ESTIMATED COSTS OF ENCOMPASS 2040 TRANSIT NETWORK

| TRANSIT OPERATOR | FEDERAL | | | | STATE | LOCAL | ESTIMATED 30 YEAR TOTAL |
|-----------------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------------|
| | FORMULA | DISCRETIONARY | OTHER | OTHER | | | |
| COTPA | 238,036,254 | 57,526,176 | 11,639,762 | 11,639,762 | 30,525,780 | 717,519,348 | 1,055,247,320 |
| CART | 42,173,904 | 6,081,573 | 975,580 | 975,580 | 2,937,222 | 54,366,150 | 106,534,429 |
| Citylink | 2,070,750 | 0 | 567,004 | 567,004 | 2,490,900 | 37,940,230 | 43,068,429 |
| First Capital Trolley | 18,192,792 | 0 | 0 | 0 | 6,175,344 | 15,902,616 | 40,270,752 |
| Delta Public Transit | 1,137,888 | 0 | 0 | 0 | 217,494 | 876,156 | 2,231,538 |
| Sec. 5310 | 24,647,843 | 0 | 0 | 0 | 0 | 0 | 24,647,843 |
| Other | 0 | 0 | 0 | 0 | 1,500,000 | 5,048,353 | 6,548,353 |
| Total | 326,259,431 | 63,607,749 | 13,182,346 | 13,182,346 | 43,846,740 | 831,652,853 | 1,278,549,119 |

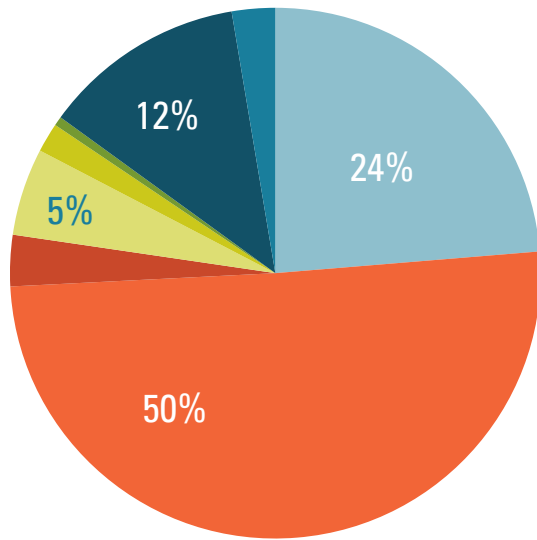
Federal formula funds include Sec. 5307 Urban, Sec. 5311 Rural, and Sec. 5310 Elderly & Disabled program funds. | Federal discretionary funds include Sec. 5309, TIGER grant funds, and remaining balances of American Recovery and Reinvestment Act (ARRA) funds and earmarks. | Federal other funds include CMAQ, STBG-UZA (for Hub), and remaining balances of Job Access Reverse Commute (JARC) and New Freedom funds. | Delta Public Transit funds are 25% of total; approximately 25% of service area is located within the OCARTS area.

TABLE 14.5: ESTIMATED COSTS OF ENCOMPASS 2040

| FUNCTIONAL CLASSIFICATION | LINEAR MILES | LANE MILES | ESTIMATED COST A | | | | | TOTALS |
|---|--------------|------------|------------------|-----------------|---------------|----------------------|----------------|-------------------------|
| | | | CONSTRUCTION | MAINTENANCE | RIGHT-OF-WAY | MAJOR INTERCHANGES b | OTHER IMPROV c | |
| Turnpikes e | 85 | 364 | \$549,506,944 | \$171,905,922 | | \$15,113,169 | | \$736,526,035 |
| Interstates & Freeways | 235 | 1,206 | \$965,667,189 | \$691,594,077 | \$62,050,000 | \$534,825,202 | \$30,000,000 | \$2,468,896,468 |
| Principal Arterials | 332 | 1,348 | \$184,768,721 | \$647,040,000 | \$7,333,780 | | \$7,600,000 | \$846,742,501 |
| Minor Arterials | 1,672 | 4,362 | \$522,584,443 | \$2,090,803,030 | \$143,036,190 | | \$15,000,000 | \$2,771,423,663 |
| Collectors | 1,479 | 3,368 | \$225,558,618 | \$1,616,640,000 | \$109,908,222 | | \$5,000,000 | \$1,957,106,840 |
| Street & Highway Total | 3,803 | 10,648 | \$2,448,085,915 | \$5,217,983,029 | \$322,328,192 | \$549,938,371 | \$57,600,000 | \$8,780,695,507 |
| Transit - Current Service + Streetcar f | | | | | | | | \$1,278,549,300 |
| Bicycle and Pedestrian g | | | | | | | | \$272,513,112 |
| Total Costs | | | | | | | | \$10,331,757,919 |

a) Individual project costs were inflated by 10 percent for short-term projects (2010-2020), 30 percent for medium-term projects (2021-2030), and 50 percent for long-term projects (2031-2040) | b) Additional major interchanges include I-35/SH-33, I-35/Waterloo Rd., I-35/I-240, I-40/Frisco Rd., I-40/I-240, I-40/Douglas, I-40/Choctaw Rd., I-44/I-35 | d) Includes interstate bridge widening projects identified by the Oklahoma Department of Transportation (ODOT) | e) Construction costs include Kipatrick Turnpike extension from SW 15th to Airport Rd., NE OK County Loop from Turner TP to I-40, and H.E. Bailey TP upgrade | f) Transit Costs include current services levels, plus capital and operating for the downtown OKC streetcar and Santa Fe Intermodal Hub | g) Costs include bicycle & pedestrian components submitted with Alternate 2 roadway projects plus an estimated \$145 million to implement regional trails plans.

FIGURE 14.2: ENCOMPASS 2040 COSTS BY CATEGORY



| Category | Cost | Percentage |
|--------------|-----------------------|-------------|
| Construction | 2,448,085,915 | 23.69% |
| Maintenance | 5,217,983,029 | 50.5% |
| ROW | 322,328,192 | 3.12% |
| Interchanges | 549,938,371 | 5.32% |
| Bridges | 184,760,000 | 1.79% |
| Other | 57,600,000 | 0.56% |
| Transit | 1,278,549,300 | 12.37% |
| Bike/Ped | 272,513,112 | 2.64% |
| TOTAL | 10,331,757,919 | 100% |

In December 2009, Oklahoma City voters approved a temporary sales tax increase known as Metropolitan Area Projects 3 (MAPS 3). MAPS 3 included funding for construction of a downtown circulator, subsequently determined through an Alternatives Analysis to be a modern streetcar. Capital costs for the streetcar are anticipated to be \$131 million, with annual operating costs estimated at \$3.65 million/year once operation begins in 2018. These estimated costs are included under “COTPA Local” in Table 14.4.

During the development of Encompass 2040, the MPO modeled an illustrative transportation network (Alternate 3) inclusive of regional transit—commuter rail, bus rapid transit, and enhanced bus—as recommended by the 2005 Regional Fixed Guideway Study and the 2014 Central Oklahoma Commuter Corridors Study. In addition to the downtown Oklahoma City modern streetcar and Santa Fe Station improvements currently underway, the desired OCARTS

regional transit system would include approximately:

- 44 miles of commuter rail transit (CR)
- 40 miles of bus rapid transit (BRT)
- Future extensions of the downtown streetcar system, and
- Enhanced bus service connecting to future rail and BRT stations.

