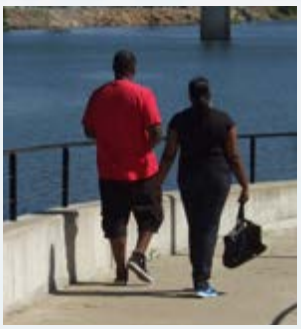
IMAGINE CENTRAL ARKANSAS

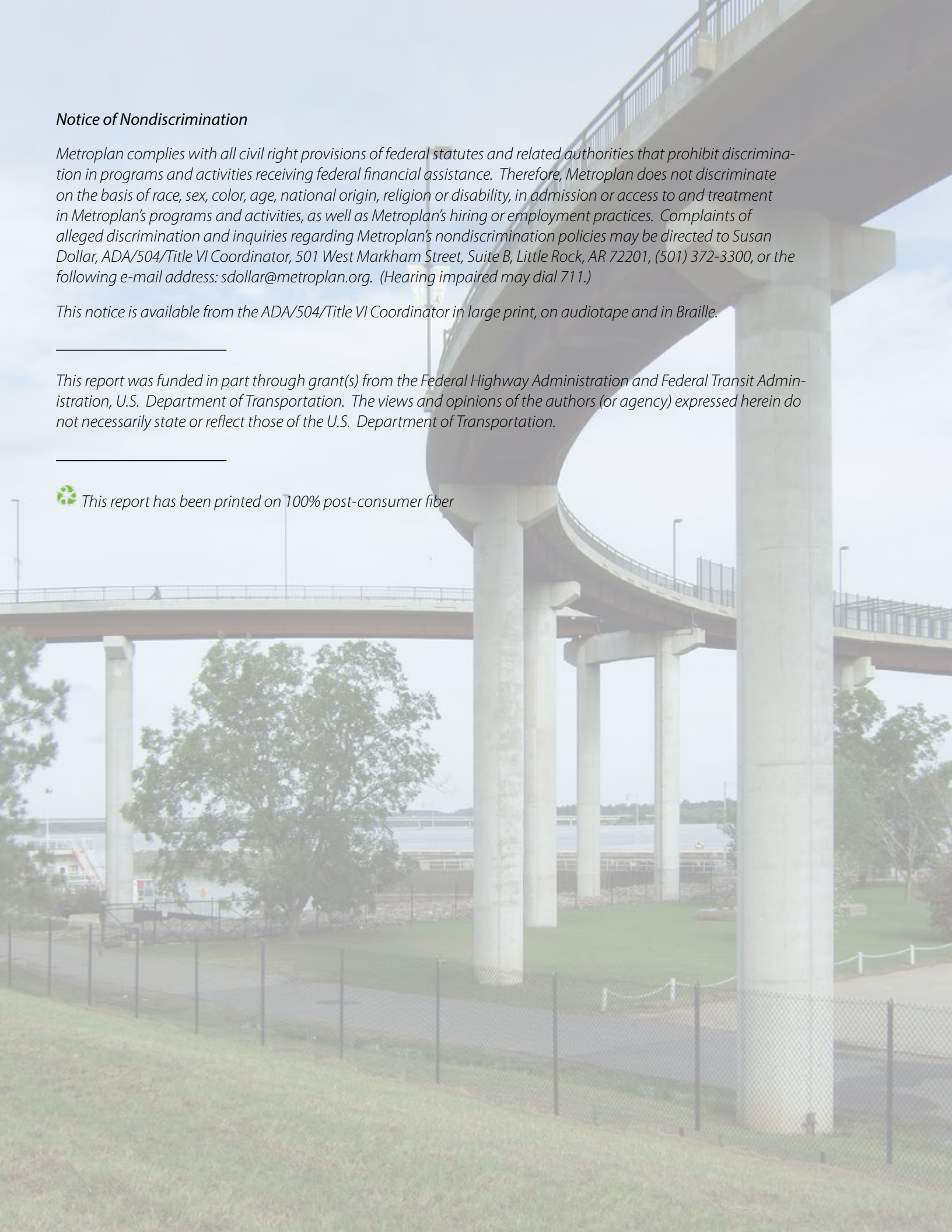
Blueprint for a Sustainable Region

December 2014



METROPLAN
SMART PLANNING MAKES SMART PLACES

IMAGINE CENTRAL ARKANSAS
Plan Smart. Live Smart.



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What oil was to the 20th century, water will be to the 21st century.
– Jim McKenzie, Executive Director, MetroPlan

Chapter 1. Executive Summary

"*Imagine Central Arkansas*: Blueprint for a Sustainable Region" is the culmination of more than two years' worth of outreach and engagement with residents, businesses, community leaders, government agencies and others who call central Arkansas home. The end result is a broad, long-term vision for our shared future and more specific goals, objectives and strategies for achieving the vision.

Imagine Central Arkansas represents the current incarnation of the Long Range Metropolitan Transportation Plan (LRMTP) with the year 2040 as the planning horizon, but adds the sustainability principles that guide economic development, housing, health and safety and the environment in addition to transportation. Thus, while *Imagine Central Arkansas* is a broad visioning and strategic planning effort, it also includes a very focused set of elements, including the identification of transportation projects, forecast of available revenue and prioritization of transportation projects based on available revenue.

1.1 State of the Region

Central Arkansas is rich in culture, history and resources. Recently ranked among the nation's top ten in both jobs (Forbes) and value (Kiplinger), our region is a great place to live.

The region's population is expected to reach almost one million people by the year 2040. With this coming growth are a number of challenges that must be addressed:

- Significant shifts in demographics, most notably by an aging baby boomer population and a younger generation of "millenials," each seeking new housing choices and lifestyle options different from what is most present within the region today;
- A reliance on the automobile for most of our daily needs and a lack of transportation options, in which a majority of central Arkansans do not have access to transit or adequate bicycle and pedestrian facilities;
- Significant household transportation costs created by long commutes and lack of options, leaving many in our region vulnerable to spikes in fuel cost;
- Expanding growth and development and increased automobile use, which threatens central Arkansas' prized natural resources, and
- Development patterns and infrastructure patterns that are unsustainable given the growing gap between the region's needs and our ability to pay for them.

What does the future hold? In the past 100 years we have seen the removal of a regional trolley and bus

What Do Central Arkansans Value?

Natural and civic spaces.

Places to **connect** and play.

Safe, family-friendly.

Choice in **transportation** (transit, walking, bicycling).

Economy/ affordability, quality of life.

Based on responses collected through the website, social media and face-to-face outreach. See Appendix B for more information.

system only to see them return in recent years. In the past 50 years, we have seen a small collection of roads become a series of highly functioning freeways that connect all parts of our region. In the past 20 years we have seen the emergence of a linked park and trail system, including the construction/ conversion of three pedestrian/bike only bridges across the Arkansas River, the envy of many metropolitan regions.

As we look to the future, what has become apparent is that tomorrow will be much different from today. Our future will be shaped more by internal population shifts, changing technology, environmental issues, the global economy, and the region's ability to adapt to these changes than from the conventional business-as-usual philosophy. How we respond to these challenges will determine, in large part, Central Arkansas' ability to thrive as a region.

1.2 A Vision Confirmed

By design, *Imagine Central Arkansas* aspires to cast a broad, regional vision. This was achieved by encouraging residents and stakeholders to "imagine" what our region could become, not just tomorrow or next year, but a generation from now.

The result is a vision for central Arkansas that maintains what we value about our region — quality of life, natural and civic places — and aspires to achieve more — a real multi-modal transportation system that provides a multitude of travel options and a healthy, robust economy while still maintaining affordable living standards.

1.3 Key components of the Regional Vision include:

- Central Arkansans were clear that *Imagine Central Arkansas* must address the region's livability (quality of life) and how to sustain it for the future. The clarity is compelling, but it is not new. The responses gathered during outreach reaffirmed the aspirations articulated by the public since 1992, when METRO 2020 was developed. Twenty-one years later, citizens

clearly remain focused on implementing that vision. A pattern of compact, mixed-use development that varies in both scale and function, shaped by a regional transit network, with defined activity nodes along corridors and supported by a mix of walkable neighborhoods, suburban and rural areas.

- A competitive economy that encourages business investment, and increases residents' educational opportunities, security and quality of life.
- Safe, affordable, energy-efficient, widely available and accessible neighborhoods that offer a variety of housing and transportation choices.
- A balanced approach to mobility which focuses first on maintaining our existing transportation network by building-out the regional freeway system to a maximum of six through-lanes, and secondly meeting additional travel demand beyond that with improved arterial capacity, complemented with a fully integrated regional transit, bicycle and pedestrian network.
- A clean environment that secures quality resources (water, land and air) and enhances health and safety by encouraging active movement and community interaction.The clarity of the public's vision for central Arkansas is compelling, but it is not new. The responses gathered during this planning effort reaffirmed the aspirations articulated since 1992, when METRO 2020 was developed. Twenty-one years later, citizens clearly remain focused on implementing that vision.

1.4 Long Range Metropolitan Transportation Plan

Imagine Central Arkansas is the culmination of work by the *Imagine Central Arkansas* Partners (ICAP)and the Regional Planning Advisory Council (RPAC) to craft a long-range Vision for the future of central Arkansas. In order to make the Vision a reality, however, it must be given life through the devel-

Figure 1-1. Plan Development Process

opment of a plan that is equal parts practical and aspirational.

The 2040 Long Range Metropolitan Transportation Plan (LRMTP) serves that purpose for *Imagine Central Arkansas*. In addition to meeting federal requirements, the LRMTP serves as the launch point for implementation of *Imagine Central Arkansas* including specific projects, policies, actions and other recommendations.

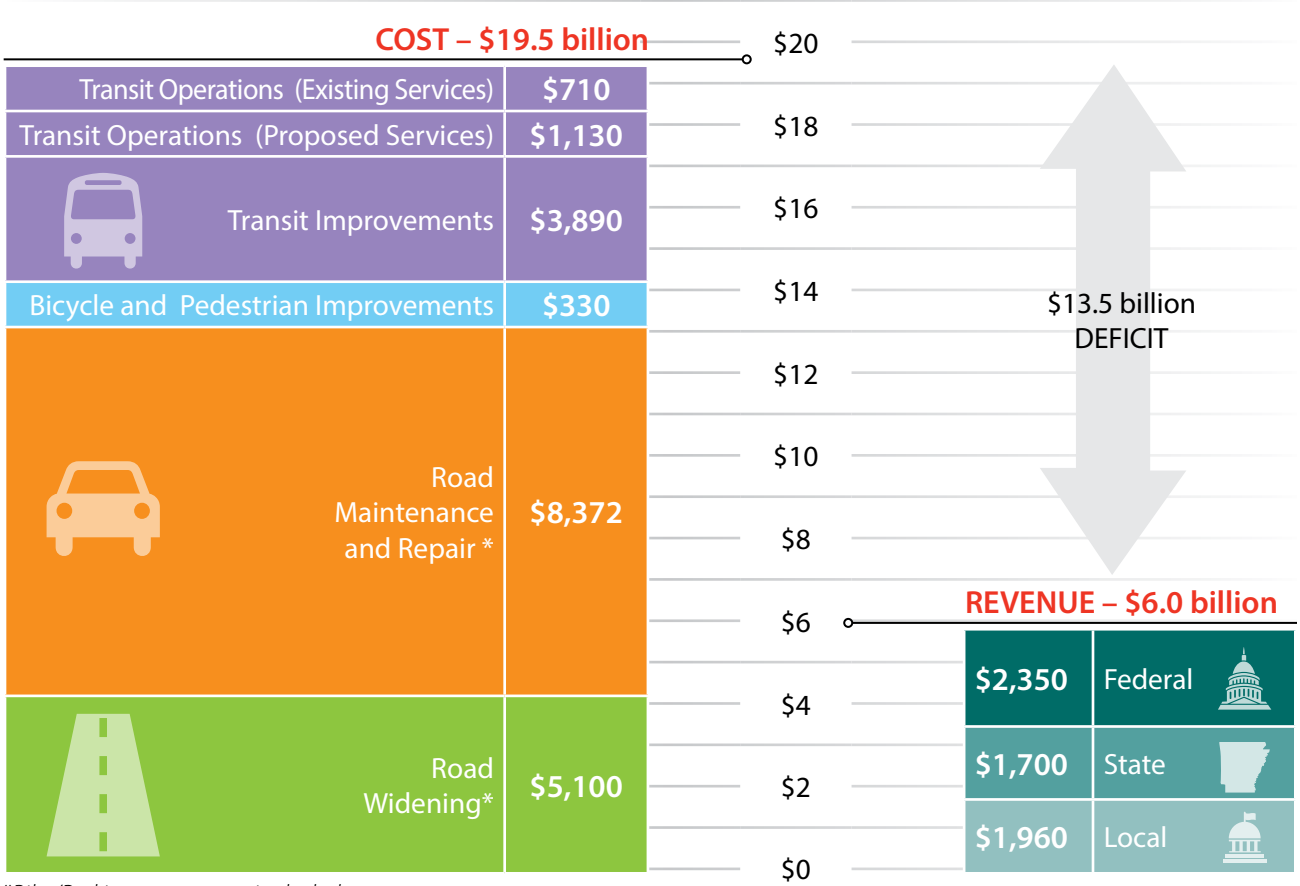
Perhaps the biggest issue surrounding the LRMTP is costs. Costs to maintain the current transportation system and to build infrastructure to implement the Vision far exceeds projected revenue from conventional sources. As a result, tough choices were made to arrive at a financially feasible plan. The LRMTP identifies specific sources of revenue, as well as project priorities for new funding should it become available during the planning horizon.

The results of the financial analysis clearly demonstrate a significant gap between what is necessary to achieve the Regional Vision and the financial resources available to the CARTS area between now and 2040. Integral to closing this resource gap is the need to prioritize investments of currently available resources and those that may become available during the course of the Plan.

The prioritization strategy endorsed by the Regional Planning Advisory Council is a relatively simple one:

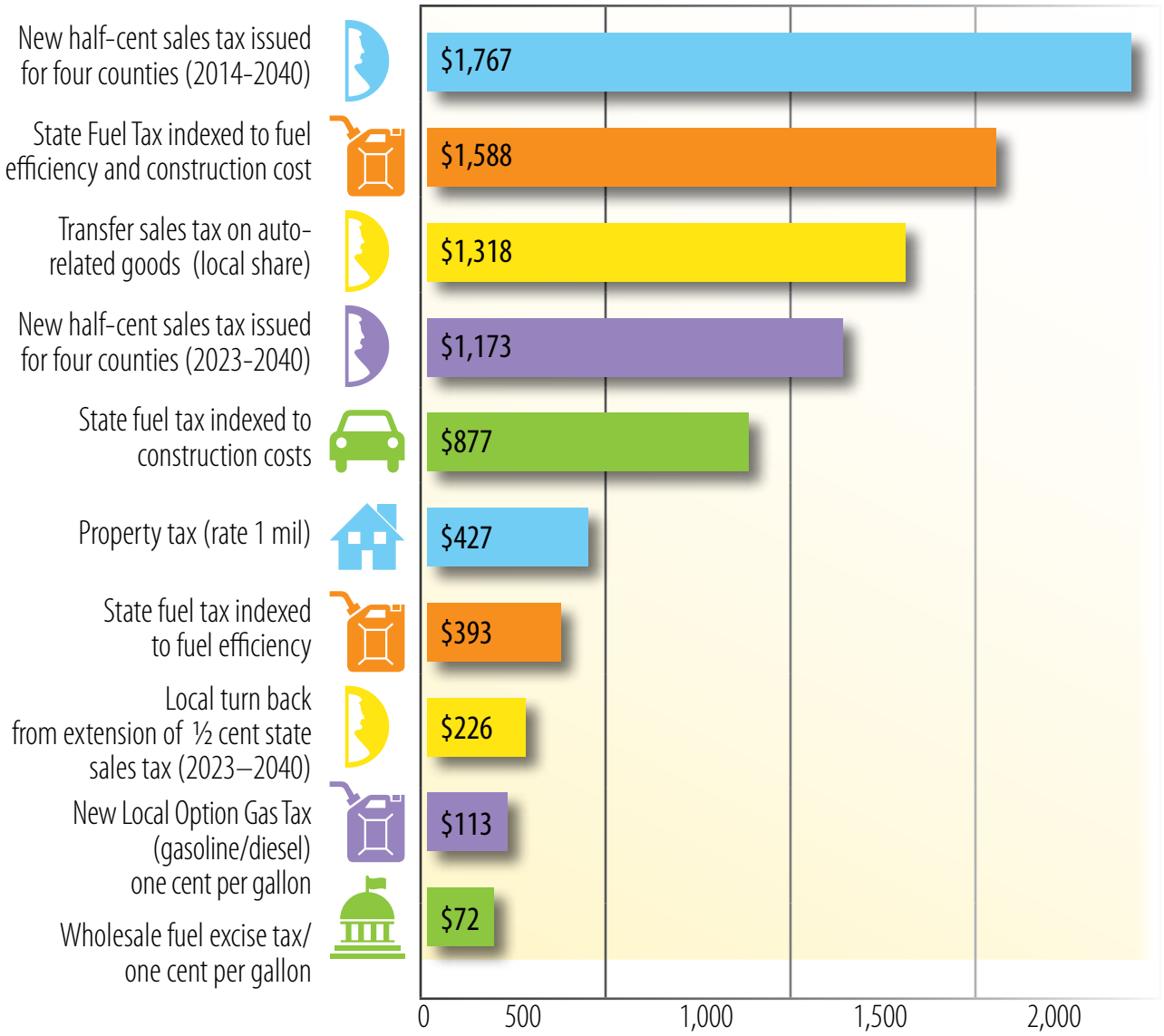
- First Priority: Cover our existing obligations. There are a number of projects that were generated prior to the development of the LRMTP. In essence, these projects were already "in the pipeline" and should be followed through to completion. They include projects in the 2013-2016 Transportation Improvement

Figure 1-2. Cost versus Revenue 2014 to 2040 (millions)



*Bike/Ped improvements included

Figure 1-3. 2014-2040 Revenue Potential of Various Sources (millions)



Program, AHTD's Connecting Arkansas Program (CAP) half-cent sales tax program and Interstate Rehabilitation Program and a small number of others.