Federal law requires that metropolitan transportation plans be financially realistic. Therefore, the region cannot include transit improvements/services in its long-range plan beyond its anticipated revenues. This results in the level of public transportation within the OCARTS area remaining relatively constant even though the demand for more service is growing. Additional revenues, dedicated to transit, from federal, state, and/or local sources would have to become available in order to include the more extensive regional public transportation system described above in the affordable plan.

In total, approximately \$1.28 billion in public transportation costs were assumed over the 30-year plan period, which is generally equivalent to the Encompass 2040 projected revenues for public transportation.

TOTAL COSTS FOR ENCOMPASS 2040

Table 14.5 summarizes the estimated total cost of Encompass 2040 (Alternate 2) by mode. Street and highway costs are provided by type of improvement and functional classification.

Figure 14.2 illustrates the estimated Encompass 2040 costs by type of improvement. All categories except for Transit and Bicycle/Pedestrian, below, are components of the Street and Highway network costs.

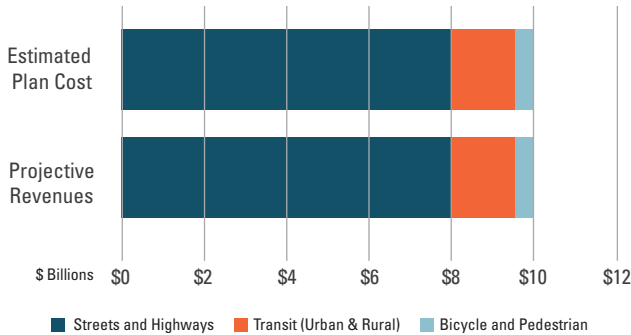
ADOPTION OF THE FINANCIALLY CONSTRAINED PLAN

The Encompass 2040 OCARTS Metropolitan Transportation Plan was adopted by the Intermodal Transportation Policy Committee in October 2016.

The following information demonstrates that the MTP is financially feasible and that the estimated costs to implement the Plan’s recommendations will not exceed the estimated revenues reasonably available to the OCARTS area during the 30-year plan period. Table 14.6 provides the estimated distribution of revenues and costs by mode for Encompass 2040.

The revenues projected for implementation of Encompass 2040 total approximately \$10.4 billion, approximately \$91.5 million greater than the estimated MTP costs. System preservation, maintenance and operation, and planned infrastructure improvements were all considered in the development of Encompass 2040.

FIGURE 14.3: ENCOMPASS 2040 COSTS & REVENUES



This MTP funding breakdown by mode, reflected in Figure 14.3 and Table 14.6, was developed for planning purposes only and is consistent with historical trends and federal program guidelines.

The plan’s intent is to ensure that all modes are considered in the Plan’s financial capacity analysis, and reflects the fact that revenues for roadway and transit purposes are generally provided separately at the federal level through programs administered by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

More detailed information concerning the sources and methodologies used to develop the estimated costs and revenues described in this chapter is available in the following ACOG 2017 report: Task 2.01(4)-Encompass 2040 Financial Element.

BENEFIT-COST ANALYSIS OF THE ENCOMPASS 2040 ALTERNATE NETWORKS

The MPO conducted a benefit-cost analysis of the Encompass 2040 transportation alternate networks. This analysis compared the benefits and costs associated with each alternate network to determine if the suggested improvements were representative of sound investment decisions.

As a reminder, the 2040 transportation alternates included the following:

- **Alternate 1** – Present + Committed Network (No Build & Maintenance): Included all roadways and transit routes implemented through the 2010 base year, as well as improvements for which funding was committed through December 2016. (Financially Feasible)
- **Alternate 2** – Improved Transportation Network (Submitted 2040 Projects): Included the Present + Committed Network and future transportation improvements submitted by local governments and ODOT during the Encompass 2040 Call for Projects, two new OCARTS area turnpikes, the downtown Oklahoma City modern streetcar, and gap projects identified by ACOG staff. (Financially Feasible – Adopted 2040 network)
- **Alternate 3** – Improved Transportation Network + Regional Transit: Included the Present + Committed Network (Alternate 1), future transportation improvements (Alternate 2), and regional commuter rail, bus rapid transit, and supportive bus routes, as identified by the Commuter Corridors Study and 2005 Regional Fixed Guideway Study. (Illustrative)

In addition, the alternates were modeled using two potential land use patterns for the region:

- **Scenario 1** (Historical Trend): Continues similar development patterns of the past with no new zoning initiatives

TABLE 14.6: ANTICIPATED REVENUES AND COSTS FOR ENCOMPASS 2040

| MODE | ESTIMATED PERCENT REVENUE | PROJECTED REVENUES | ESTIMATED PLAN COSTS | DIFFERENCE |
|-------------------------|---------------------------|-------------------------|-------------------------|---------------------|
| Streets and Highways | 85.1% | \$8,869,545,000 | \$8,780,695,507 | \$88,849,493 |
| Transit (Urban & Rural) | 12.3% | \$1,278,549,300 | \$1,278,549,300 | \$0 |
| Bicycle and Pedestrian | 2.6% | \$275,220,700 | \$272,513,112 | \$2,707,588 |
| Total | 100.0% | \$10,423,315,000 | \$10,331,757,919 | \$91,557,081 |

- **Scenario 2** (Nodal Growth): Encourages infill, nodal and downtown development in each community to support future regional transit

The benefit-cost (B/C) ratio is a standard measure of cost-effectiveness recommended by the Federal Highway Administration (FHWA). FHWA's suggested method focuses on the value of travel time and operating cost savings experienced by users of the system against the capital and maintenance costs involved in the construction and upkeep of the transportation network.

The benefit-cost ratio is calculated using the following formula:

$$\text{Benefit/Cost Ratio} = \frac{(RU_b - RU_p) - (D_p - D_b)}{(I_p - I_b)}$$

Where:

- RU_b**: The annual road user cost (annual vehicle operating costs plus annual travel time costs) for the base alternate
- RU_p**: The annual road user cost (annual vehicle operating costs plus annual travel time costs) for the alternate to be compared to the base alternate
- D_b**: The annual street maintenance cost for the base alternate
- D_p**: The annual street maintenance cost for the alternate to be compared to the base alternate
- I_b**: The annualized capital cost for the base alternate
- I_p**: The annualized capital cost for the alternate to be compared to the base alternate

TABLE 14.7: BENEFIT/COST RATIO COMPARISON OF ALTERNATES

| ALTERNATES BEING COMPARED | B/C RATIO SCENARIO 1 | B/C RATIO SCENARIO 2 |
|-------------------------------------|----------------------|----------------------|
| Alternate 2 Compared to Alternate 1 | 5.30 | 5.57 |
| Alternate 3 Compared to Alternate 1 | 5.11 | 5.21 |

The following assumptions were made:

- Road user per mile cost was based on AAA estimates - \$0.56 per mile in 2010 (\$0.85 in 2040)
- Travel time cost was based on FHWA guidance on travel time valuation - \$21.00 in 2010 (\$31.50 in 2040)
- Six percent (6%) travel time savings, as a result of operational improvements (e.g. intersection upgrades, Intelligent Transportation Systems deployment, signalization, signal coordination, etc.) throughout the network.

The B/C ratio analysis compared Alternates 2 and 3 to Alternate 1 to determine whether the benefit derived per dollar invested was less than, or greater than, the benefit derived from the no build alternate. If the value of the B/C ratio is 1.0 or greater, then the new alternate is considered a better investment than the no build alternate (Alternate 1). Therefore, if the B/C ratio is greater than 1.0 – based on value of travel time and operating cost savings to persons using the transportation network – the alternate network can reasonably be considered cost-effective. In addition, the higher the ratio, the more cost effective the alternate is deemed.