- Second Priority: Maintain what we've already built. Central Arkansas has a significant investment in transportation infrastructure, which must be kept in good, working order. This includes routine maintenance of interstates, arterials and local streets, maintaining existing CATA service, plus major rehabilitation needs that will occur between the adoption of this plan and 2040. Given the condition of the aging infrastructure within the region, future emphasis must be placed on providing additional funding to maintain these systems.
- Third Priority: New project commitments should focus on optimization projects, which typically are lower cost.
- Fourth Priority: New revenue sources for new major projects that require significant resources to build and maintain

Figure 1-4.
Overview of Prioritization Strategy

1.5 Implementing the Plan

Central Arkansans have expressed a desire to pursue a balanced, seamless multimodal transportation system that supports both people and goods. A balanced system stands in contrast to a transportation system that is improved, only by a selected segment or mode without consideration of the system's overall function, which must be optimized as well.

Figure 1-5. LRMTP Funding Allocation Summary

FINANCIALLY CONSTRAINED PLAN

$6.0 Billion

Ten-Year Project List ($1.1 billion)

- TIP projects
- CAP Projects
- IRP projects
- Other projects

Existing CATA Service ($550 million)

Roadway Maintenance ($4.3 billion)

UNFUNDED PROJECTS

$13.5 Billion

Unfunded Maintenance ($4.1 billion)
(including maintenance needs for unbuilt projects)

Freeway Projects ($1.6 billion)

RAN/Arterial Projects ($2.3 billion)

Regional Transit Projects ($4.5 billion)

Local Transit Expansion ($544 million)

Bicycle and Pedestrian Projects ($330 million)

Figure 1-6. Ten Year Project Priority List (TIP, CAP and IRP Projects)

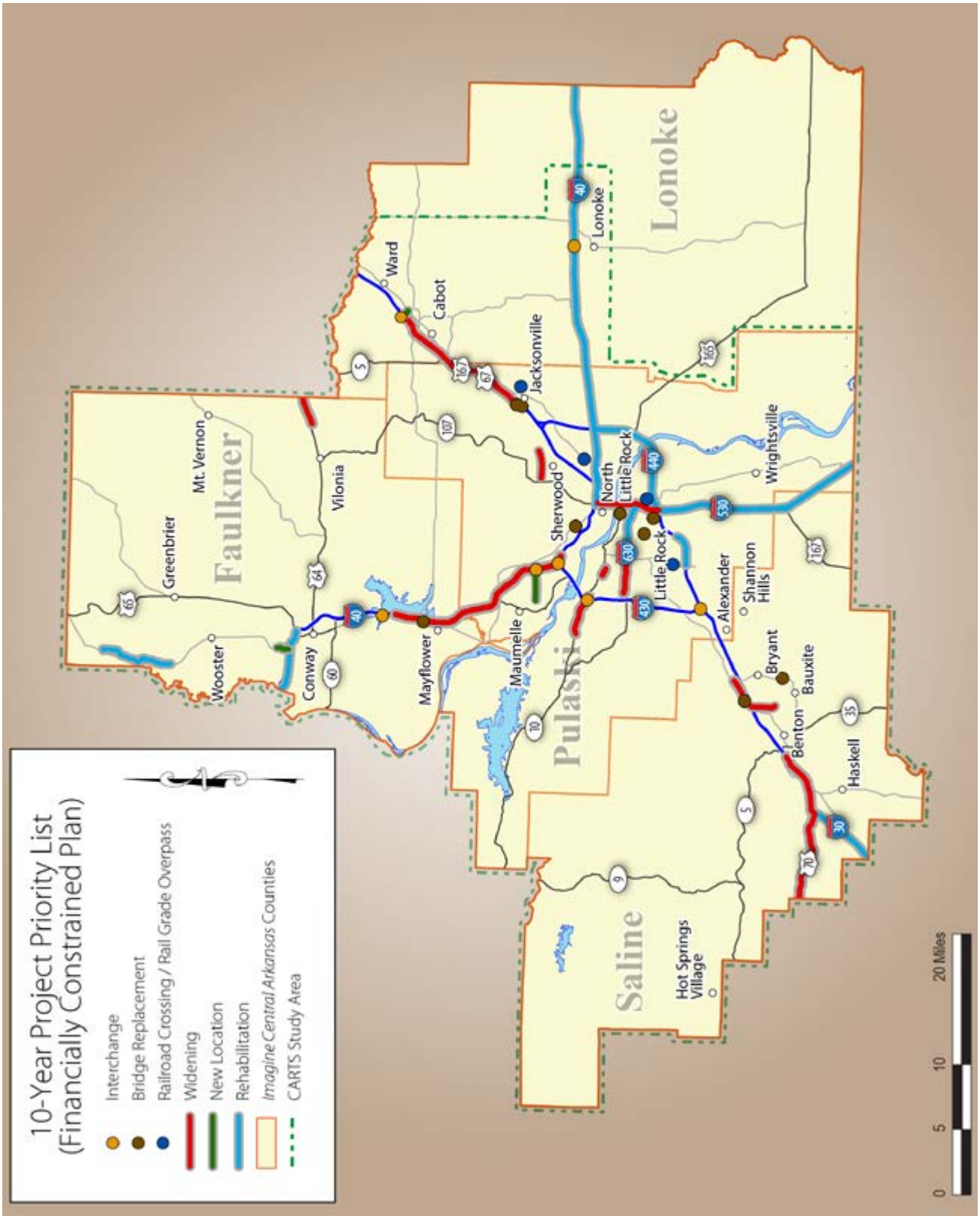


Figure 1-7. Collaboration, Organization, Policy Recommendations and Actions

Collaboration/Organization

- Communicate/collaborate regularly with community and business leaders, beginning with a Regional Forum.
- Encourage local governments to support the Regional Vision through regular communication, programs and education/resources.
- Reconvene the Transportation and Land Use Subcommittee/Working Groups to support the implementation of Imagine Central Arkansas.
- Continue to form and expand relationships with chambers of commerce and other economic development interests across the region.
- Reconvene the Freight Subcommittee/Working Group to evaluate the impact of projects on freight movement as part of future TIP development efforts.

Policy Recommendations

- Focus first on addressing maintenance before committing to new capacity projects.
- Include the full lifecycle cost - ongoing maintenance and repair/replacement – of projects.
- Discourage adopting any new projects as part of the Financially Constrained Plan until new revenue sources have been identified.
- Favor strategies to improve the operation of existing facilities over new and expanded facilities.
- Give formal priority in the TIP and elsewhere to corridors that provide for a balance of modes, are high-quality, aesthetically pleasing and are responsive to the surrounding context and local land use plans.
- Give formal priority in the TIP and elsewhere to corridors that provide for the safe movement of central Arkansas' motor vehicles, pedestrians, cyclists and transit riders.
- Consider projects that directly support the movement of freight, provide access to freight facilities and support intermodal connections during TIP development.
- Provide additional maintenance funding for our aging infrastructure.

Actions

- Create and support local government initiatives that result in efficient transportation and land use patterns.
- Begin pursuit of new revenue sources in earnest beginning with the one that shows the most immediate promise in terms of revenue potential, public and political receptiveness and administrative feasibility.
- Participate in a scientific survey to more accurately gauge the public's receptiveness to new revenue sources.
- Continue to pursue the formation of a Regional Mobility Authority.
- Promote designs that incorporate elements for all transportation modes.
- Complete identified rail grade separations by 2020.
- Update and deploy Regional ITS Architecture by 2020.
- Complete the 88-mile Arkansas River Trail by 2020.
- Continue to develop corridor-level access management plans and regional guidelines for the Regional Arterial Network.


I imagine
Central Arkansas...
No pollution, no smog
And fueled by natural
gas.
IMAGINE
CENTRAL
ARKANSAS

Life is one big road with lots of signs . . . don't bury your thoughts, put your vision to reality.
– Bob Marley

Chapter 2. Introduction

2.1 *Imagine Central Arkansas*: A Long Term Vision

Do you ever find yourself daydreaming about what the future may hold? Perhaps you wonder what you'll be doing or where you'll be 20 or 30 years from now.

Imagine Central Arkansas is not a daydream. This plan is a blueprint for building a future that turns the vision into a reality for the 700,000-plus people who call central Arkansas home. The Plan embodies the region's aspirations and sets forth the Vision in which our children and grandchildren will work, live and play. In other words, *Imagine Central Arkansas* attempts to achieve maximum livability — quality of life — and sustain it for generations to come.

This document is the culmination of more than two years of outreach and engagement with residents, businesses, community leaders, government agencies and other entities who share a common passion for preserving our region's rich culture and history, while providing transportation choices that contribute to quality growth and a vibrant economy. The end result is a broad, long term vision for our shared future and more specific goals, objectives and strategies for achieving the vision.

Who is Metroplan?

Metroplan serves as the Metropolitan Planning Organization (MPO) for the central Arkansas urbanized area and is responsible for the Long Range Metropolitan Transportation Plan (LRMTP) and Transportation Improvement Program (TIP). The LRMTP and TIP are the two primary documents for coordinating federal, state and local transportation dollars and are mandated by federal law.

Beyond the LRMTP and TIP, Metroplan oversees a host of regional initiatives. It was formed in 1955 (as the Metropolitan Area Planning Commission) by local political and civic leaders and counts among its member agencies five counties, 25 cities (spanning five counties), the Central Arkansas Transit Authority (CATA) and the Arkansas State Highway and Transportation Department (AHTD).

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SMART PLANNING MAKES SMART PLACES

2.2 A Sustainable Region

In Fall 2011, Metroplan received a grant from the US Department of Housing and Urban Development to develop a regional plan that integrates sustainable practices, "A Blueprint for a Sustainable Region". Funds from this $1.4 million grant were used to assist in the development of our plan, *Imagine Central Arkansas*, with a focus on sustainability as expressed in the six "Livability Principles" that were adopted by HUD, the EPA and DOT. Those principles are:

- Provide more transportation choices.
- Promote equitable, affordable housing.

- Enhance economic competitiveness.
- Support existing communities.
- Value communities and neighborhoods.
- Coordinate policies and leverage investment.

The **Imagine Central Arkansas Partners (ICAP)** is a coalition of government agencies, businesses, universities, economic development organizations, non-profits and others, tasked with overseeing this process. The ICAP works with the RPAC in integrating plan elements.

2.3 Year 2040 Long Range Metropolitan Transportation Plan

Metroplan develops a federally-mandated Long Range Metropolitan Transportation Plan (LRMTP) covering a 25 year horizon that is updated every four to five years. A primary function of the LRMTP is to allocate limited financial resources to specific transportation projects, referred to as the financially constrained plan.

Imagine Central Arkansas represents the current incarnation of the LRMTP and has a year 2040 planning horizon. *Imagine Central Arkansas* is a broad visioning and strategic planning effort, which also includes a focused set of elements, including identification of transportation projects, forecast of available revenue, and prioritization of projects based on available revenue.

2.4 A Little More Detail

When we say "central Arkansas," we're referring to a four-county area that includes Faulkner, Lonoke, Pulaski and Saline Counties. These are the four counties represented in the Central Arkansas Regional Transportation Study (CARTS), the formally-designated area for which Metroplan is required by federal law to address transportation issues and needs.

Oversight of *Imagine Central Arkansas* was provided by the **Regional Planning Advisory Council (RPAC)**, a citizen-led advisory group body appointed by Metroplan's Board of Directors and individual member agencies. The RPAC met regularly with the ICAP during the course of this planning process to shape and direct Imagine Central Arkansas and the LRMTP. Specifically, the RPAC is responsible for direction and oversight of public engagement and overall plan development.

The **Technical Coordinating Committee (TCC)** provides assistance to the RPAC in addressing technical aspects of plan development. The TCC is composed of professional planners and engineers appointed by Metroplan member jurisdictions. The TCC is responsible in part for plan implementation through the Transportation Improvement Program (TIP) and ongoing review of studies as part of plan implementation.

2.5 This Document

This document is intended to capture the process, results and recommendations behind *Imagine Central Arkansas* and the LRMTP. It includes five distinct elements:

Chapter 3. History and Background — A brief history of our region and our planning legacy.

Chapter 4. State of Region — A snapshot of where central Arkansas stands, to form a basis for decisions about our future.

Chapter 5. *Imagine Central Arkansas*: A Long Term Sustainable Vision — A description of what we would like to become, shaped by hundreds of voices from across the region.

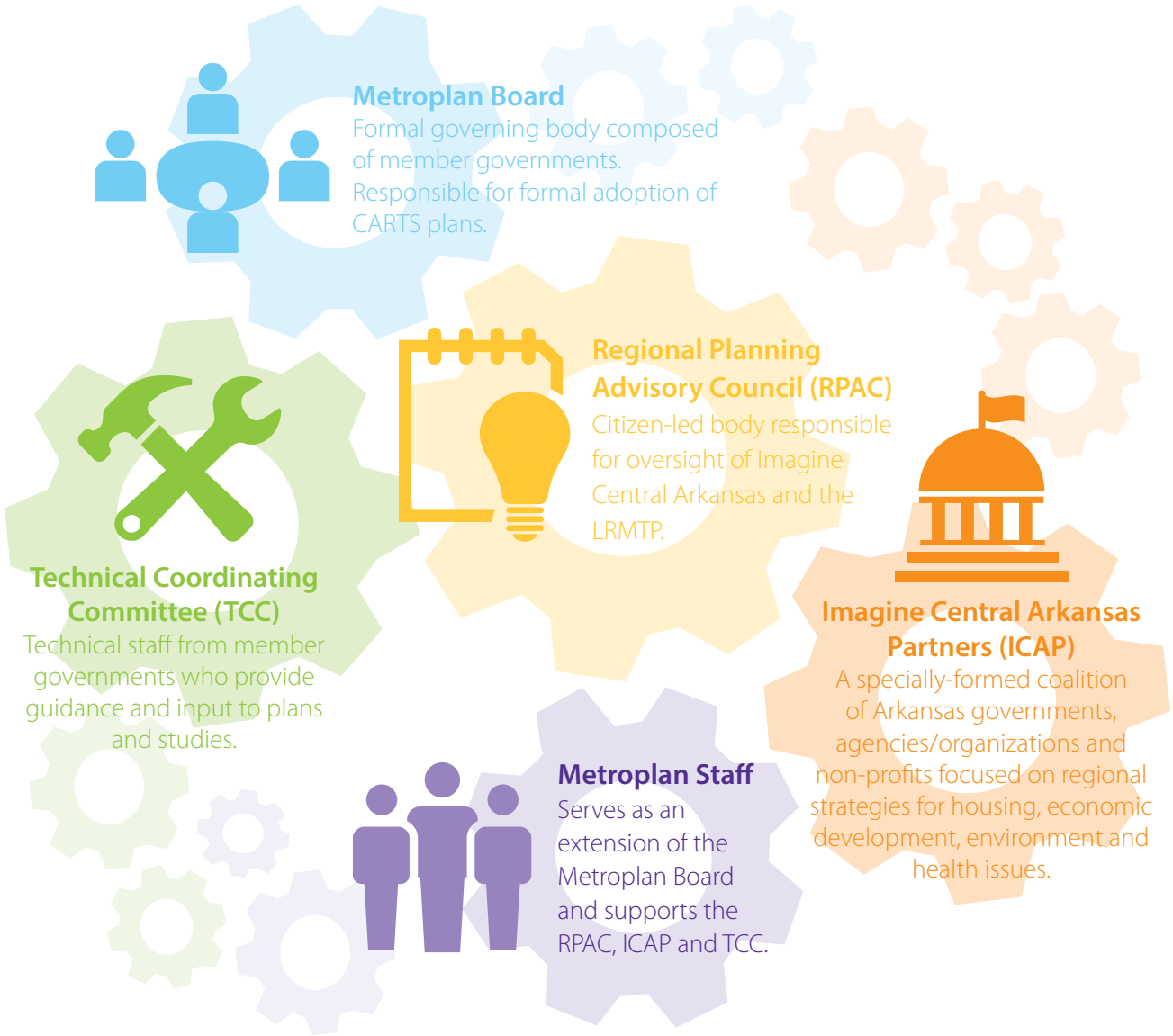
Figure 2-1. CARTS Study Region

Chapter 6. Charting the Course — An informed look at our future under current policy and practice, and how we might change for the better.

Chapter 7. Long Range Metropolitan Transportation Plan — Putting the plan into focus with thoughtful consideration of conventional resources, potential new resources, regional priorities and strategies for implementation.

Appendices — Further reading, for those interested in additional detail.

Figure 2-2 Organization Chart *(reflecting interaction between committees)*



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Central Arkansas Transit Authority

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BROWN, Bobby	City of Little Rock
CARTER, Shane	Clinton National Airport
CHAFFIN, Sam	City of Benton
COOK, Marcia	City of Sherwood
COUGHLIN, Kelly (Inactive)	City of Cabot
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Vacant	Union Pacific Railroad
FINN, Lawrence	Pulaski County
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LEDBETTER, Mark	Faulkner County
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TAYLOR, Regina	Youth Outreach / Girl Scouts
UEDA, Nao	Sustainability & Environment
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Imagine Central Arkansas Partners (ICAP)

ORGANIZATION

AARP
ACHANGE
Arkansas Center for Health Improvement (UAMS)
Arkansas Coalition for Obesity Prevention (ArCOP)
Arkansas Department of Health (ADH)
Arkansas Energy Office
Benton Public Housing Authority
Boys and Girls Clubs of Central Arkansas
Central Arkansas Planning and Development District (CAPDD)
Central Arkansas Transit Authority (CATA)
City of Conway
City of Little Rock
City of North Little Rock
Clinton School of Public Service
Hendrix College
Housing Arkansas
Metroplan
Metropolitan Housing Alliance (MHA)
North Bluffs Development Corporation
Pulaski County
Pulaski County Brownfields
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University of Central Arkansas (UCA)
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Members of the RPAC and ICAP contributed to the Imagine Central Arkansas process.

Source: Arkansas Studies Institute. Capital Avenue, Little Rock, circa 1959.

Chapter 3. History and Background

The Arkansas River Valley cuts through the highlands of north and west Arkansas until it meets the lowlands of south Arkansas and the Mississippi River Valley alluvial plain. At this crossroads, in the center of the state, lies Little Rock, Arkansas' capital city.

The region has been a meeting place since prehistoric times. The four-county area served as a frontier rendezvous among the Quapaw, Osage, and Caddo Native Americans. French explorer Bernard de La Harpe explored the Arkansas River valley in 1722. The original site of Little Rock had the first small rock out-cropping formation visible along the river traveling west, hence its name.

Much of Arkansas' political and economic history can be understood as an interplay between the highlands and the lowlands, with central Arkansas serving as a political and trading center. What is now the metropolitan area has always been Arkansas' principal urban center, the physical growth of which has been very much influenced by the geography of its location.

3.1 History of Planning

3.1.1 PRE ISTEA

Metroplan was created in 1955 by local political and business leaders to plan for long-term public infrastructure to support the regional economic growth.

In 1957, Metroplan completed the first regional comprehensive development plan. The 1957 plan (Figure 3.1) was prescient in several ways, in that many of the elements from it and subsequent plans have been implemented, often decades later. Other recommendations from the plan continue unrealized, and others have been replaced as technological advances make changes advisable.

3.1.2 POST ISTEA

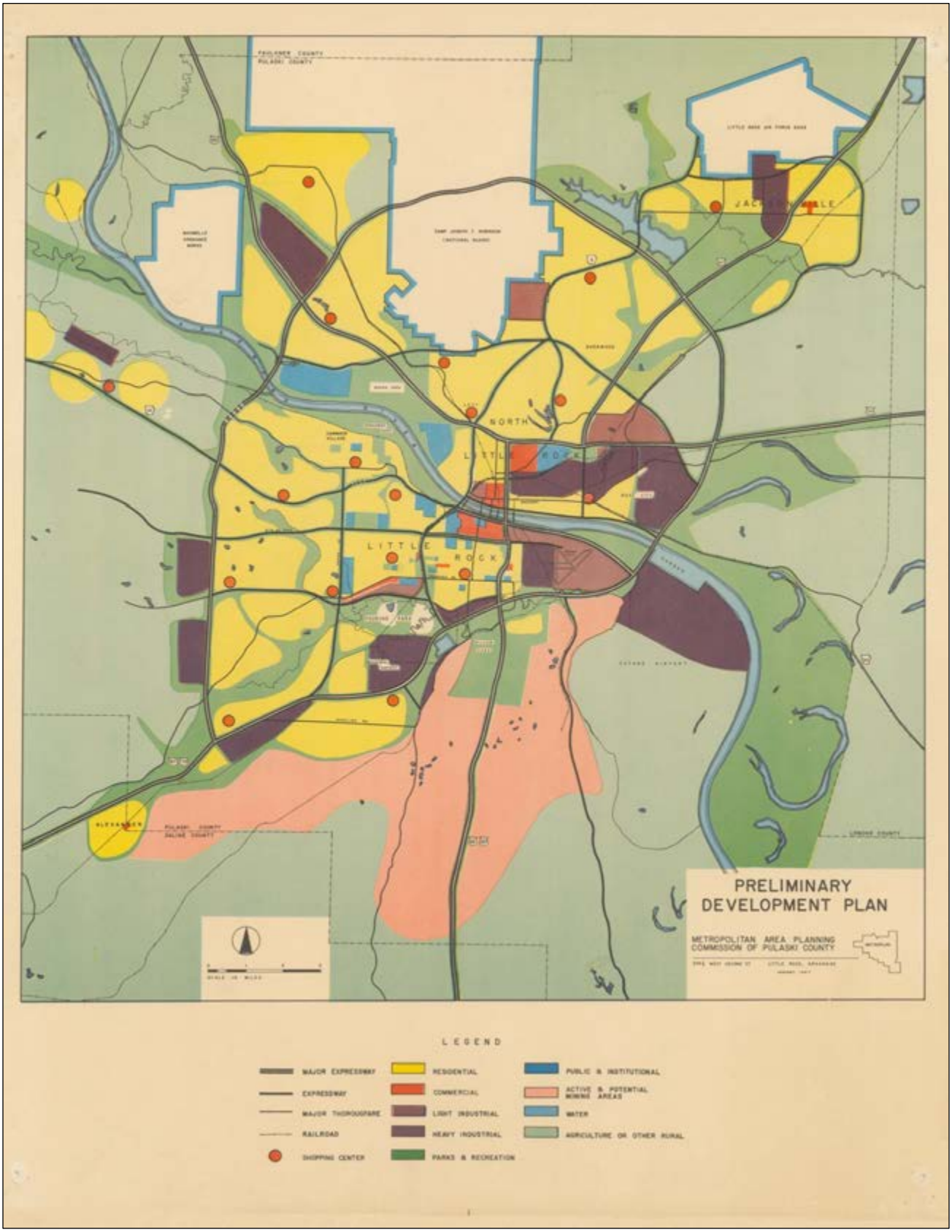
In July 1995, the Metroplan Board of Directors approved METRO 2020, the first long-range transportation plan adopted for the Little Rock-North Little Rock-Conway metropolitan area after passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The passage of ISTEA signaled a pivotal change for transportation planning in America and for Metroplan as the designated Metropolitan Planning Organization (MPO) for the then Little Rock/North Little Rock Metropolitan Statistical Area (MSA). The federal legislation recognized that the Interstate System was complete and set out new national transportation policies which established new planning requirements for states and metropolitan areas. For the first time, long-range plans had to be financially constrained and include provisions for active transportation modes, such as sidewalks and bicycles.

Metroplan's Board took the new legislation to heart. After expanding the transportation study area, the Board reorganized itself so that final decisions rested with the elected officials. The Board next empowered ordinary citizens to become involved in the planning process by creating a new committee to accommodate the broader and more inclusive public participation required by ISTEA.

The newly appointed committee, entitled the **Transportation Advisory Council (TAC)**, (the forerunner of the Regional Planning Advisory Council, or RPAC) represented geographic areas within central Arkansas and various groups with interests in the

Source: Arkansas Studies Institute. www.ULAR.edu

Figure 3-1. 1957 Comprehensive Development Plan



metropolitan transportation system. Most importantly, the Board charged the TAC with developing the transportation plan that would meet the requirements of ISTEA and see the region through the year 2020.

The TAC took its responsibility seriously and began a two-year process of educating itself and the general public on the need for and benefits of planning for the long-range transportation needs of central Arkansas. The result was METRO 2020. Through the early public involvement processes, the TAC developed a vision for transportation and development that still resonates with the public today. The public has reconfirmed this vision again and again during the development of subsequent plans METRO 2025 , METRO 2030, METRO 2030.2 and now Imagine Central Arkansas, the plan for 2040.

What made METRO 2020 so visionary? Central Arkansans were afforded early and meaningful input into the planning process, as overseen by the TAC. The resultant plan responded to the aspirations that were expressed during a vigorous public engagement. The Vision developed for METRO 2020 was rooted in a fundamental rejection of a continuing sprawl pattern, with continued separation of commercial and residential development in strip malls and low density subdivisions. The Vision relied on a multimodal transportation system to balance land use with existing streets and highways, improved and expanded transit, bicycle and pedestrian facilities. Growth and development in the future would be clustered around existing and emerging towns, new suburban villages, and renovated neighborhoods in central cities with transit as the key to unlocking that future.

The impact of the public in crafting that Vision and the proposed implementing projects was felt very quickly after the adoption of METRO 2020.

During development of METRO 2020, every community within the region identified traffic congestion, safety and noise conflicts associated with the numerous at-grade rail crossings and the increased traffic on the railways generated as a result of the North American Free Trade Agreement (NAFTA) as a major problems. Following an exhaustive study of all at-grade rail crossings,

Early Development
Source: Arkansas Studies Institute. www.UALR.edu

the Metroplan Board adopted an amendment to METRO 2020 in 1997, committing to fund and build twelve rail grade separations scattered across the region by 2020. As of 2014, seven of these have been completed and three more are programmed for construction by 2020. One separation is being reconsidered due to rail operational changes at the proposed location.

Likewise, development of METRO 2025 and 2030 established new precedents and clarification of policies. METRO 2025 birthed the idea for the Regional Strategic Network, comprising a six-lane completed freeway system, the regional arterial network (RAN), the regional bikeway system and the strategic transit network which focused on transit investments with direct impact on land use. A Transit Charette held for METRO 2030 defined four future rail transit corridors through the central city and to the radial destinations of Conway, Cabot and Benton.

Central Arkansas boasts an 88-mile biking and trail system that includes the Big Dam Bridge, the country's longest bike path constructed over a lock and dam. The steady creation and expansion of the Arkansas River Trail has stimulated bicycling in the region, attracted thousands of bike tourists and contributed to the area's quality of life and economic development.

METRO 2030.2 further clarified the short- to mid-term bus system changes needed to complete the full transit vision (see Figure 3.2).

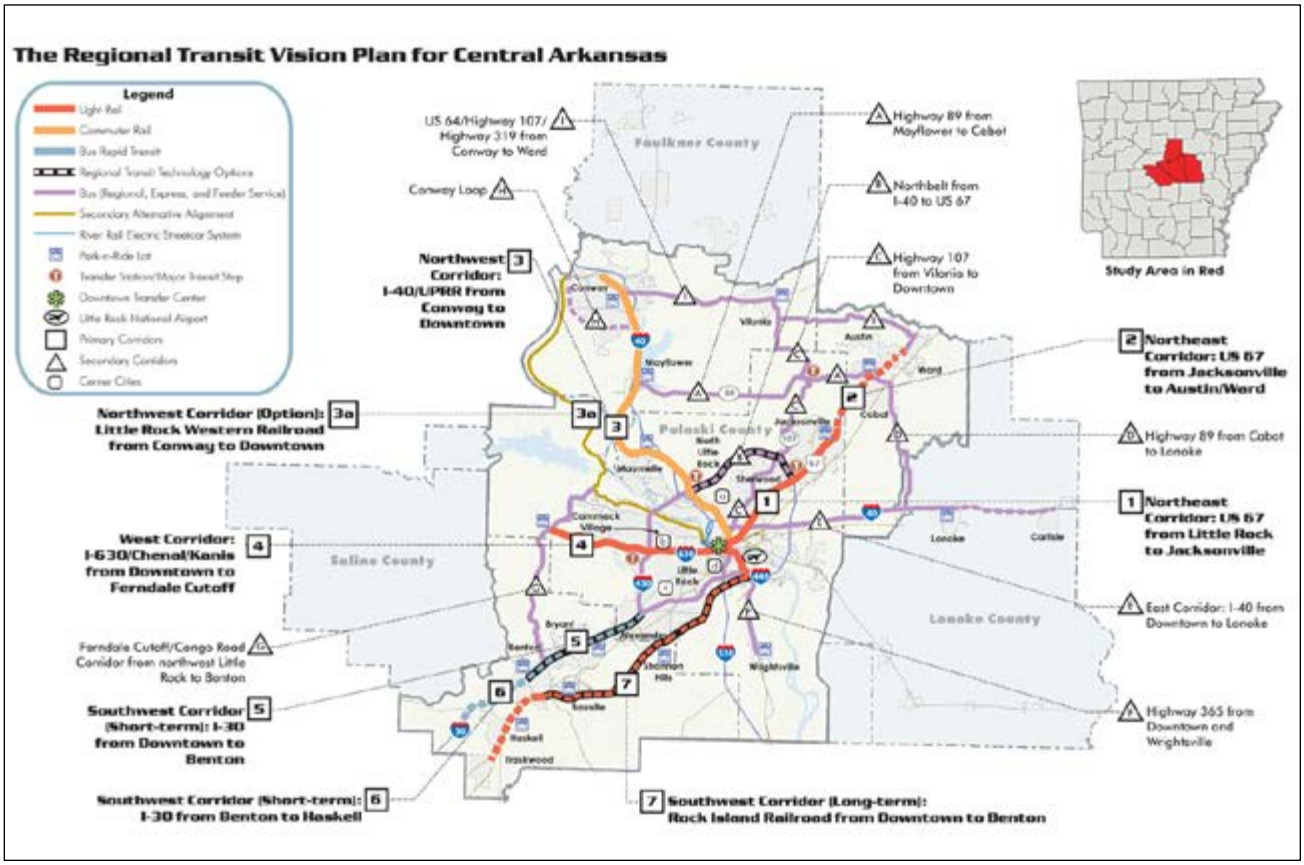
Imagine Central Arkansas is built upon the foundational vision established and refined since the 1990s, reaffirmed through public engagement during this planning cycle. In some ways *Imagine Central Arkansas* is a return to Metroplan's roots of comprehensive planning. The HUD Sustainability Grant, "A Blueprint for a Sustainable Region," allowed Metroplan to more fully consider connections between transportation, land use, recreation, economic development, education, health, and environmental issues. The Plan's scope has broadened to guide the region toward sustainability and improved quality of life. As we continue through the second decade of the 21st century, it is evident that central Arkansans not only support the Vision originally cast in 1995. They want to see it substantially implemented by 2040.

3.2 Early Development

The first bridges across the Arkansas River were railroad bridges. It was not until the construction of the Pulaski County Free Bridge in 1896 that pedestrians and wagons could cross at will between the two banks. The advent of the automobile after the turn of century led to pressure to replace the Free Bridge with modern crossings. In 1923 and 1924, the Broadway Bridge and the new Main Street Bridge (replacing the older Free Bridge) were opened to traffic. Main Street also carried the trolley lines across the river. Streetcar neighborhoods were also springing up in the highlands west of Little Rock.

On the political front Little Rock annexed the railhead community of Argenta on the north bank in 1904. Ten years later, dissatisfied with the services the northside was receiving from the city, the residents voted to secede from Little Rock and join the recently incorporated town of North Little Rock

Figure 3-2. METRO 2030 Transit Vision Plan



Capitol Avenue looking west – downtown Little Rock 1958 (l); Pulaski Heights bus route (r)
Source: Library of Congress

Isolated, central Arkansas suffered little from the Civil War, prospered with federal occupation, and enjoyed a mild postwar boom with the rise of the railroad and with cotton speculation.

During the same time, settlements along the railroads leading to Little Rock continued to flourish as small communities (Haskell, Benton, Bryant, Jacksonville, Cabot, Austin, Ward, Mayflower, & Conway). It was not until later, after the construction of the early freeways, that the region began taking on the characteristics of a metropolitan economy, with commuting and a greater economic exchange among these different jurisdictions.

3.3 Post 1950 Development

The return of many of the men from World War 2 and the GI Bill led to the region's residential growth. The construction of the New Benton Highway (later I-30), US Hwy 67, and I-40 made it easier for residents to choose locations outside Little Rock and North Little Rock. The construction of the Little Rock Air Force Base in Jacksonville contributed to the growth in homes in communities northeast of Little Rock/North Little Rock. The region's auto mobile dominance began at that time. The streetcar system ceased operations on Christmas Day 1949 in favor of motor coaches. Then the once-robust network of bus routes gradually shrank in the face of auto centric suburbs and reduced funding.

Arkansas, and specifically Little Rock, gained a negative international reputation as a result of de jure segregation and the 1957 national-state confrontation over court-ordered school desegregation at Little Rock's Central High School. In the mid 1980s, facing court ordered school consolidation in Pulaski County and the increased violent crime resulting from the arrival of crack cocaine and the emergence of gangs from the east and west coast, many families took advantage of the ample roadway capacity to migrate from the central county for school systems and new homes in Faulkner, Lonoke and Saline Counties, each which saw significant population increases in the 1980s and 1990s.