According to the B/C ratio analysis shown in the Table 14.7, Alternate 2 offers a significant benefit over Alternate 1 and a slightly better benefit/cost ratio than Alternate 3.

PERFORMANCE



Starting with MAP-21 and continued under the FAST Act, states and metropolitan areas are now required to incorporate performance management strategies into their planning processes. Federal planning requirements direct metropolitan planning organizations (MPOs) to coordinate with their respective state departments of transportation and area public transportation providers in developing short and long range transportation plans, performance measures and a congestion management process. Together, these plans and processes are used to track and maximize the benefits of transportation planning decisions and infrastructure investments. This process, referred to as Performance Based Planning and Programming, involves setting goals and targets, gathering measurable data, and then conducting annual analysis to determine if transportation projects are making progress towards reaching those goals.

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PERFORMANCE BASED PLANNING AND PROGRAMMING (PBPP)

The Federal Highway Administration defines Performance Based Planning and Programming (PBPP) as the “application of performance management within the planning and programming process to achieve desired performance outcomes for the multimodal transportation system.” Desired performance outcomes are those that support the federal planning priorities mentioned in Chapter 4. The application of performance management encompasses a range of activities and products undertaken by transportation agencies, stakeholders, and the public. For ACOG, as an MPO, this includes the development of MTPs, Transportation Improvement Programs (TIP), and a Congestion Management Process (CMP).

The PBPP process offers a framework for utilizing performance management for effective planning and programming prioritization (Figure 15.1). This process includes: the creation of goals, objectives and performance measures, setting targets, developing investment priorities, monitoring the progress, and evaluating/reporting performance and programming. The investment prioritization, evaluation and programming stages are continual activities which require constant monitoring of the transportation system. This process is essential for the

OCARTS area to assess transportation investments based on their ability to meet the established goals and targets, and in turn adjust investment priorities accordingly.

Each step in the PBPP process is connected to the next to ensure goals translate into specific measurable statements. These statements then form the basis for selecting and analyzing strategies and projects from the MTP, TIP and CMP. Ideally, selection decisions are influenced by expected performance returns. As the OCARTS area shifts towards a performance based planning process, ACOG will utilize the regional goals and associated performance measures to effectively select projects that line up with those goals to guide investment priorities. This will occur through a set of MTP selection criteria which rank projects based on their ability to enhance the region’s transportation system, and meet federal, state and local goals and targets (See Chapter 6 and Chapter 4, respectively). The short-range plan, or TIP process, will also utilize regional goals and performance measures to effectively select projects for federal STBG-UZA funds (more information about the TIP can be found on the ACOG website). As with the MTP, the STBG-UZA project selection criteria uses a ranking system to prioritize projects. Additionally, the CMP relates to both the MTP and the TIP to specifically address federal congestion mitigation priorities. Congestion mitigation strategies and priority corridors, identified in the CMP, should be integrated within the MTP and TIP selection criteria. Integration should ensure project programming is helping to relieve congestion and increase safety. The congestion management process is discussed further in Chapter 9.

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OCARTS GOALS, OBJECTIVES AND PERFORMANCE MEASURES

OCARTS goals incorporate the national and state priorities, while also including other focus areas relevant to the region (Chapter 4). Per PBPP guidance, each regional goal directs the selection of objectives, desired outcomes and subsequent performance measures. Table 15.1 displays the OCARTS performance measures that ACOG will use to monitor, analyze and report progress towards obtaining the regional goals.