The first decade of the new century saw that out-migration begin to ebb, and the 2010s are seeing a reflection of the national trend toward more urban lifestyles and redevelopment, driven by empty nester Baby Boomers and the Millennial generations. Out-migration continues at a slower pace, and there is early evidence of a possible urban inversion in which higher-income households are concentrating near the regional center, while the suburbs have seen a small rise in poverty.

3.4 Transportation

Central Arkansas and its original settlements owe their existence to the Arkansas River. Canoes, rafts and keelboats initially plied the Arkansas River and its tributaries. Later, as populations grew and wealth and power became centered on the capital city, steamboats began to run up the Arkansas River – at least when conditions permitted. Modern river tugs and barges now ply the river. The completion of the Arkansas River Navigation Project in 1970 made the Arkansas River an important interior route from the Mississippi River in the east to Catoosa (near Tulsa), Oklahoma in the west. Recently, the river has spurred development along its banks and is the foundation of a chain of parks built along it.

The river's role was reduced by the arrival of railroads in the late 19th century. The St. Louis, Iron Mountain and Southern line (later Missouri Pacific; now Union Pacific) linked Little Rock with St. Louis and extended south to Texas, paralleling the old Southwest Trail which so many pioneers had followed a half century before. Another line (now also part of the Union Pacific system) connected Fort Smith, Memphis and Little Rock. From these main lines, spur lines pushed out in several directions. North Little Rock, born of the railroad expansion, remains a hub of the industry, especially in the wake of North American Free Trade Agreement (NAFTA).

The first road — if it could be called a road — was a path a few feet wide hacked through the dense forest between Little Rock and Cadron. As central Arkansas' population grew with the rest of the Southwest, a trail developed between St. Louis and the northern portion of Mexico that is now Texas. Called the Southwest Trail, the road meandered through central Arkansas. With the influx of money appropriated by Congress, the road was improved and by 1834 wagons could easily travel across Arkansas. The Memphis Military Road, linking Memphis to Fort Smith, had a branch link between Fort Smith and Little Rock.

Over the next hundred years many miles of roads were constructed in Arkansas. Then, in the 1950s, the US Interstate System intersected central Arkansas

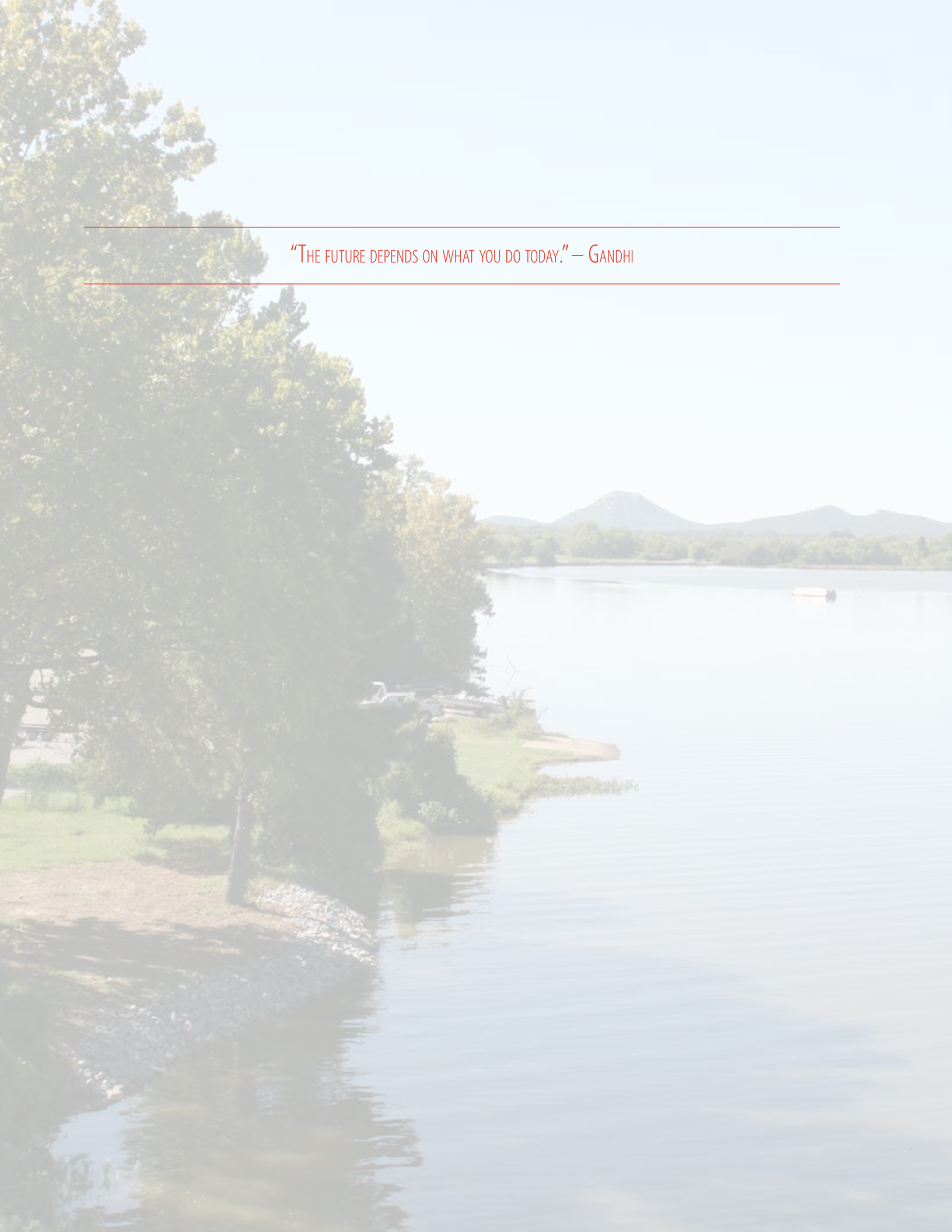
Source: Arkansas Studies Institute

with the construction of I-30 and I-40. Construction of the Little Rock Air Force Base led to the transformation of portions of US 67/167 connecting Little Rock with St. Louis to controlled access.

Like many cities in the US, Little Rock and North Little Rock operated a streetcar system that served the cities quite well. Following World War II, national transportation policy emphasized roadway construction and automobiles, which in turn led to the dismantling of the streetcar system. In the 1990s, renewed interest in this mode led to the establishment of the River Rail trolley system, which serves the downtown areas of Little Rock and North Little Rock. The trolley has been a catalyst for development of both downtowns, and additional trolley lines are being considered.

Central Arkansas Transit Authority (CATA) has operated fixed-route and demand-response (paratransit) transit service in Pulaski County since 1988. Prior to that time, the bus system was operated by Metroplan, as its trustee when the private operator sold it to a group of local governments in 1972.

IMAGINE CENTRAL ARKANSAS
Plan Smart. Live Smart.



"The future depends on what you do today." – Gandhi

Chapter 4. State of the Region

Central Arkansas is rich in culture, history and resources. Recently ranked among the nation's top ten in both happiness and value by a noted magazine, our region is a great place to live. But things do not stand still. The decisions we make today as a region will impact how we live in the future.

The State of the Region represents a snapshot of where central Arkansas stands today, and how changing trends relate to our sustainability and quality of life. It serves as the baseline from which decisions about our future will be made and measured.

4.1 Our People

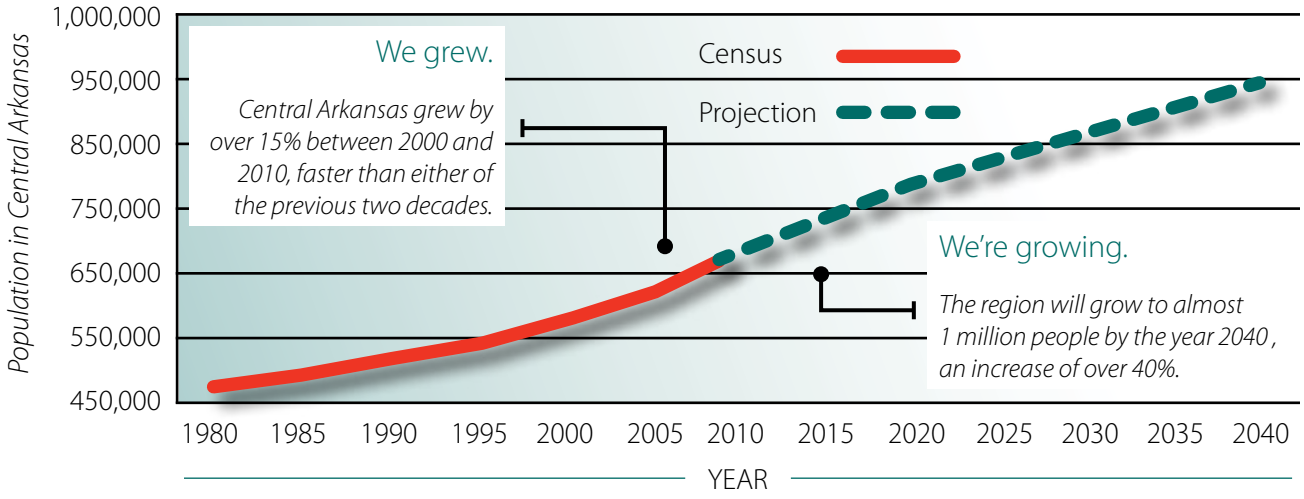
Central Arkansas has a growing population, adding almost 100,000 people (a 15 percent increase) between 2000 and 2010. As of 2010 the metro population was 671,400. The region's population is expected to reach almost one million by the year 2040.

Pulaski County, central Arkansas' traditional population and employment center, is expected to see a smaller share of this growth in the future as population pushes outward to other counties. In 2000, Pulaski County housed almost 62 percent of the region's residents (about 362,000 of 583,800), but only 57 percent of the total population (383,000) by 2010. Faulkner, Lonoke and Saline Counties absorbed a majority of the region's population growth between 2000 and 2010 (about 67,000 of 88,000 total). Recent trends, however, have shown a reversal of the decline in population in central business districts in Pulaski County, as residents look for shorter commutes and lower transportation costs.

Growth means more demand placed on central Arkansas' natural and built systems. For example, increased suburbanization, as evidenced by a majority of growth occurring outside Pulaski County, mean longer commutes and more demand placed on transportation systems. Additional demands are also placed on the region's water and energy supplies, health care services, developable land and public facilities. These demands will also be felt by residents' pocketbooks, which may be faced with higher costs of housing, utilities and transportation.

The region is also experiencing a demographic shift. Central Arkansas' population is growing older

Table 4-1. Central Arkansas' Population Trends, 1980-2040

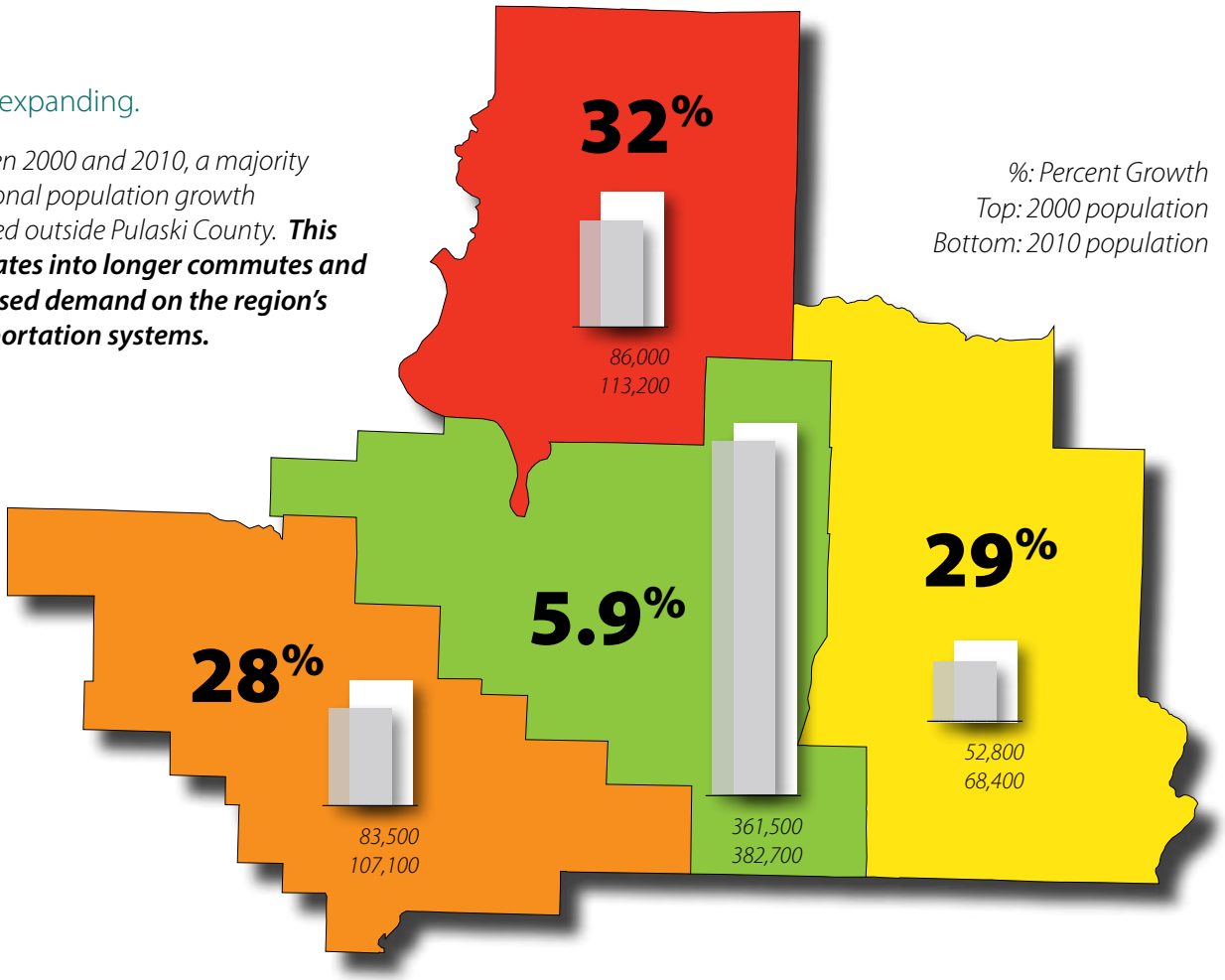


Source: U.S. Census Bureau, Metroplan Estimates

Figure 4-1. Population Change and Growth Rates

We're expanding.

Between 2000 and 2010, a majority of regional population growth occurred outside Pulaski County. ***This translates into longer commutes and increased demand on the region's transportation systems.***

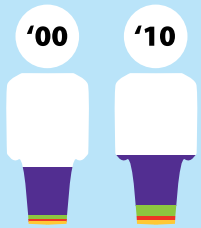


and becoming more ethnically diverse. This will influence the transportation and housing choices residents make in the future. For example, an aging population means that more individuals will have difficulty driving to access daily needs. Alternative modes of travel, greater housing choices or new technology will be necessary to maintain aging individuals' personal mobility. Young professionals are also beginning to make choices that are changing the definition of personal mobility. Much of this changing demand will be for smaller lots, townhomes, and condos with less maintenance than conventional subdivisions.

Massive demographic shifts, changing market demand, rising energy costs, and new economic realities for families and governments at all levels will impose an entirely different context for development and redevelopment in the future. These growth and demographic trends are likely to influence the region for decades to come, and should be given due

Figure 4-2. Ethnic Composition, Median Age, Gender, and Median Household Income

Ethnic Composition of Four-County Region



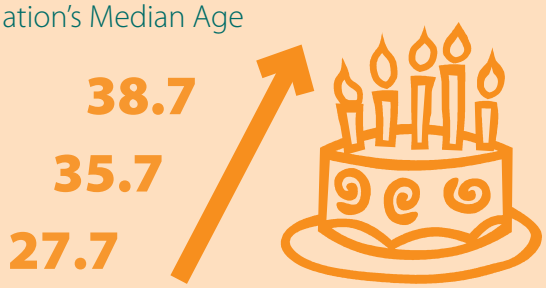
Ethnicity	2000	2010
White*	73.5%	68.6%
Black*	21.8%	22.9%
Hispanic	2.1%	4.9%
Asian*	0.9%	1.5%
Other*	1.6%	2.1%

*Denotes Non-Hispanic

We're becoming more diverse.

Minority populations, led by Hispanics, are growing at a significantly faster rate than the population as a whole. **Our region will look very different in 2040 than it has in the past.**

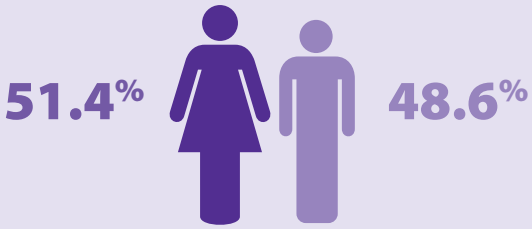
Population's Median Age



We're getting older.

The median age will be almost 40 by the year 2040, compared to 28 in 1970. **Mobility needs change as people grow older.**

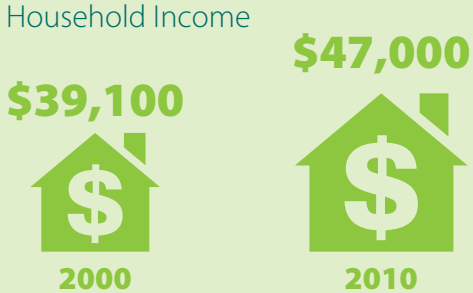
Population by Gender



Women in the lead.

Women have a slight edge in total population at about 51.4% and are expected to maintain that edge over the next few decades.

Median Household Income



Incomes are growing.

Incomes are highest in Saline County and lowest in Faulkner County. Per capita, income is the highest in Pulaski County.

*Rounded to the nearest hundred

consideration as we make critical choices about our future.

4.2 A Broader Scope

Our community is being shaped by population shifts, advancing technologies, environmental issues, global economic forces, cultural diversification and the region's adaptation to these changes. *Imagine Central Arkansas* strives to identify and account for how these external influences impact our region. In some cases, like demographic changes, we have known that change was coming and could evaluate how it would impact our region. In other cases, like advancing technologies, such as driverless cars, and other technology driven fields, are changes which few thought would be commonplace but are rapidly becoming reality. While it may be difficult to determine how some of these forces will precisely impact our region in the long run, they could heavily influence our overall development.

Following is a brief discussion of identified external trends and how they may continue to impact central Arkansas.

4.2.1 Central Arkansas' Transportation Profile

Automobile ownership, coupled with inexpensive fuel and the hidden costs of vehicle operation, has provided our society the ability to choose living arrangements, often without regard to the true costs of commuting to a job or other destination. Although petroleum remains a viable energy source, its cost is likely to remain unstable and unpredictable in face of extraction uncertainties and growing global demand. Central Arkansas exhibits significant patterns of cross-county commuting and travel times/distances that exceed the national average.

The relatively limited transit service and coverage area, an absence of sidewalks or paths, and lack of walkable block systems all contribute to lack of transportation choices in central Arkansas.

CATA, the primary transit provider for central Arkansas, operates and maintains an efficient fixed-route transit system within the core of Pulaski County. However, due to its limited service coverage area within Pulaski County, only about one-fourth of the region's residents have access to transit.

A number of human service agencies also operate transit service within central Arkansas. These agencies focus on serving individuals within specific client groups or populations that, due to a disability or for economic reasons, have fewer transportation

Table 4-2. Bicycle and Pedestrian Facilities in Central Arkansas

Location	Street Centerline Miles	Sidewalk Miles	% of Streets with Sidewalks	Miles of Bike Lanes, Routes and Shoulders	Miles of Off- Road Trails
Faulkner County	2,054	139	7%	69.3	3.8
Lonoke County	1,903	50	3%	0	1.7
Pulaski County	3,837	1,107	29%	78.1	77.3
Saline County	2,470	116	5%	4.6	5.1
Four-County Region Totals	10,264	1412	14%	152	87.9

Figure 4-3. Commuting Patterns into Pulaski County

Crossing county lines.

The region experiences significant cross-county commuting, particularly from other counties into Pulaski County, which contains three-fourths of the region's employment.

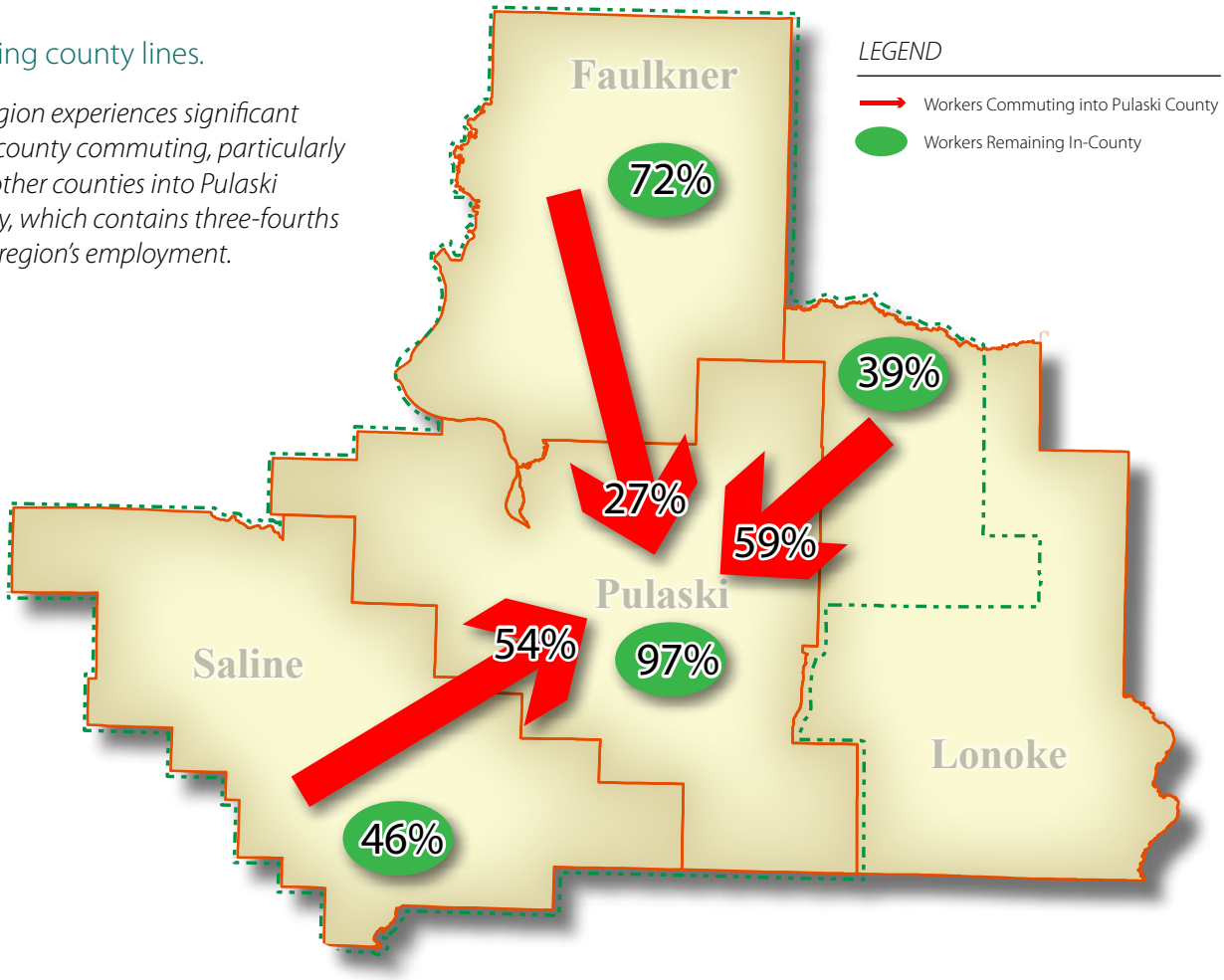


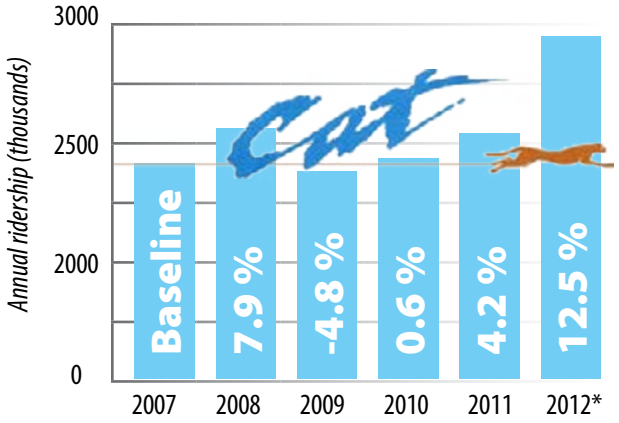
Figure 4-4. Vehicle Miles Traveled Daily

We drive a lot.

There were over 20.5 million miles of daily vehicle travel (VMT) in 2010, or about 30.5 miles for every person. **More VMT means more fuel consumed and greater emissions, more wear and tear on central Arkansas roads and more congestion.**

Source: U.S. Census Bureau, Metroplan Estimates

Table 4-3. CATA Ridership



All aboard. CATA has seen a recent surge in ridership thanks in part to increases in the price of gasoline. *Estimated

Source: National Transit Database, CATA

Figure 4-5a. Existing System of Sidewalks, Bike Lanes and Off-Road Trails - Little Rock

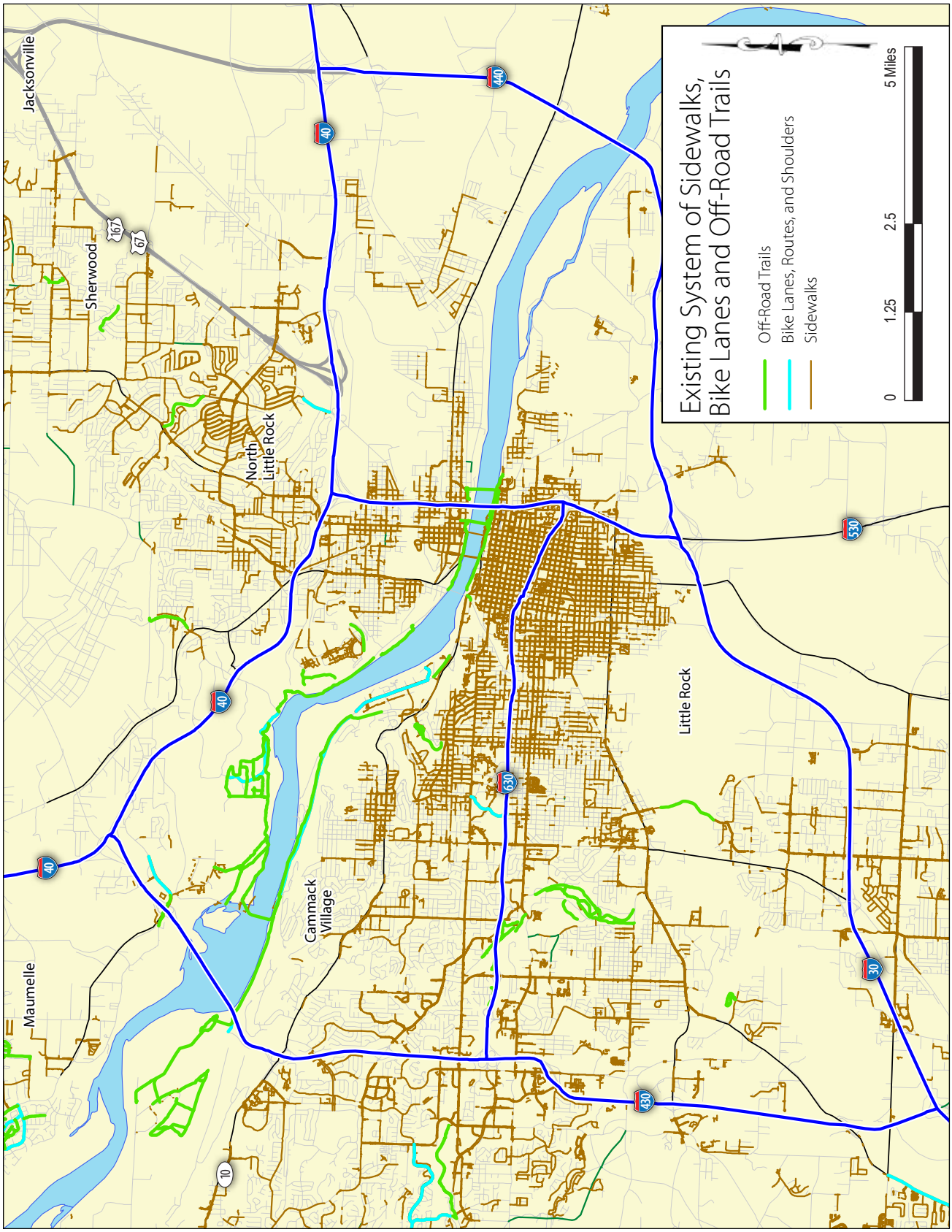
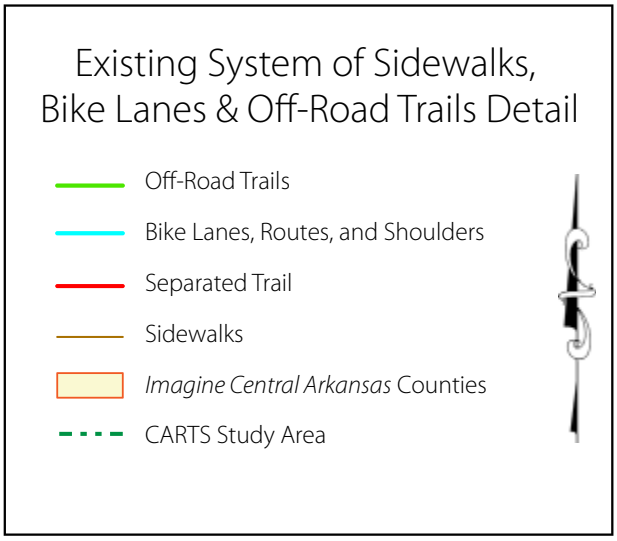
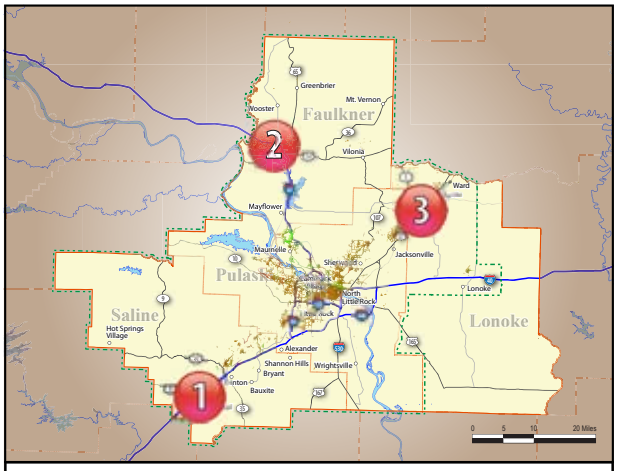
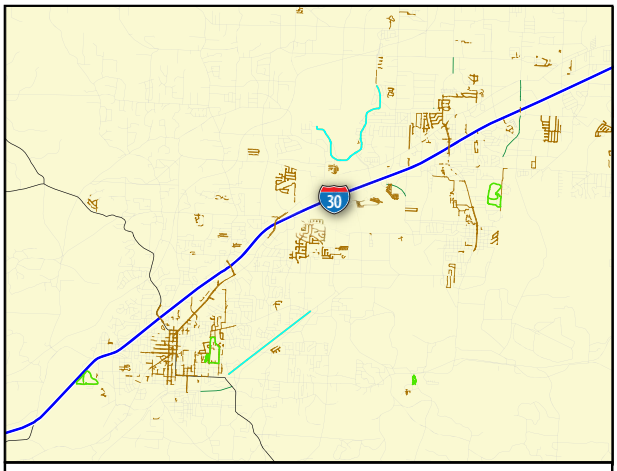