FIGURE 15.1: PERFORMANCE BASED PLANNING AND PROGRAMMING (PBPP) FRAMEWORK

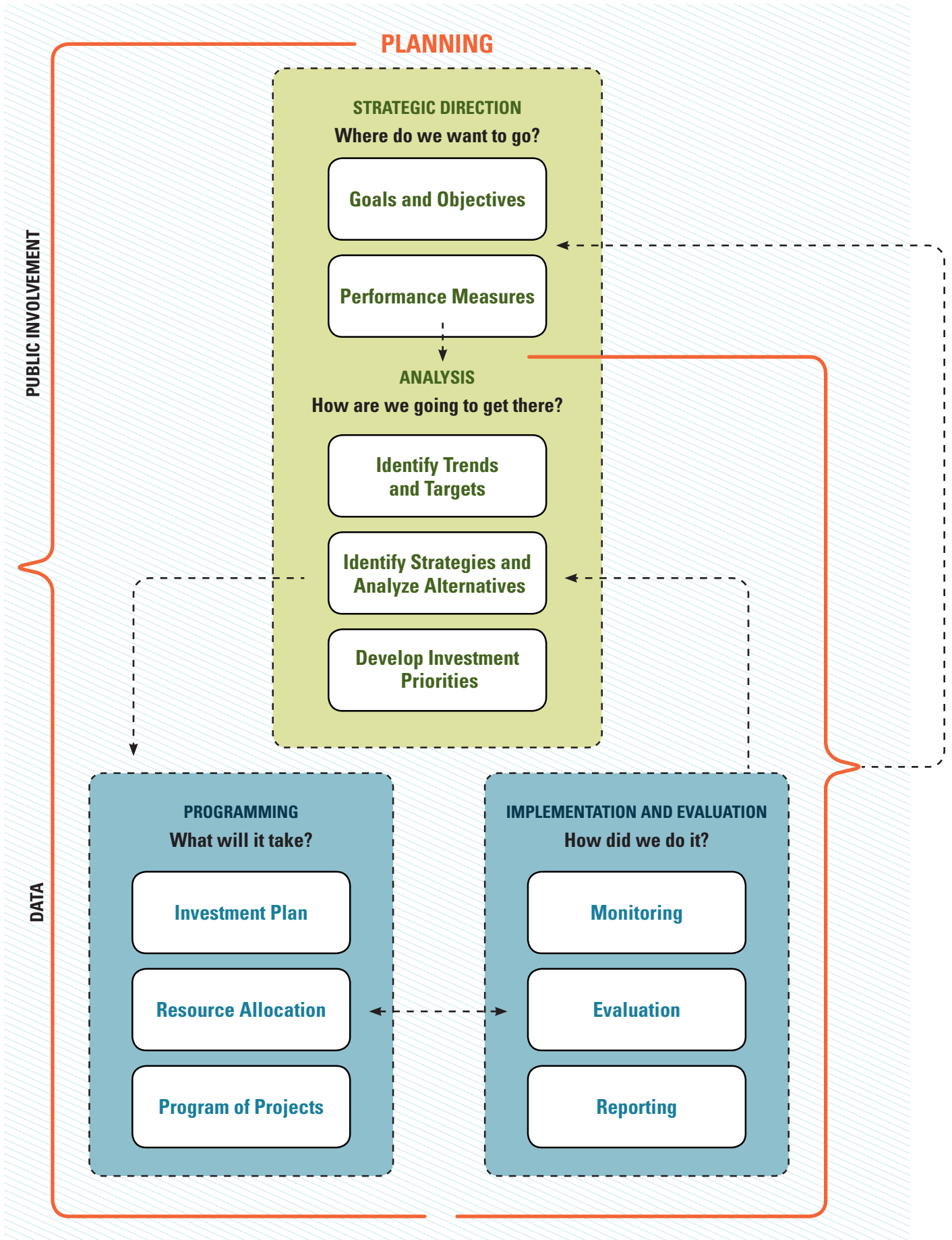


TABLE 15.1: OCARTS PERFORMANCE MEASURES

| GOALS | OBJECTIVES | PERFORMANCE MEASURES |
|---|--|--|
| <p>Economic Strength: Promote economic vitality through enhanced mobility</p> | <ul style="list-style-type: none"> - Invest in improvements that enhance the efficiency of the existing transportation system - Improve accessibility to regional employment centers - Increase efficiency of goods movement by truck, rail, water, air and pipeline | <ul style="list-style-type: none"> - Truck travel time reliability - Interstate travel time reliability - Non-interstate travel time reliability - Mode share for commuter trips - User cost (as a function of delay) |
| <p>Safety and Security: Provide a safe and secure transportation system</p> | <ul style="list-style-type: none"> - Improve design, construction, and maintenance of infrastructure to reduce the number and severity of crashes, injuries and fatalities - Increase awareness of the public on safety issues and skills - Collaborate on transportation system security strategies | <ul style="list-style-type: none"> - Number of fatalities - Rate of fatalities - Number of serious injuries - Rate of serious injuries - Number of non-motorized fatalities and non-motorized serious injuries - Existence of regional security strategies |
| <p>Equity and Options: Provide transportation access for the movement of all people and goods</p> | <ul style="list-style-type: none"> - Provide equitable transportation services and improvements - Expand and maintain accessible and connected pedestrian and bicycle facilities - Expand and maintain a safe, secure and accessible public transportation system | <ul style="list-style-type: none"> - Miles of sidewalk and bicycle paths/lanes added within ¼ mile of transit stop - Percent of population and jobs located within ¼ mile of transit stops |
| <p>Healthy Communities: Improve connection between land use and transportation to enable citizens to live healthier lives and reduce environmental impacts</p> | <ul style="list-style-type: none"> - Improve and increase the walkability and bikeability of the region - Leverage Clean Cities to bring together stakeholders in the public and private sectors to deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies - Reduce the impacts transportation projects have on the environment | <ul style="list-style-type: none"> - Mode share for commuter trips. - Annual air quality index reading for the region. |
| <p>Connectivity: Develop connections among all types of transportation</p> | <ul style="list-style-type: none"> - Provide efficient connections within and between modes and facilities - Better connect land use and transportation decision-making - Invest in projects that enhance the existing transportation infrastructure - Implement a Complete Streets policy where appropriate | <ul style="list-style-type: none"> - Percent of population and jobs located within ¼ mile of transit stops - Average trip distance - Total miles of sidewalk and bicycle facilities |

TABLE 15.1: OCARTS PERFORMANCE MEASURES *continued*

| GOALS | OBJECTIVES | PERFORMANCE MEASURES |
|--|--|--|
| <p>Performance: Increase the efficiency and reliability of the transportation system</p> | <ul style="list-style-type: none"> - Invest in improvements that enhance the efficiency of the existing transportation system - Supply alternative travel options. For every person that carpools, uses transit, walks or rides their bicycle, there is one less car on the road - Increase capacity where needed | <ul style="list-style-type: none"> - Truck travel time reliability - Interstate travel time reliability - Non-interstate travel time reliability - User cost (as a function of delay) |
| <p>System Preservation: Maintain and improve the quality of the transportation system</p> | <ul style="list-style-type: none"> - Preserve existing and future transportation investments - Decrease unnecessary bridge and roadway wear and tear - Encourage policies and procedures that preserve traffic operations and safety | <ul style="list-style-type: none"> - Percent of NHS bridges classified as in good condition - Percent of NHS bridges classified as in poor condition - Percent of interstate pavements in good condition - Percent of non-interstate pavements in good condition - Percent of interstate pavements in poor condition - Percent of non-interstate pavements in poor condition |

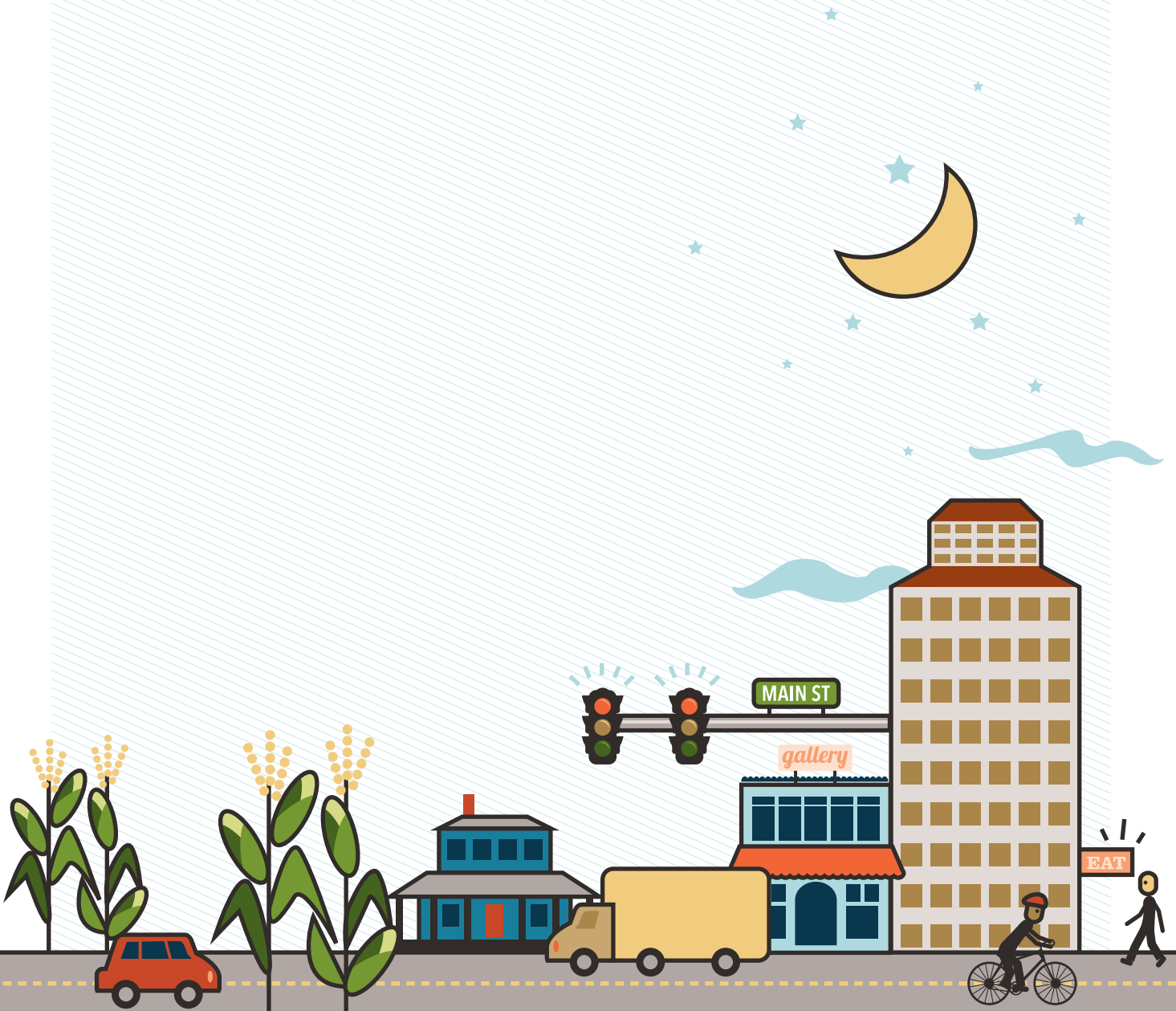
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NEXT STEPS FOR OCARTS AREA

Moving forward, the OCARTS area intends to fully integrate the MTP, TIP and Congestion Management processes into a performance based planning and programming approach. ACOG is currently in the process of working closely with Oklahoma Department of Transportation (ODOT) to set targets for the federal performance measures. Once baselines and targets are set, they will be used to evaluate the future efficiency of the transportation system. This will allow ACOG to assess how

well federally funded projects are helping to meet federal and regional goals through evaluation and selection of projects in the MTP and TIP. Based on the performance of the system, adjustments can be made to project programming prioritization and funding for subsequent years. Additionally, an analysis on regional performance will be completed and reported in the MTP every five years. More so, as part of the self-certification process, OCARTS will notify the Federal Highway Administration (FHWA) on how the region is utilizing performance measure results for more effective planning and programming.