Figure 4-5b. Existing System of Sidewalks, Bike Lanes and Off-Road Trails Detail

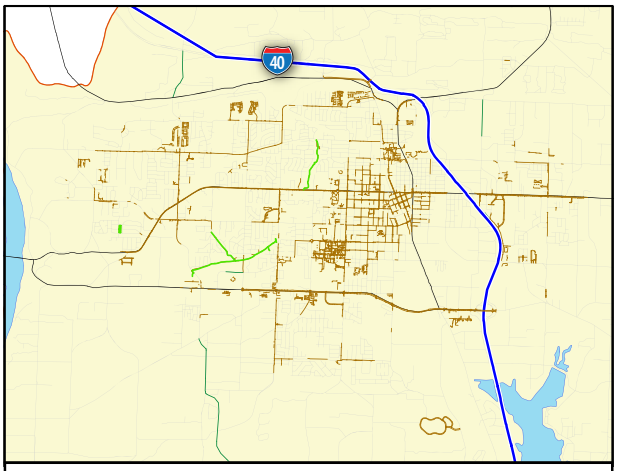




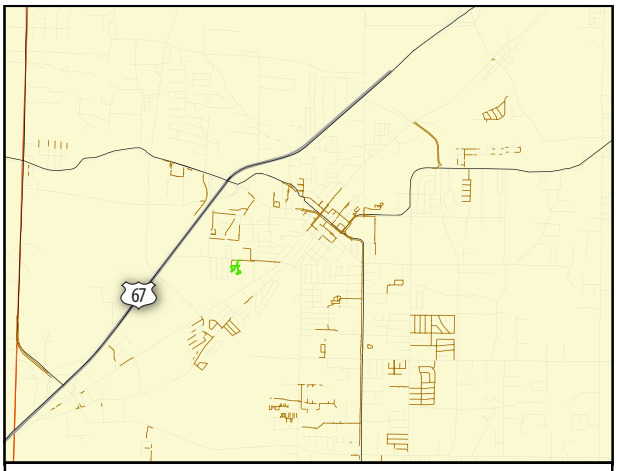
Area Map



1. Benton/Bryant



2. Conway



3. Cabot

Figure 4-6. Existing Fixed-Service Transit Routes

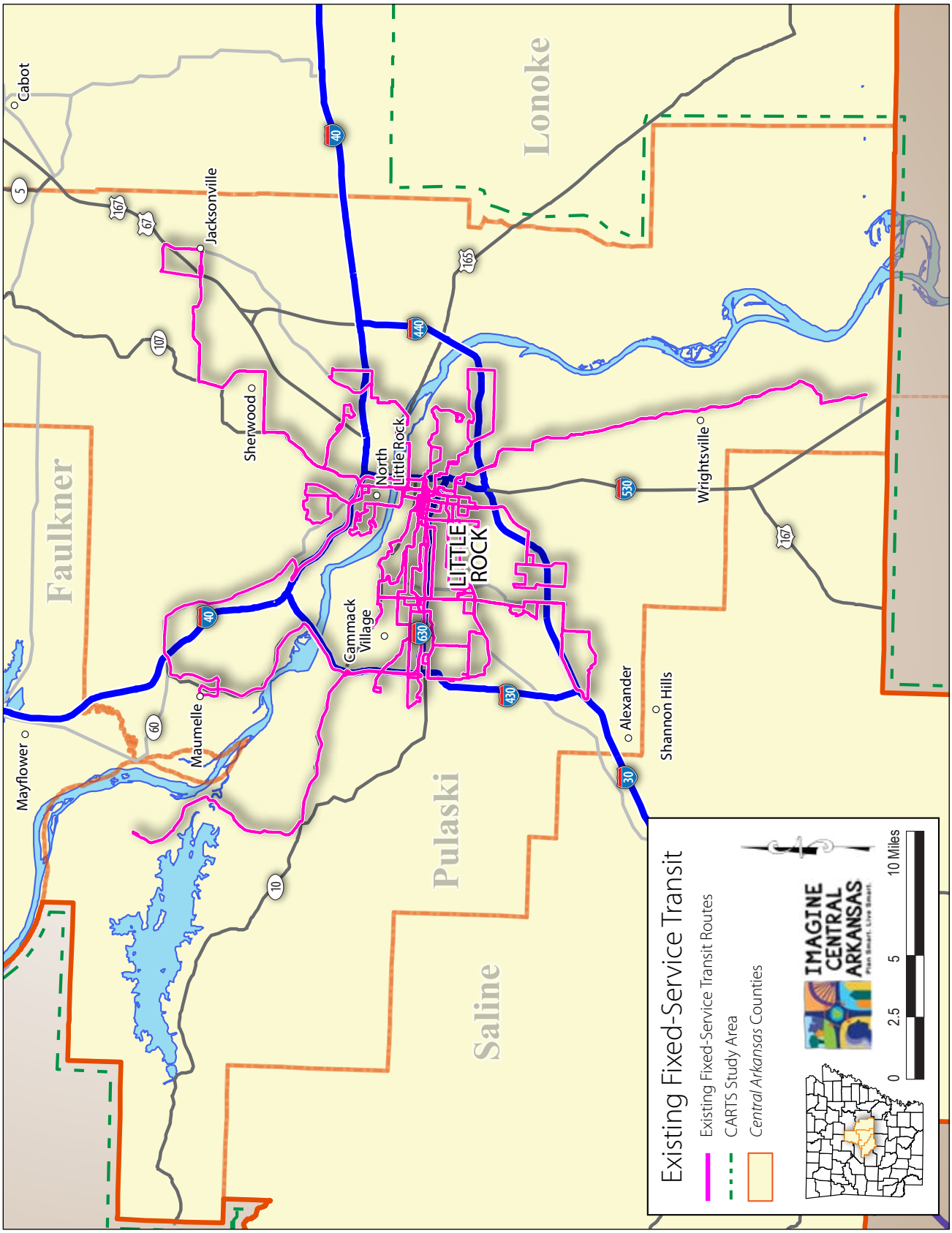
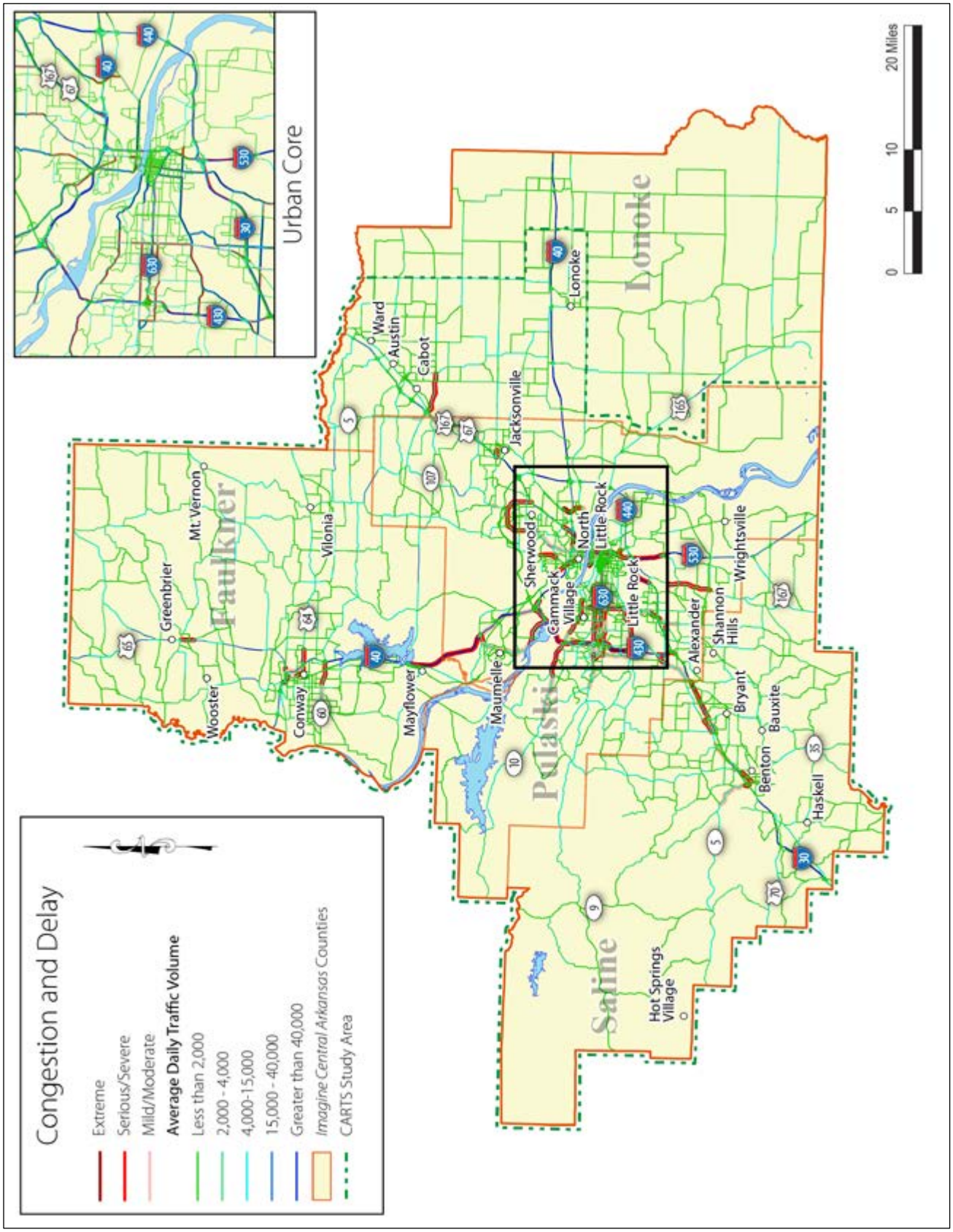


Figure 4-7. Congestion



options than the general public. Typically, these individuals must meet qualifying criteria specific to the provider program.

Without additional financial resources, a more robust transit system with more frequent buses and a larger service area will not be possible.

Congestion occurs on several key roadway segments, causing travel delays, especially during peak times. Both the number of congested facilities and time of traffic delay are growing within the region. The average central Arkansan spent about 24 hours annually sitting in traffic in 2010, up from 17 hours in 2000. The average one-way work trip took about 23 minutes.

Finally, freight movement comprises an important component of the regional economy. Trucks dominate freight movement in central Arkansas, and make up a significant portion of total traffic on many of the region's major road facilities. Goods movement affects central Arkansas' economic output, energy use and environmental quality.

4.2.2 Demographic Changes

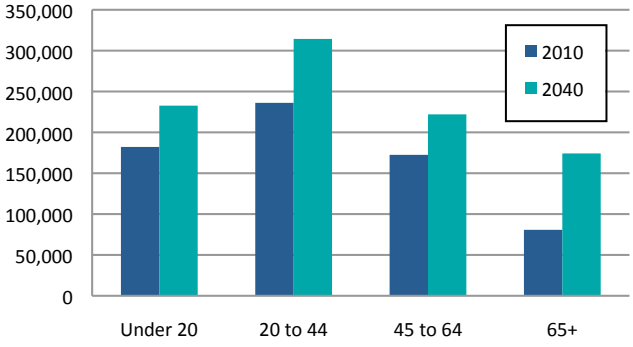
Aging Population

Baby Boomers were born between 1946 and 1964 and are in their highest income-earning years, but approaching retirement. Table 4-4 shows, while the region will see population growth in all age groups, the greatest growth by far will be the elderly population age 65 and above. By 2020, the youngest Boomers will be 56 and the oldest 74. Many Boomers remain in the labor force past the traditional retirement age of 65. Even so, by 2020 Baby Boomers will be exiting a labor force then dominated by Millennials.

The mobility needs of Baby Boomers are difficult to foresee, but two challenges are likely to emerge. First, some of the better-advantaged members of this generation seem eager to embrace the walkable lifestyle offered in New Urbanist and revitalized urban districts. As retirees, they will have less need for commuting but more need for safe pedestrian access and the presence of medical care. At the same time, Baby Boomers have unusually high divorce rates, so the problem of elders living alone — sometimes isolated socially — will grow as this group ages.

The problem of isolation could become particularly serious for those located in low-density suburbs, which still hold a major share of the region's housing. Para-transit may be a necessary help. For non-emergency medical needs, so-called "stretcher services" may become increasingly necessary to avoid overburdening local emergency-response systems. Studies done thus far suggest that elders give up walking before they give up driving, for reasons rooted in logic and safety. Thus, while walkable environments are desirable, the transportation infrastructure will also need to be able to cope with a growing share of elder drivers. This includes issues involving signage, intersection design, driver licensing, and law enforcement.

Table 4-4. Central Arkansas Population by Age Group 2010-2040



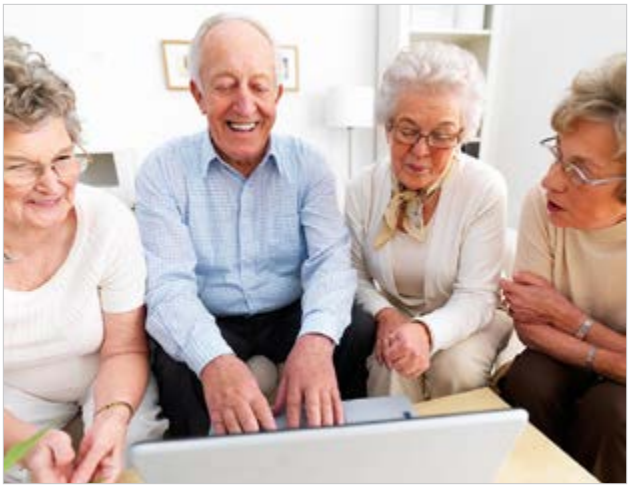
Generational Designations

Traditional/Silent Generation: 1922–1945

Baby Boomers: 1946–1964

Generation X (Gen-X): 1965–1980

Generation Y (Gen-Y)/Millennials: 1981–1994



Millennials

The Millennial generation is defined loosely as those born from about 1981 to 1994. At the time of Census 2010, central Arkansas had about 237,000 Millennials, or about 35.2 percent of population – slightly higher than the national average. Millennials and their older counterparts in so-called "Generation X" have a preference for living in urban environments with options for walking and biking. Abnormally low car-ownership rates among much of the population under age 25 may suggest a growing willingness to embrace the use of public transit. Studies are showing that Millennials prefer transportation systems that allow them to maintain contact with portable electronic devices. Millennials and Gen Xers will greatly influence the region's future, and will hold most leadership positions in less than 15 years.

A Changing Housing Market

The Millennial generation exhibit some major changes in behavior over previous groups. Some of these changes are at least partly a byproduct of a less dynamic economy since the Great Recession of 2008-2009. Housing markets have been altered dramatically in the wake of the national "housing bust" which was itself a major factor in the Great Recession.

Table 4-5 compares U.S. housing trends in two four-year intervals: during the last of the boom years, 2004-2008, and in the crash and its aftermath. Single-family housing was hardest hit, and has yet to recover. Building permits for 6.2 million new single-family units were issued from 2004-2008. During the following four years, from 2009-2013, only 2.4 million new units were started. This drop of over 60 percent was mirrored by a less severe, but still serious, drop of 47 percent in single-family units built in Central Arkansas over the same period.

Multi-family housing also declined, but by much less. U.S. multi-family construction dropped from 2.1 million units 2004-2008 to 1.2 million in the 2009-2013 interval, a decline of 45 percent. In Central Arkansas, the drop in multi-family was much less severe, down about 11 percent from 2009-2013, in comparison with the previous four-year interval.

Table 4-5. U.S. New Housing Permits by Type (x 1,000)

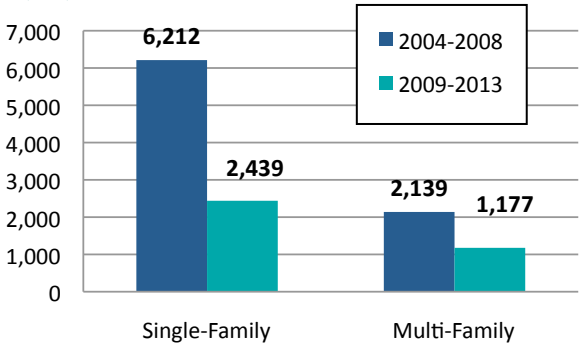
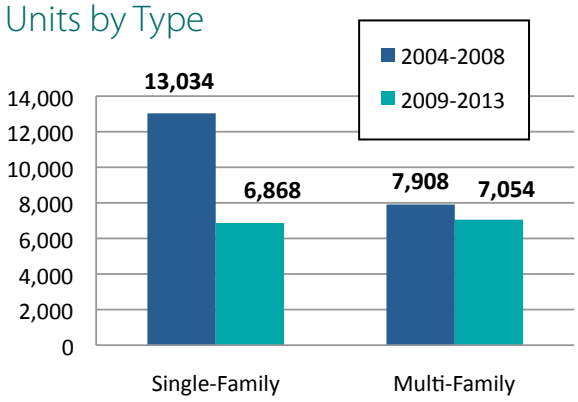


Table 4-6. Central Arkansas New Housing Units by Type



While a stronger economy may permit some renewal of housing markets, many demographers contend that the housing bust of the 2000-2010 decade marks a sea change. While economic circumstances and finance markets may continue recovering, personal tastes and needs have changed. There is evidence that the Millennial generation is less willing than previous groups to spend money on big-ticket items like housing and vehicles. Younger adults seem to prefer to remain footloose, spending their resources on travel and entertainment instead. Mobile hand-held devices may now serve the same "status symbol" role that vehicles did for earlier generations.

The New Workforce

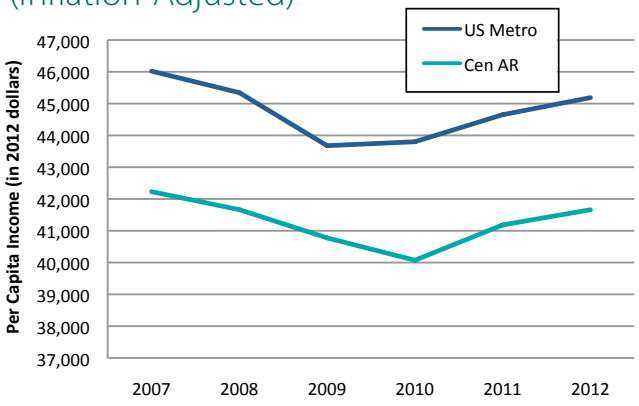
The Great Recession ended in 2009, and since that time both local and national economies have been in recovery mode, with finance markets recovering as employment makes slow gains. As Table 4-7 shows, incomes have been slow to recover. In early 2014, total employment for the U.S. and central Arkansas economies finally reached levels not seen since the years 2007-2008. While superficially this marks a recovery, it also gives evidence of a problem that lingers: a decline in labor force participation.

From 2008 to 2014, U.S. population grew by 4.6 percent, and central Arkansas population by 6.1 percent, yet the total number of working adults has only just returned to 2008 levels. Some of the labor force decline owes to aging of the population; the first Baby Boomers have entered retirement ages, and the bulk of the Baby Boom generation is about to enter the 55-64 age group, in which labor force participation typically declines markedly. According to a study conducted by the American Association of Retired Persons (AARP 2007) nearly one-third of the total US workforce are age 50 or older. Eight of ten Boomers expect to work at least part time in their so-called retirement years.[1]

Part of the labor force slowdown also owes to an increase in college and trade school enrollments, as young adults and even mid-career people take time out from the workforce to train themselves for the higher skill levels demanded of the future. Nonetheless, these two factors - aging of the workforce and education - do not account for the scale of decline in the labor force. Part of the answer can be seen in the rising share of disabled persons. As with workforce participation, the region mirrors the national trend.