CLOSING



Central Oklahoma is expected to see significant growth by 2040. While this growth is generally viewed as positive, it presents additional challenges for the future of the region's transportation system. Encompass 2040 is forecasting a considerable increase in roadway congestion, leading to a decrease in transportation system performance and quality of life for residents. Implementation of the Encompass 2040 policy and project-specific recommendations (Chapter 13) will help alleviate some of the congestion issues, but will not solve the problem entirely. It appears that a more comprehensive approach to solving our transportation issues is warranted, focusing on additional strategies above and beyond the Encompass 2040 projects. The strategies identified are important to further improve the regional transportation system and further enhance the region's quality of life:

REGIONAL TRANSIT SYSTEM FOR CENTRAL OKLAHOMA

Local governments, ACOG, and various stakeholders have been collaborating to develop a high-capacity regional transit system for the future. Such a system, when funded and launched, will provide enhanced mobility options, stimulate economic development, and improve quality of life in Central Oklahoma.

(see Chapter 8 – Public Transit)

FOCUSED LAND USE DEVELOPMENT

Transportation and land use are connected, and nodal and clustered centers of mixed-use development are often easier and more efficiently served by the transportation system, including transit. Local land use strategies that encourage such development will help support the market for future high-capacity regional transit.

(see Chapter 3 – Regional Socioeconomic Trends)

REGIONAL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND CONGESTION MANAGEMENT PROCESS (CMP) STRATEGIES

Regional deployment of ITS and strategies outlined in ACOG's 2016 CMP are encouraged to reduce idling and congestion, decrease trip and freight delay, improve air quality, increase safety, and maximize the efficiencies of the regional transportation system.

(see Chapter 9 – Congestion and Safety)

COMPLETE STREETS

Across the nation and throughout Central Oklahoma, street designs that accommodate and link multiple transportation modes—automobile, transit, bicycle, and pedestrian—are gaining popularity at the local level. Known commonly as complete streets, this strategy is encouraged to improve mobility access, increase transportation choices, and enhance livability.

(see Chapter 7 – Bicycle and Pedestrian)

APPENDIX A: FEDERAL PLANNING FACTORS

Encompass 2040 – Vision and Goals

Federal regulation (most recently MAP-21 and the FAST Act) established ten (10) Federal Planning Factors to be considered during the metropolitan transportation planning process. Statewide and metropolitan priorities, consistent with these factors, were developed as part of the Oklahoma Long Range Transportation Plan 2015-2040 and Encompass 2040.

ENCOMPASS 2040 VISION

A regional vision for a safe and efficient transportation system to enhance economic opportunity and quality of life throughout Central Oklahoma

Economic Strength

GOALS

National: Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency; Enhance travel and tourism

Oklahoma: Provide an efficient and effective multimodal transportation system that is coordinated through land development patterns to strengthen communities and support economic development

Encompass 2040: Promote economic vitality through enhanced mobility

Safety and Security

GOALS

National: Increase the safety of the transportation system for motorized and non-motorized users; Increase the security of the transportation system for motorized and non-motorized users

Oklahoma: Improve infrastructure safety and security for system users

Encompass 2040: Provide a safe and secure transportation system

Equity and Options

GOALS

National: Increase the accessibility and mobility of people, and for freight

Oklahoma: Facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation

Encompass 2040: Provide transportation access for the movement of all people and goods

Healthy Communities

GOALS

National: Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns

Oklahoma: Minimize environmental impacts related to transportation

Encompass 2040: Recognize and improve the connection between land use and transportation to enable citizens to live healthier lives and reduce environmental impacts

Connectivity

GOALS

National: Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

Oklahoma: Facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation

Encompass 2040: Develop connections among all types of transportation

Performance

GOALS

National: Promote efficient system management and operation; Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation

Oklahoma: Strengthen the data driven decision making approach in order to maximize intermodal system performance and operation

Encompass 2040: Increase the efficiency and reliability of the transportation system

System Preservation

GOALS

National: Emphasize the preservation of the existing transportation system

Oklahoma: Preserve and maintain Oklahoma's multimodal transportation system in a state of good repair

Encompass 2040: Maintain and improve the quality of the transportation system

APPENDIX B: ILLUSTRATIVE PROJECTS

Metropolitan long-range transportation planning requires local decision-makers to identify transportation needs, financial resources, and priorities in a cooperative manner.

Federal law requires that metropolitan transportation plans be fiscally constrained by including projects for which funding sources already exist or are reasonably anticipated in the future. In other words, the adopted plan must be affordable rather than a wish list. Federal guidelines also allow MPOs to identify projects for illustrative purposes that would be included in the adopted plan if additional financial resources were available. These “illustrative projects” are not part of the fiscally constrained plan and, therefore, cannot be advanced to implementation unless new revenue source(s) are identified and the plan is amended.

ENCOMPASS 2040 ILLUSTRATIVE PROJECTS

During the development of Encompass 2040, the MPO modeled an illustrative transportation network inclusive of regional transit—as recommended by the 2005 Fixed Guideway Study and the 2014 Central Oklahoma Commuter Corridors Study. The following transit projects were considered desirable, but not affordable based on OCARTS area transportation revenue projections through 2040. Through continued efforts such as

the Regional Transit Dialogue, Regional Transit Authority Task Force, and additional modeling efforts, the region is committed to further pursuing these projects.

Regional Transit Recommendations:

The Fixed Guideway Study 2030 System Plan and the alignments generated by the Commuter Corridors Study represent a multimodal vision for a fixed guideway transit system providing reliable, fast, and safe public transportation service within the Oklahoma City Metropolitan Area. The plan recommends approximately:

- 44 miles of Commuter Rail Transit (CR)
- 40 miles of Bus Rapid Transit (BRT)
- Enhanced bus service with connection to rail and BRT stations (approximately 670 miles)

Additional components of the desired OCARTS regional transit system plan, which were included in Encompass 2040, as described in Chapter 13 of this report:

- 5-6 mile downtown OKC Modern Streetcar* (with potential for extensions)
- Intermodal Transportation Hub* serving CR, BRT, streetcar, bus, and other modes

* The initial phase of downtown modern streetcar is scheduled to open in 2018. In FY 2018, the first two phases of the Santa Fe Station Intermodal Hub project were completed.

GLOSSARY

Access, limited (or controlled access) – In transportation, to have entry and exit limited to predetermined points, as with interstates, freeways and rapid transit.

Alternative transportation – Refers to commuting in any other way other than driving alone, namely walking, biking, and taking public transportation.

Americans with Disabilities Act of 1990 (ADA) – Refers to the 1990 civil rights law that prohibits discrimination based on disability. The ADA is often referred to in terms of accessibility and compliance; whether programs, policies, or infrastructure are ‘ADA accessible’ and compliant.

Arterial street – A major thoroughfare used primarily for through traffic rather than for access to abutting land,

characterized by high vehicular capacity and continuity of movement.

Assignment – As predicted by the travel demand model, the number of units (passengers or vehicles) that pass a point on a transportation facility during a specified interval of time.

Attainment Area – An area in which levels of a criteria air pollutant meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. Attainment areas are defined using federal pollutant limits set by EPA.