It is likely that some of the problem can be traced to a growing bifurcation of the job market, into high-end, high-skill jobs for which there are too few qualified applicants, and low-skilled, low-paying jobs, with a loss of jobs in the middle. The issue of labor force participation has particular relevance for the Millennial generation. The job and education decisions they make will in large part shape the workforce and, by implication, the economy.

Table 4-7. Per Capita Income 2007-2012 (Inflation-Adjusted)



4.2.3 Emerging Trends: Technology's Influence

Communications

Technology influences our lives more every day. As technology continues to advance, the connection among people grows and less face-to-face contact is required. Personal mobile devices now make it possible to be connected at all times. How will technology impact our future? It will influence how and how much we travel; it will affect where we work; it will affect our education and healthcare systems; it will affect everything!

Vehicles

It is currently possible to purchase vehicles that park themselves, adjust speeds according to surrounding traffic, warn drivers of potential dangers, and direct drivers around congestion. These technologies and the emergence of crash avoidance systems reduce auto crashes and increase roadway capacity. The next automotive advancement is likely to include the widespread availability of autonomous (driverless/assisted) vehicles. The impact of driverless vehicles may be dramatic and lead to greater efficiency within our existing roadway network. Driverless cars will provide our elderly another mobility option, impact freight movements, lead to changes in car ownership and personal car sharing, and parking requirements. While many see improved convenience, better safety, and other benefits in driverless cars, others see possibilities like increased dispersion of population, and increased pollution and fuel use due to the ease of travel.

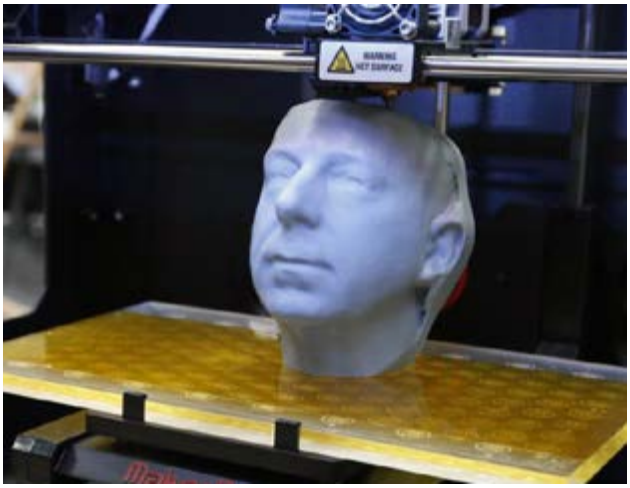
Roadways

Intelligent Transportation Systems (ITS) seek to improve the efficiency and safety of our transportation system through technology. Existing use of ITS focuses on driver information, signal systems, and roadway performance. As use continues, ITS will include direct communication between vehicles and other roadway infrastructure. Imagine a traffic signal that turns green before you arrive, or a car that tells you when it is okay to continue through the intersection.

Freight Movement: Online Shopping and 3D Printing

Online sales represent 4.7% (US Census) of total retail sales in the United States, with the share growing steadily since the late 1990s. As online sales comprise a larger percentage of total sales, fewer trips are made on roadways, while the number of local freight deliveries increases. This impacts our transportation system and ultimately our built environment. Technology continues to change the face of commerce. Imagine your refrigerator ordering grocery items to be delivered to your home.

The majority of items that we currently buy are manufactured off-site and then stored in a warehouse or store until purchased. By devel-



oping three-dimensional digital models of items it is possible for shapes (or molds) to be printed by various 3D printing machines. Many experts believe that this technology has the ability to change the world economy by reducing the need for centralized manufacturing, global trade and the cost of product development and testing. Imagine calling a local print store and having the replacement part for your car, (the same device that is currently manufactured and shipped twelve time zones and 10,000 miles away), printed before you arrive.

4.3 A Sustainable Region

During public involvement sessions for Imagine Central Arkansas, participants were repeatedly asked what was important to them for the future of central Arkansas. Responses focused on four general areas – education, health, environment and safety. All of these elements are influenced by how we grow and develop the region in a sustainable manner and how we are able to move within it.

The Central Arkansas Green Agenda, discussed in detail in Chapter 5, defines sustainability as "Living today like you really believe there will be a tomorrow." In the broadest sense of the word, it is the act of preserving, maintaining, and recycling resources so they are not depleted or permanently damaged, and residents can maintain the highest level of livability. In essence, sustainability means ensuring that the quality of life we enjoy today is available to future generations.

Transportation ensures economic opportunity by connecting people to jobs, schools, housing, healthcare and other key community resources and assets of all communities. An equitable transportation system is one where access to community resources and assets is available to all members of the community regardless of ethnicity, socioeconomic status, age, gender or need for accommodation. Ideally, an equitable and sustainable transportation system: 1) provides choices in transportation modes, 2) allows access to vital resources, 3) protects human and natural ecosystems, 4) contributes to the health and safety of the community, and 5) is generally affordable. Such a system links a community together rather than separating it.

The region's current pattern of development tends to inhibit the creation of a more equitable transportation system. Current land use patterns, coupled with road design deficiencies and inadequate maintenance, often confers a burden on individuals through higher mobility costs or severely limits mobility altogether.

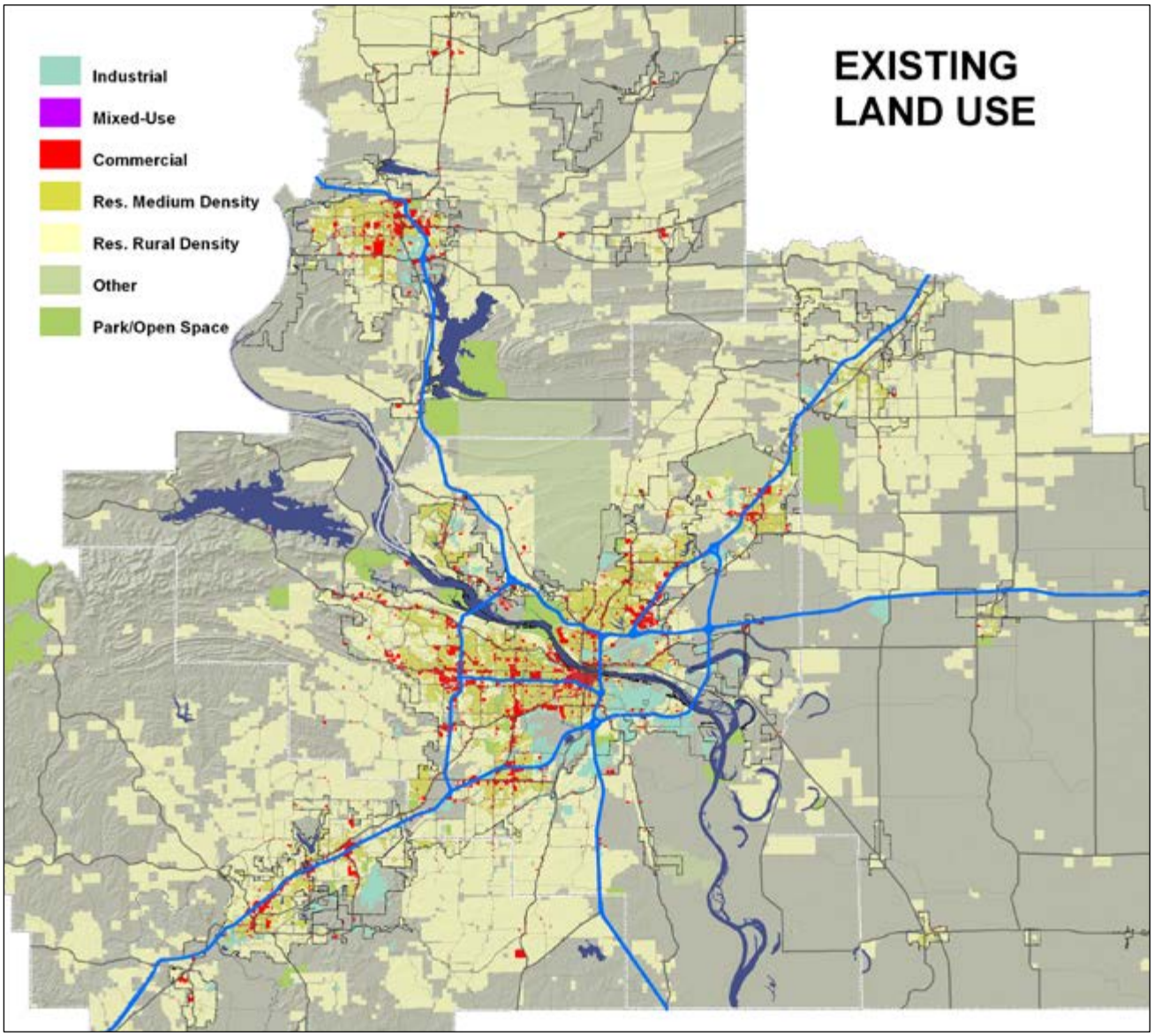
In rural and suburban areas of central Arkansas, residents' mobility is solely dependent on automobiles. Car ownership for these persons is essential to achieving a high degree of personal mobility and independence. Yet the cost of owning, operating and maintaining a personal vehicle is an externality normally not accounted for in calculating the true expense of building, operating and maintaining that transportation system.

In contrast, residents in the central cities of Little Rock and North Little Rock also have a high degree of personal mobility, but achieve it through a better land use/transportation connection with more transportation modal options that yield shorter trips and lower personal transportation costs.

There are equity issues to be addressed in both urban and rural areas. The cost of vehicle ownership can become excessively high when fuel costs escalate unexpectedly, leaving households in rural and suburban communities isolated and economically vulnerable. Likewise, residents in central cities can also become isolated and vulnerable to economic shock due to the inability to access employment beyond the geographic coverage of the transit system. Both circumstances are transportation-related mobility and equity issues, and both are impacted by personal, private and governmental actions that can result in inequitable solutions.

Imagine Central Arkansas and its long-range transportation plan element is the declaration of how central Arkansas chooses to fund and implement transportation projects equitably in our region.

Figure 4-8. Existing Land Use with Density



4.3.1 Growth and Development: Land Use and Mobility

How we grow and develop our land has a major impact on regional sustainability. Land use decisions directly influence travel behavior; likewise, mobility directly influences land use patterns.

For example, central Arkansas, like most places across the country, experienced an increase in road-building and automobile ownership levels beginning after World War II. This change created a new pattern of land use, including lower-density single family subdivisions, strip-style retail and office parks spreading further and further from traditional cities and into suburban and rural locations. As a result, central Arkansas' resulting land use pattern is one in which most trips must be made via personal vehicle and many daily destinations (work, school, conveniences) require time-consuming vehicle trips.

The pattern of land use greatly affects the efficiency of transportation systems. Density influences transportation by determining how proximal homes and jobs are to each other. The term "mixed-use" refers to the locations of different types of land uses, such

Figure 4-9. Residential Density

A modest shift in density can have a significant impact.

as homes (origins) and jobs, shopping, services and schools (destinations) relative to each other. How "dense" a place is and/or the extent to which different types of land uses are mixed can determine whether walking and cycling are even possible and how far we travel via automobile.

The standard practice in the United States has been for transportation and land use decisions to be made independently of each other. The end result is that many of our places are not walkable or bike-able, transit is inconvenient or at worst unavailable, and long car rides are necessary for most of our daily needs.

4.4 Regional Characteristics: Housing and Transportation

4.4.1 Affordability for People

Traditionally, the asking price of the house itself is the primary budgetary consideration when families choose a place to live. What tends to be overlooked is the associated transportation costs that the household then must bear to access jobs, schools and shopping. based on that particular location, which can vary significantly.

The Housing + Transportation (H+T) Index, developed by the Center for Neighborhood Technology, takes both elements into account. It

represents a new, comprehensive way of thinking about the cost of housing and affordability.

Based solely on the average cost of housing relative to median household income, central Arkansas appears to be very affordable. However, when transportation costs are factored in, the picture changes dramatically: most places across the region well exceed standard affordability thresholds.

If fuel prices and other transportation costs increase, the lack of affordability in central Arkansas could become critical. Most susceptible are those places where central Arkansans already spend a disproportionate amount of their household incomes on transportation, and where they lack transportation options.

If left unchecked, an increasing lack of H+T affordability within central Arkansas will negatively impact the quality of life and economic competitiveness of the region. Ensuring transportation affordability for future generations is a key challenge of *Imagine Central Arkansas*.

Suburban and Rural Areas of Central Arkansas

Households in suburban and rural areas are dependent on automobiles for their mobility. These areas have the highest household transportation costs in the region, often exceeding rent/mortgage cost, and their residents spend the most time in vehicles. Many of these households spend in excess of 30% of household income on transportation (twice what is considered affordable). While many of these residents enjoy a high level of mobility provided by their automobiles, they are highly susceptible to increases in energy (gas) costs and have reduced social interaction due to the amount of time they spend in their auto.

The impact of high gas prices on suburban and rural areas in central Arkansas was recently witnessed during the gas price spike of 2008, as these families had to adjust their budgets to cover the increased cost of travel.

4.4.2 Rethinking Community Efficiency

Neighborhoods close to downtown Little Rock and North Little Rock are areas of high employment access, with a wider range of transportation choices, although jobs in these areas may not match with the skill levels of nearby populations. Residents are more likely to use public transportation or active modes of transportation such as biking or walking to get to and from work. For the most part, streets are laid out in a traditional grid pattern and are far more likely to have networks of sidewalks throughout their community. To a lesser degree, Conway, Benton, and Jacksonville have areas where access to employment and increased transportation choice is provided; however, these small areas lack broader connectivity to the larger region, severely inhibiting mobility for those with limited access to automobiles.

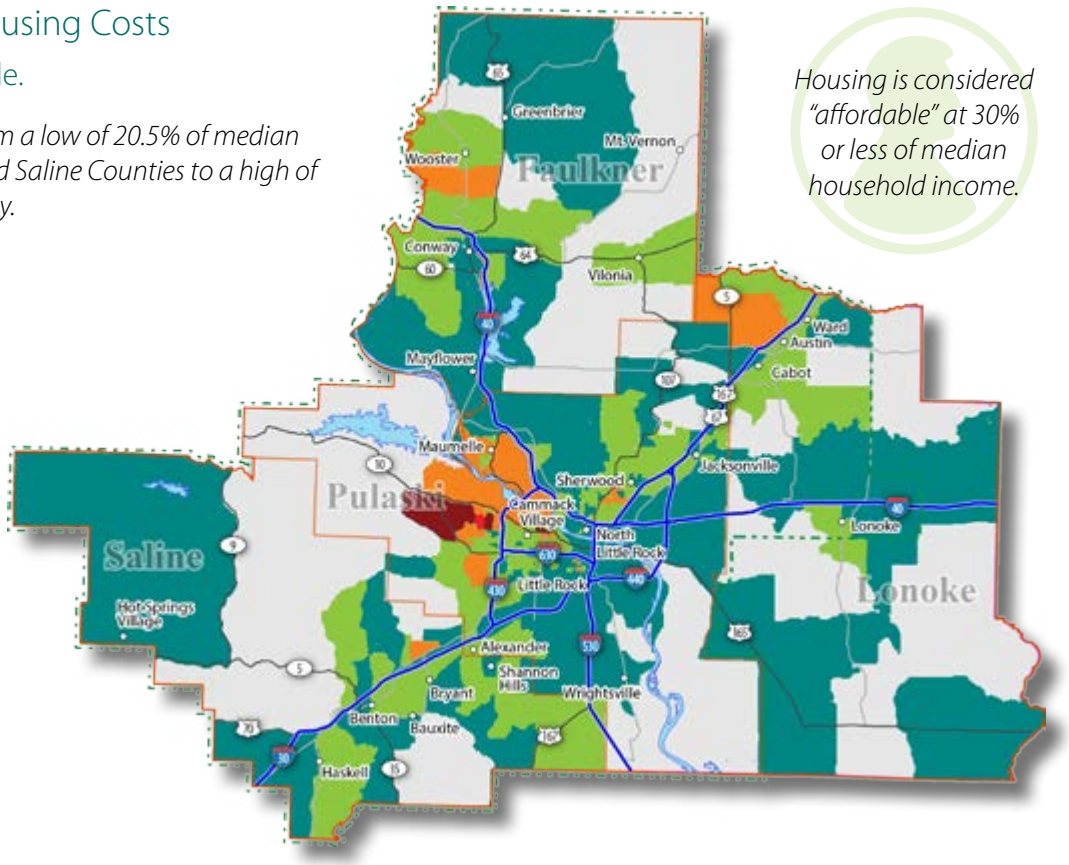
An important and unfortunate caveat to this assessment is that despite having favorable population and housing densities, walkability and cycling promoting features within these communities, much of the infrastructure in these areas are in critical need of maintenance and/or rehabilitation. In recent years, some communities have made a greater effort to allocate a portion of their maintenance funding on the older infrastructure elements found in a poor state of repair. Despite the efficiency, lower cost, and health benefits of active methods of transportation (walking and bicycling) unless these facilities are safe for users, many residents avoid using them even for short trips. Until infrastructure is upgraded to useful standards, proximity does not automatically confer access.