Average Daily Traffic (ADT) – The average number of vehicles that pass a specified point during a 24-hour period.

Base Year – The year to which the major portion of the data gathered in a (transportation) study or survey relates. The base year is also the first year of a planning or forecast period.

Benefit-cost analysis – An analytical technique that compares the costs and benefits (measured in monetary terms) of proposed programs or policy actions. Alternative actions are compared to allow selection of one or more that yields the greatest net benefit or benefit cost ratio.

Benefit-cost ratio – The ratio of the dollars of benefits achievable to the given outlay of costs.

Bus Rapid Transit (BRT) – Buses operating primarily on their own dedicated lane or right-of-way.

Clean Air Act (CAA) – The Clean Air Act is the law that defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The Clean Air Act was enacted by Congress in 1990. Legislation passed since then has made several minor changes. In nonattainment and maintenance areas, federal funding and approval for transportation projects is only available if transportation activities are consistent with air quality goals through the transportation conformity process. The transportation conformity process includes a number of requirements that MPOs must meet.

Capital costs – Nonrecurring or infrequently recurring costs of long-term assets such as land, structures, bridges, roadways, and vehicles (such as publicly owned and operated transit vehicles).

CART – Cleveland Area Rapid Transit; the transit operator of the Norman bus system.

Citizens Advisory Committee (CAC) – An ACOG committee tasked with providing critical public input and expertise to help shape future transportation activities.

Citylink – The transit operator of the Edmond bus system.

Commuter Rail Transit (CRT) – Passenger trains operated on or adjacent to a main line railroad track to carry riders to and from work in city centers.

Complete Streets – Streets that are designed and operated to be safe and welcoming to all potential users, regardless of mode, age, background, or ability level.

Congestion Management Process (CMP) – A systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

Constant dollars – Current dollars, that is, the value of the dollar for the year selected as a base, adjusted by using the change in the GNP deflator index or other specified indicator between the current (base) year and the desired year. The intent of using constant dollars is to remove the distortion caused by inflation during the intervening time period.

Corridor – In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways.

Council of Governments (COG) – A voluntary consortium of local government representatives, from contiguous communities, meeting on a regular basis and formed to cooperate on common planning and to solve common development problems of their area. In Central Oklahoma, the Association of Central Oklahoma Governments (ACOG) serves as the COG representing the communities within Oklahoma, Cleveland, Canadian, and Logan Counties.

COTPA – Central Oklahoma Transportation and Parking Authority; the transit operator of the Oklahoma City bus system, under the name of EMBARK.

Department of Transportation (DOT) – A municipal, county, state, or federal agency responsible for transportation. On the federal level, the U.S. DOT is a cabinet level federal agency responsible for the planning, safety, and system and technology development of national transportation, including highways, mass transit, aircraft, and ports. On the state level, the Oklahoma Department of Transportation (ODOT) oversees planning, design and construction of transportation improvements statewide under the direction of the Secretary/Director of Transportation.

EMBARK – The Oklahoma City transit system, operated by COTPA. Embark operates fixed route bus, paratransit, streetcar, bike-share, and river cruise ferry service.

Endangered or Threatened Species – Animal and plant species which have been identified for special protection under the Endangered Species Act of 1973.

Environmental Justice – A 1994 Presidential Executive Order implemented by the United States Department of Transportation that requires agencies receiving federal transportation dollars to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

Environmental Protection Agency (EPA) – An independent federal agency in the executive branch whose responsibilities include development and enforcement of national air quality emission standards and support of anti-pollution activities by state and local governments.

FAST, Fixing America’s Surface Transportation Act – The long-term, federal transportation bill that provides funding for FFY2016 through FFY2020. This bill was signed into law by President Obama on December 4, 2015 and authorizes \$305 billion for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs.

Federal Aviation Administration (FAA) – A component of the U.S. Department of Transportation responsible for ensuring the safety, capacity, and efficiency of the nation’s aviation system.

Federal Highway Administration (FHWA) – A component of the U.S. Department of Transportation, established to ensure development of an effective national road and highway transportation system. It assists states and local governments in constructing highways and roads.

Federal Transit Administration (FTA) – A component of the U.S. Department of Transportation, delegated by the Secretary of Transportation to administer the federal transit program under the Urban Mass Transportation Act of 1964, as amended, and various other statutes.

Federal Railroad Administration (FRA) – A component of the U.S. Department of Transportation responsible for promulgating and enforcing rail safety regulations, administering railroad assistance programs, conducting research and development to improve railroad safety, and national rail transportation policy.

Financial Constraint (or Fiscally Constrained) – Financial information in a long-range, metropolitan transportation plan (MTP) and transportation improvement program (TIP) that demonstrates that projects can be implemented using committed available, or reasonably available revenue sources, while adequately continuing to operate and maintain the

transportation system.

Forecasting – In planning, the process of estimating future conditions, magnitudes, and patterns within the urban area, such as future population, demographic characteristics and travel demand.

Forecast Year – In planning, the terminal year for a projection. Usually designates the year in the future for which the improvements embraced in the transportation plan are to be designed.

Freeway – A divided highway for through traffic that has full access control and grade separations at all intersections.

Goal – A broad statement of direction in which planning or action is aimed; a general value statement representing an ideal end that the community or area wishes to attain.

Grade-Separated Crossing – A crossing where the intersecting facilities (road, rail, etc.) are separated vertically.

HOV Lane – A high occupancy vehicle lane. A lane of traffic that is delineated for use by transit buses or passenger vehicles carrying more than one occupant.

Input – Information to be used in an analysis.

Intelligent Transportation System (ITS) – The application of advanced technology to current transportation problems, including incident detection, signal coordination, real-time information, and other technology.

Intermodal – The interaction of various modes of transportation, particularly as it relates to connections, choices, coordination and cooperation.

Intermodal Transportation Policy Committee (ITPC) – An OCARTS area committee comprised of an elected official from each member entity and representatives of local, state, and federal transportation agencies. This committee is responsible for transportation policies, plan review and adoption, and development of programs for plan implementation.

Intermodal Transportation Technical Committee (ITTC) – An advisory committee to the ITPC comprised of technical representatives from each OCARTS entity and representatives of transportation agencies, including staff persons knowledgeable in engineering, planning, and administration. Transportation policies, plans and programs are presented to the ITTC for a recommendation prior to consideration by the ITPC.

Intersection – The place where two roads or paths cross each other. Intersections are classified into three general categories: grade-separated without ramps, grade-separated with ramps (commonly known as interchanges), and at-grade.

ISTEA, Intermodal Surface Transportation Efficiency Act – The Act was signed into law on December 18, 1991, and was effective for a six-year period (federal fiscal years 1992 through 1997). ISTEA resulted in broad changes to the way transportation decisions are made by emphasizing diversity and balance of modes and preservation of existing systems over construction of new transportation facilities. Plans must consider social, environmental, and energy factors in planning, programming and project selection. ISTEA was replaced by TEA-21.

Land Use – The purpose for which land or the structure on the land is being used; for example, residential, commercial, light industry, etc.

Level of Service (LOS) – A set of characteristics that indicate the quality and quantity of transportation service provided. For highway systems, a qualitative rating of the effectiveness of a highway or highway facility in serving traffic in terms of operating conditions. The Highway Capacity Manual identifies operating conditions ranging from A, for best operation (low volume, high speed), to F, for worst conditions.

MAP-21, Moving Ahead for Progress in the 21st Century Act – Provided federal funds for FFY 2013 and FFY 2014 and was signed into law by President Obama on July 6, 2012. This was the first federal transportation bill to establish a new program to provide for a variety of alternative transportation projects that were previously funded through separate programs.

Metropolitan Statistical Area (MSA) – As designated by the U.S. Office of Management and Budget and defined by the U.S. Bureau of the Census, an MSA consists of the central county or counties containing a city or an urbanized area with a population of at least 50,000 and the adjacent or outlying counties that have close economic and social relationships with the central counties, with a total metropolitan population of at least 100,000. The term was adopted after the 1980 census and replaces the term Standard Metropolitan Statistical Area (SMSA).

Metropolitan Planning Organization (MPO) – According to the United States Code, the organization designated by the governor and local elected officials as responsible, together with the state, for transportation planning in an urbanized area. It serves as the forum for cooperative decision making by principal elected officials of general local government. In Central Oklahoma, ACOG serves as the MPO.

Metropolitan Transportation Plan – The official intermodal transportation plan developed and adopted through the Metropolitan Planning Organization's (MPO) transportation planning process; also known as the long-range plan (LRP).

Mode – A means of transporting people and goods, which includes automobiles, transit (i.e. buses, carpooling, HOV lanes, fixed guideway), bicycling, walking, air travel, railroads, waterways, and trucking.

Multimodal – Refers to multiple types of transportation.

Network, OCARTS – In highway engineering, the configuration of major streets and highways that constitutes the regional system.

Nonattainment Area – An area in which levels of a criteria air pollutant do not meet the health-based primary standard (national ambient air quality standard, or NAAQS) for the pollutant. Nonattainment areas are defined using federal pollutant limits set by EPA.

OCARTS – Oklahoma City Area Regional Transportation Study; OCARTS refers to a geographical area within Central Oklahoma (for transportation planning) which includes all of the currently urbanized area plus the surrounding area which is anticipated to become urbanized over the next 20 years. The OCARTS area encompasses all of Oklahoma County and Cleveland County and portions of Canadian, Cleveland, Grady, Logan and McClain Counties.

Output – Something produced, such as the result of an analytical process.

Park and Ride – A system that provides parking for riders at stations of a bus or rail line.

Performance Based Planning and Programming (PBPP) – The application of performance management principles within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the

multimodal transportation system.

Performance Management – A strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

Regional Transit Dialogue (RTD) – An ACOG-initiated visioning process to determine the desire for expanded and enhanced regional public transportation within Central Oklahoma, involving public and private sector leaders, transportation stakeholders, and the public. The RTD was initiated to explore options for regional transit authority creation and governance, dedicated funding sources, effective public transit coordination, and transit supportive development.

Right-of-way (ROW) – A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to transportation purposes.

SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users – Signed into law on August 10, 2005, SAFETEA-LU guarantees funding for highways, highway safety, and public transportation totaling \$244.1 billion. SAFETEA-LU represents the largest surface transportation investment in the nation’s history. The two landmark bills that brought surface transportation into the 21st century—the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21)—shaped the highway program to meet the nation’s changing transportation needs. SAFETEA-LU builds on this firm foundation, supplying the funds and refining the programmatic framework for investments needed to maintain and grow the vital transportation infrastructure.

Scenario Planning – Also known as land use modeling. A process or tool used to identify, test, and evaluate various future development alternatives and their impacts on the transportation system.

Study area – In this study, the transportation study area is synonymous with the OCARTS area; also known as the metropolitan planning area and the transportation management area (TMA).

Surface Transportation Block Grant Program – Urbanized Area (STBG-UZA) – Federal grant funds, made available on an annual basis by the Federal Highway Administration through ODOT, for the implementation of eligible transportation projects within the OCARTS boundary (the urbanized area within Central

Oklahoma).

Superfund – Also known as CERCLA (Comprehensive Environmental Response Compensation and Liability Act). A federal law that provides for compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of hazardous waste disposal sites.

TEA-21, Transportation Equity Act for the 21st Century – TEA-21 was signed into law on June 9, 1998, and was effective for a six-year period (federal fiscal years 1998 through 2003). TEA-21 built upon the initiatives and structure established in ISTEA. New areas of program focus included safety, environmental quality, and ITS research and development. TEA-21 was replaced by SAFETEA-LU.

Traffic Analysis Zone (TAZ) – A special area delineated by local transportation officials for tabulating traffic related data, especially journey-to-work and place of work statistics. A TAZ usually consists of one or one or more census blocks, block groups, or census tracts.

Traffic Count – In transportation, a process that tallies a particular movement of people or vehicles past a given point during a stated time period. It may be a directional or a two-way value.

Transit-Oriented Development (TOD) – Transit-oriented development (TOD) is the functional integration of land use and transit via the creation of compact, walkable, mixed-use communities within walking distance of a transit stop or station. A TOD brings together people, jobs, and services and is designed in a way that makes it efficient, safe, and convenient to travel on foot or by bicycle, transit, or car.

Transportation Alternatives Program (TAP) – A part of the Surface Transportation Block Group Program (STBG), a set-aside of the FAST Act. This set-aside provides federal funding for projects pertaining to alternative modes of transportation, particularly bicycles and pedestrians, but also for public transportation.

Transportation Demand Management (TDM) – Tools and programs designed to maximize the people-moving capability of the transportation system by increasing the number of people in each vehicle, by promoting alternative modes of transportation, or by influencing the time of, or need to travel. To accomplish these demand-side changes, TDM programs must rely on

incentives or disincentives to make the shifts in behavior attractive. Specific TDM strategies involve employer-based support, telecommunications, land use policies, and public policy such as pricing or other regulation.

Transportation Improvement Program (TIP) – The TIP is a financially constrained short-range document that lists specific projects to be implemented within the transportation planning area. Projects included in the TIP must be consistent with the long-range plan, and inclusion of projects in the TIP is a requirement for the use of federal transportation funding.

Transportation Management Area (TMA) – An urbanized area over 200,000 in population as determined by the latest decennial census. The TMA designation applies to the entire Metropolitan Planning Area.

Transportation System Management (TSM) – That part of the urban transportation planning process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short term, low capital transportation improvements that generally cost less and can be implemented more quickly than large, capital intensive options.

Travel Demand Modeling or Travel Forecasting – Used by transportation planners for simulating current travel conditions such as roadways, transit, and high-occupancy vehicles. Models help planners and policymakers analyze the effectiveness and efficiency of alternative transportation investments in terms of mobility, accessibility, and environmental and equity impacts.

Trip – A one-way movement of a person or vehicle between two points for a specific purpose; sometimes called a one-way trip to distinguish it from a round trip.

Trip purpose – The primary reason for making a trip; for example, work, shopping, medical appointment, recreation.

Unified Planning Work Program (UPWP) – The annual management plan for a metropolitan planning program designed to coordinate the planning activities of all participants in the planning process.

Urban transportation planning process – The federally required planning process for urbanized areas that is aimed at developing programs to meet a region’s transportation needs by analyzing the existing system and preparing plans and studies in a comprehensive, continuing, and cooperative

manner. Also known as the metropolitan planning process, it results in several documents including a unified planning work program (UPWP), a transportation improvement program (TIP), and a long-range regional transportation plan (LRP).

Urbanized Area (UZA) – An area that contains a city of 50,000 or more population plus surrounding area meeting density criteria as defined by the U.S. Census Bureau.

Vehicle Hours of Travel (VHT) – On roadways, a measurement of the total hours traveled by all vehicles in the area for a specified time period. It is calculated by multiplying the number of vehicles times the number of hours traveled in a given area or on a given roadway during the time period.

Vehicle Miles of Travel (VMT) – On roadways, a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by multiplying the number of vehicles times the number of miles traveled in a given area or on a given roadway during the time period. In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.

Volume – In transportation, the number of units (passengers or vehicles) that pass a point on a transportation facility during a specified interval of time, usually one hour.

Volume to Capacity Ratio (V/C Ratio) – A measure of the congestion level of streets and highways which compares the vehicular carrying capacity of a roadway with the actual volume of vehicles which travel the roadway, within a specified period of time.

Year of Expenditure (YOE) – Cost estimates that reflect inflation rate(s) anticipated for a future year or group of years. YOE dollars are required under SAFETEA-LU to demonstrate financial constraint of the metropolitan long-range plan and TIP.

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ACRONYMS AND ABBREVIATIONS

- AA Alternatives Analysis
- AASHTO American Association of State Highway
Transportation Officials
- ACOG Association of Central Oklahoma
Governments
- ADA Americans with Disabilities Act of 1990
- ADT Average Daily Traffic
- APTAC Areawide Planning and Technical

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|--------|---|--------|--|
| | Advisory Committee | FGS | Fixed Guideway Study |
| ARRA | American Recovery and Reinvestment Act | FHWA | Federal Highway Administration |
| AV/CV | Autonomous and Connected Vehicles | FRA | Federal Railroad Administration |
| AVL | Automated Vehicle Location | FTA | Federal Transit Administration |
| B/C | Benefit to Cost Ratio | FTZ | Foreign Trade Zone |
| BEA | Bureau of Economic Analysis | FY | Fiscal Year |
| BIA | Bureau of Indian Affairs | GAM | Growth Allocation Model |
| BL | Bike Lane | GIS | Geographic Information Systems |
| BPS | Bicycle Path Shared with Pedestrians/Multi-Use Trail | HOV | High Occupancy Vehicle |
| BR | Bridge Replacement and Rehabilitation (replaced by NHPP) | HSIP | Highway Safety Improvement Program |
| BRT | Bus Rapid Transit | IMS | Intermodal Management System |
| CAA | Clean Air Act | IM | Interstate Maintenance |
| CAAA | Clean Air Act Amendments of 1990 | ISTEA | Intermodal Surface Transportation Efficiency Act (1991) |
| CAC | Citizens Advisory Committee | ITPC | Intermodal Transportation Policy Committee |
| CART | Cleveland Area Rapid Transit | ITS | Intelligent Transportation Systems |
| CBD | Central Business District | ITTC | Intermodal Transportation Technical Committee |
| CCS | Commuter Corridors Study | JARC | Jobs Access and Reverse Commute |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | LAST | Leaking Aboveground Storage Tank |
| CMP | Congestion Management Process | LOS | Level of Service |
| CMAQ | Congestion Mitigation and Air Quality Improvement Program | LPA | Locally Preferred Alternative |
| COTPA | Central Oklahoma Transportation and Parking Authority | LRP | Long Range (Transportation) Plan |
| CR | Commuter Rail Transit | LUST | Leaking Underground Storage Tank |
| CTPP | Census Transportation Planning Package | MAP-21 | Moving Ahead for Progress in the 21st Century Act (2012) |
| CVO | Commercial Vehicle Operations | MOU | Memorandum of Understanding |
| CY | Calendar Year | MPO | Metropolitan Planning Organization |
| DEIS | Draft Environmental Impact Statement | MSA | Metropolitan Statistical Area |
| DMS | Dynamic Message Signs | MTP | Metropolitan Transportation Plan |
| EIS | Environmental Impact Statement | NAAQS | National Ambient Air Quality Standard |
| ENHS | Enhanced National Highway System | NAFTA | North American Free Trade Agreement |
| EPA | Environmental Protection Agency | NEPA | National Environmental Policy Act |
| ER | Emergency Relief | NHPP | National Highway Performance Program |
| FAA | Federal Aviation Administration | NF | New Freedom |
| FAST | Fixing America's Surface Transportation Act (2015) | NHS | National Highway System |
| FFY | Federal Fiscal Year | NHTS | National Household Travel Survey |
| | | NOX | Nitrogen Oxides |
| | | NTD | National Transit Database |

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|----------------------|---|-------------------------|--|
| OCARTS | Oklahoma City Area Regional Transportation Study | Economic Recovery Grant | |
| ODEQ | Oklahoma Department of Environmental Quality | TIM | Traffic Incident Management |
| ODOC | Oklahoma Department of Commerce | TIP | Transportation Improvement Program |
| ODOT | Oklahoma Department of Transportation | TMA | Transportation Management Area |
| OESC | Oklahoma Employment Security Commission | TOD | Transit Oriented Development |
| OTA | Oklahoma Turnpike Authority | TRB | Transportation Research Board (of the National Academy of Sciences) |
| PBL | Protected Bike Lane | TSM | Transportation Systems Management |
| RTDM | Regional Travel Demand Model | TDF | Travel Demand Forecasting |
| PBPP | Performance Based Planning and Programming | TTI | Travel Time Index |
| PPP | Public Participation Plan | TTRI | Travel Time Reliability Index |
| RTA | Regional Transit Authority | TTTRI | Truck Travel Time Reliability Index |
| RTD | Regional Transit Dialogue | UPWP | Unified Planning Work Program |
| ROW | Right-of-Way | USC | United States Code |
| SAFE-T | Statewide Analysis for Engineering & Technology | USDOT | United States Department of Transportation |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005) | UZA | Urbanized Area |
| SIC | Standard Industrial Classification | V/C | Volume-to-Capacity Ratio |
| SH | Bicycle Route using Roadway Shoulder | VHT | Vehicle Hours of Travel |
| SHSP | State Highway Safety Plan | VMT | Vehicle Miles of Travel |
| SOR | Signed-on-Road Bicycle Route | YOE | Year of Expenditure |
| SOV | Single Occupancy Vehicle | | |
| SPR | State Planning and Research Program | | |
| SRTS | Safe Routes to School | | |
| STBG-UZA | Surface Transportation Block Grant Program Urbanized Area (Formerly STP) | | |
| STIP | Statewide Transportation Improvement Program | | |
| TAP | Transportation Alternatives Program | | |
| TAZ | Traffic Analysis Zone | | |
| TCSP | Transportation, Community, and System Preservation Program | | |
| TDM | Transportation Demand Management | | |
| TEA-21 | Transportation Equity Act for the 21st Century (1998) | | |
| TIF | Tax Increment Financing | | |
| TIGER | Transportation Investment Generating | | |

Ecomopass 2040 Project Amendments:

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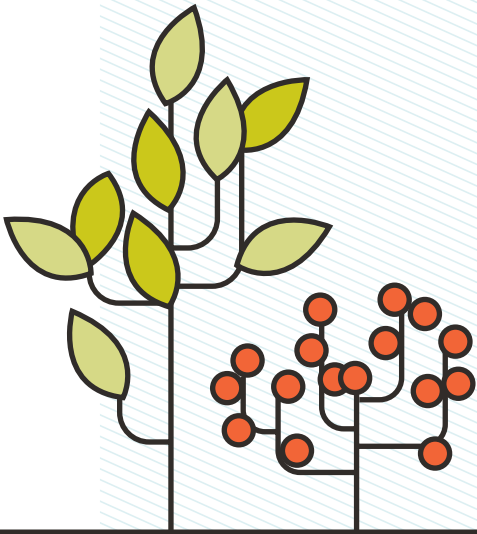
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Preparation of this report was financially aided through funds provided by the U.S. Department of Transportation (Federal Highway Administration and Federal Transit Administration), the Oklahoma Department of Transportation, and local governments.

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