Figure 4-10. Housing Costs

Housing is affordable.

Housing costs vary from a low of 20.5% of median income in Faulkner and Saline Counties to a high of 23.1% in Pulaski County.

Housing is considered "affordable" at 30% or less of median household income.



Percentage of Household Income Spent on Housing Costs

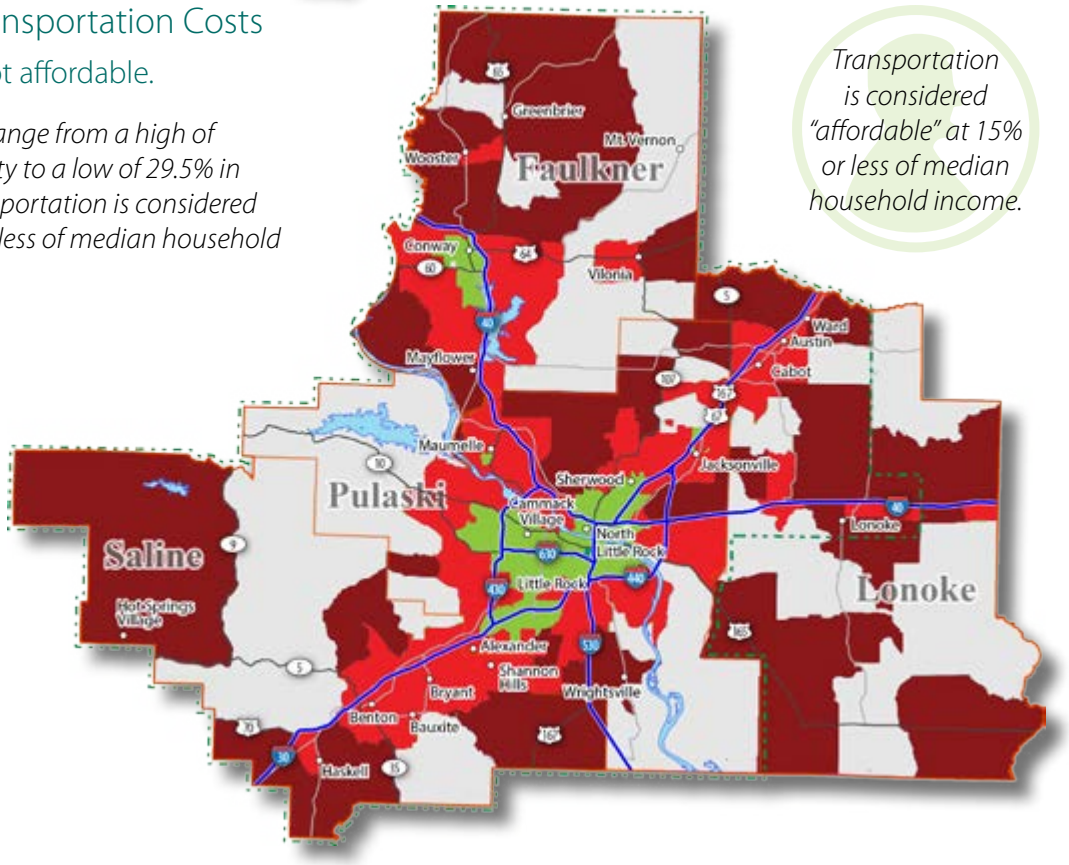
- Insufficient Data
- < 20%
- 20 to 30%
- 30 to 40%
- 40 to 50%
- 45%

Figure 4-11. Transportation Costs

Transportation is not affordable.

Transportation costs range from a high of 34.4% in Lonoke County to a low of 29.5% in Pulaski County. (Transportation is considered "affordable" at 15% or less of median household income.)

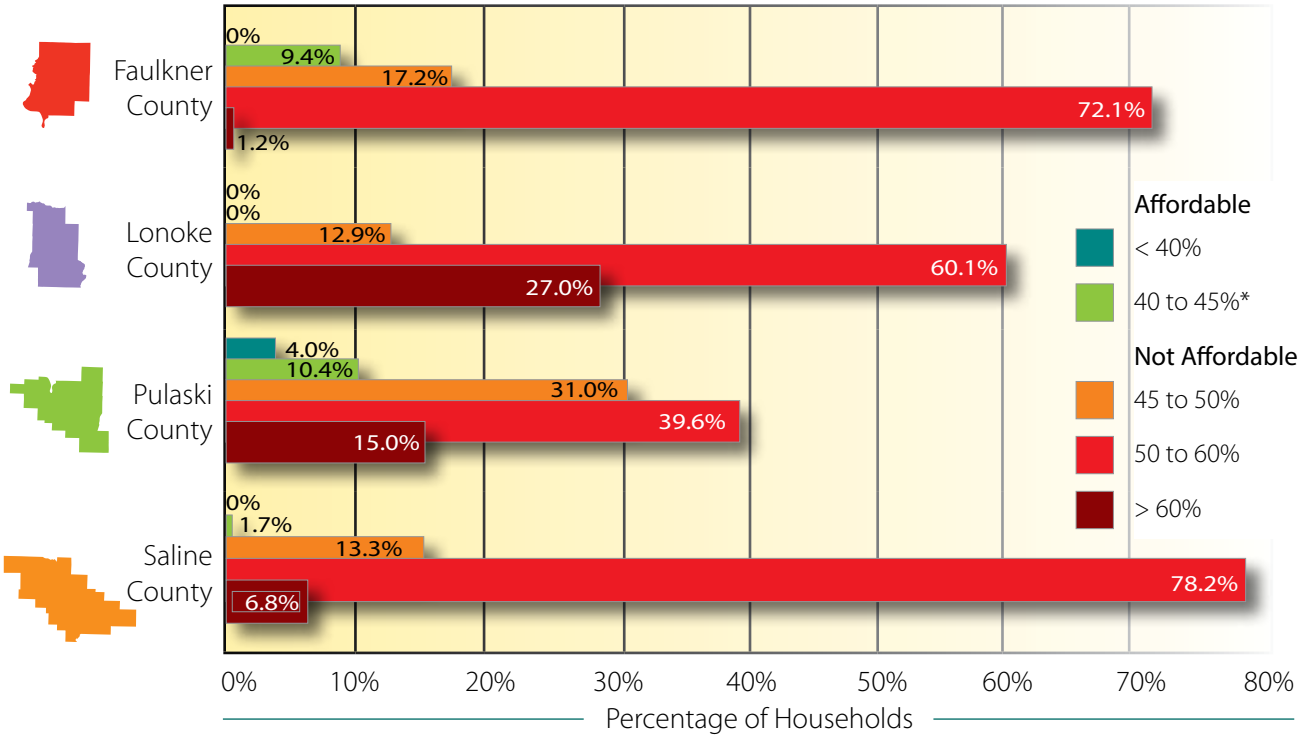
Transportation is considered "affordable" at 15% or less of median household income.



Percentage of Household Income Spent on Transportation Costs

- Insufficient Data
- < 15%
- 15 to 25%
- 25 to 30%
- 30 to 35%
- > 35%

Table 4-8. Housing + Transportation Cost as a Percentage of Household Income



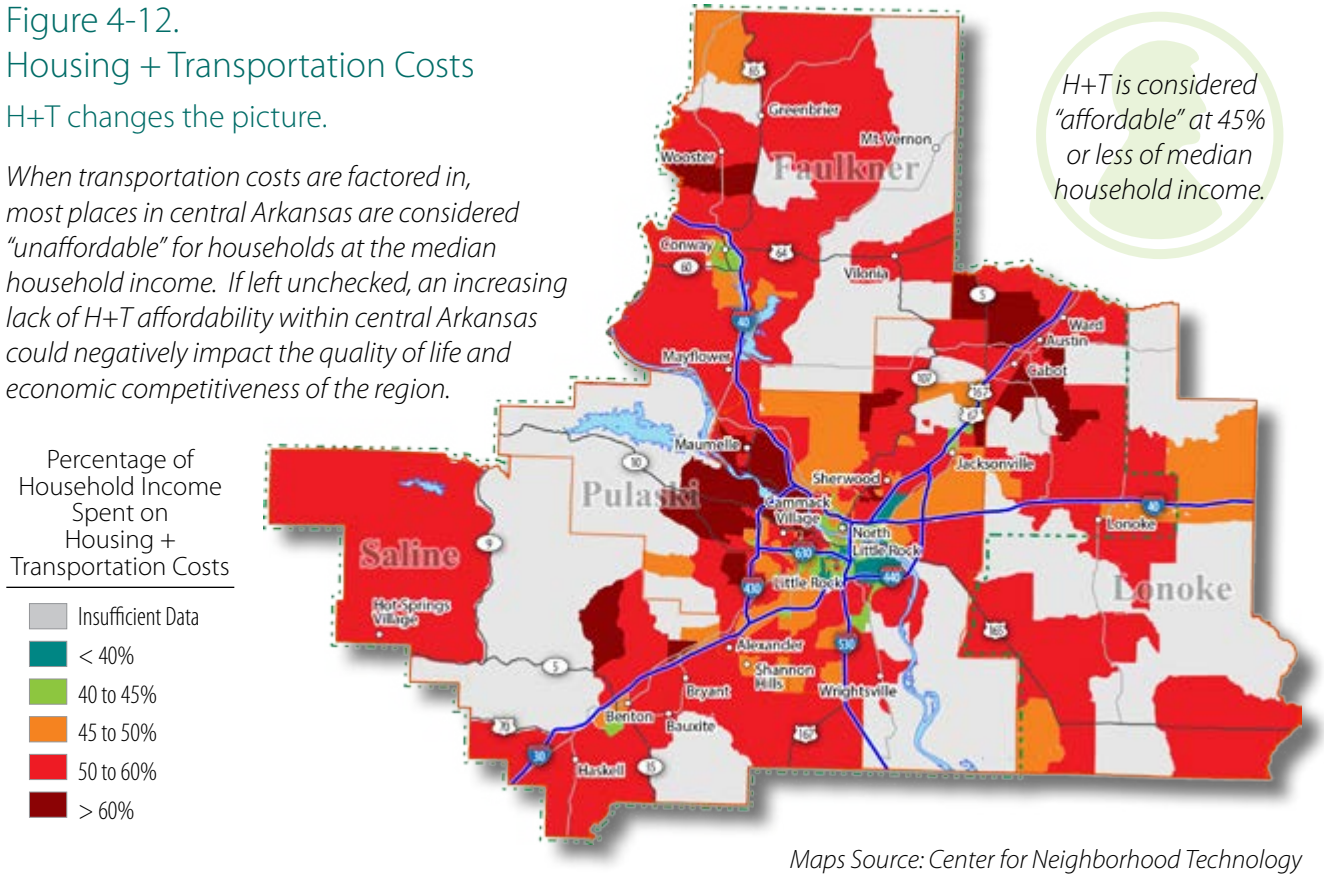
Source: Center for Neighborhood Technology

Figure 4-12. Housing + Transportation Costs

H+T changes the picture.

When transportation costs are factored in, most places in central Arkansas are considered "unaffordable" for households at the median household income. If left unchecked, an increasing lack of H+T affordability within central Arkansas could negatively impact the quality of life and economic competitiveness of the region.

H+T is considered "affordable" at 45% or less of median household income.



Maps Source: Center for Neighborhood Technology

Figure 4-13. Residential Density and Mixed Use

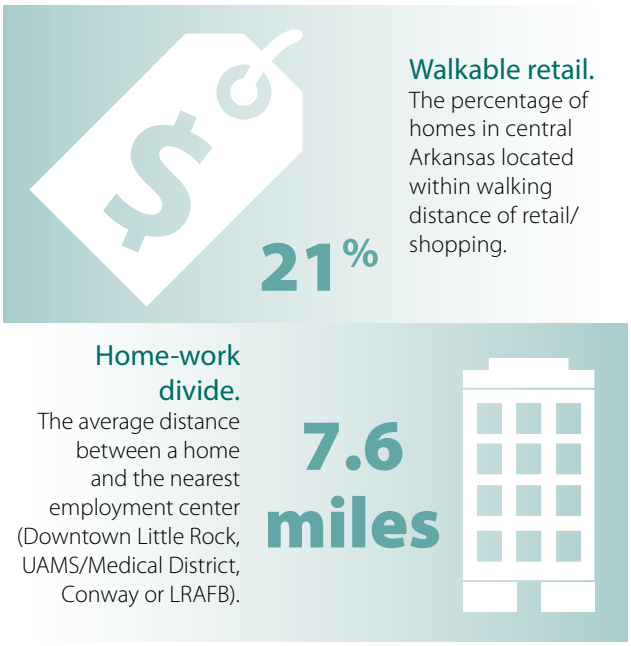
Table 4-9. Number of Homes within Walking and Biking Distance of a Destination *(at Varying Densities)*

Density, walking and cycling.

Generally speaking, places become more viable for walking and cycling at higher densities.

Gross Density (in dwelling units per acre)	Walking Distance (1/4 mile)	Biking Distance (2 miles)
1 du/ac	130	8,040
2 du/ac	250	16,080
3 du/ac	380	24,120
4 du/ac	500	32,150
6 du/ac	750	48,230

Figure 4-14. Homes within Walking Distance of Shopping and Average Distance Between Home and Employment Center



Source: Derived from data provided by Metroplan Estimates

Figure 4-15. Family Poverty Rate

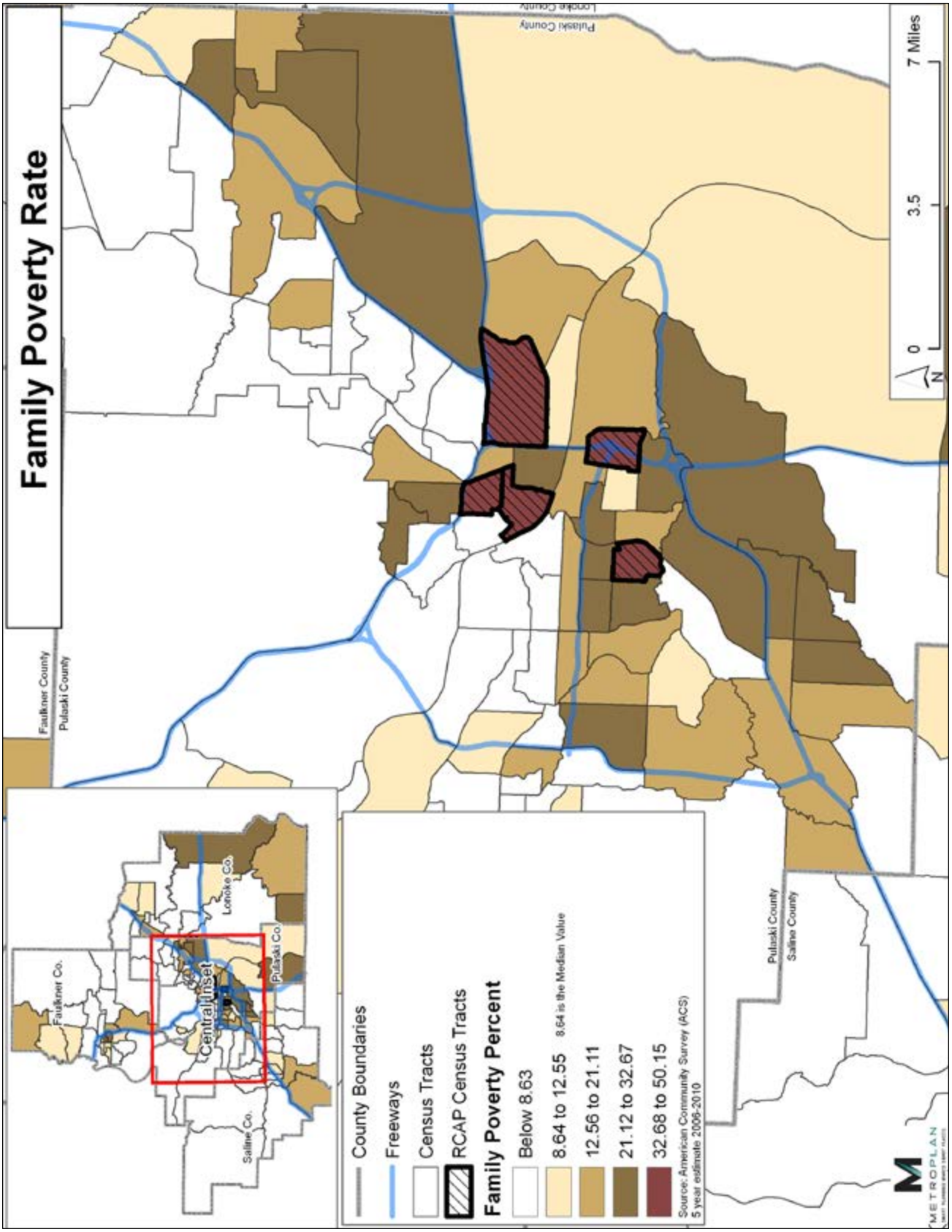


Figure 4-16. Transportation Choice Index by Census Tract

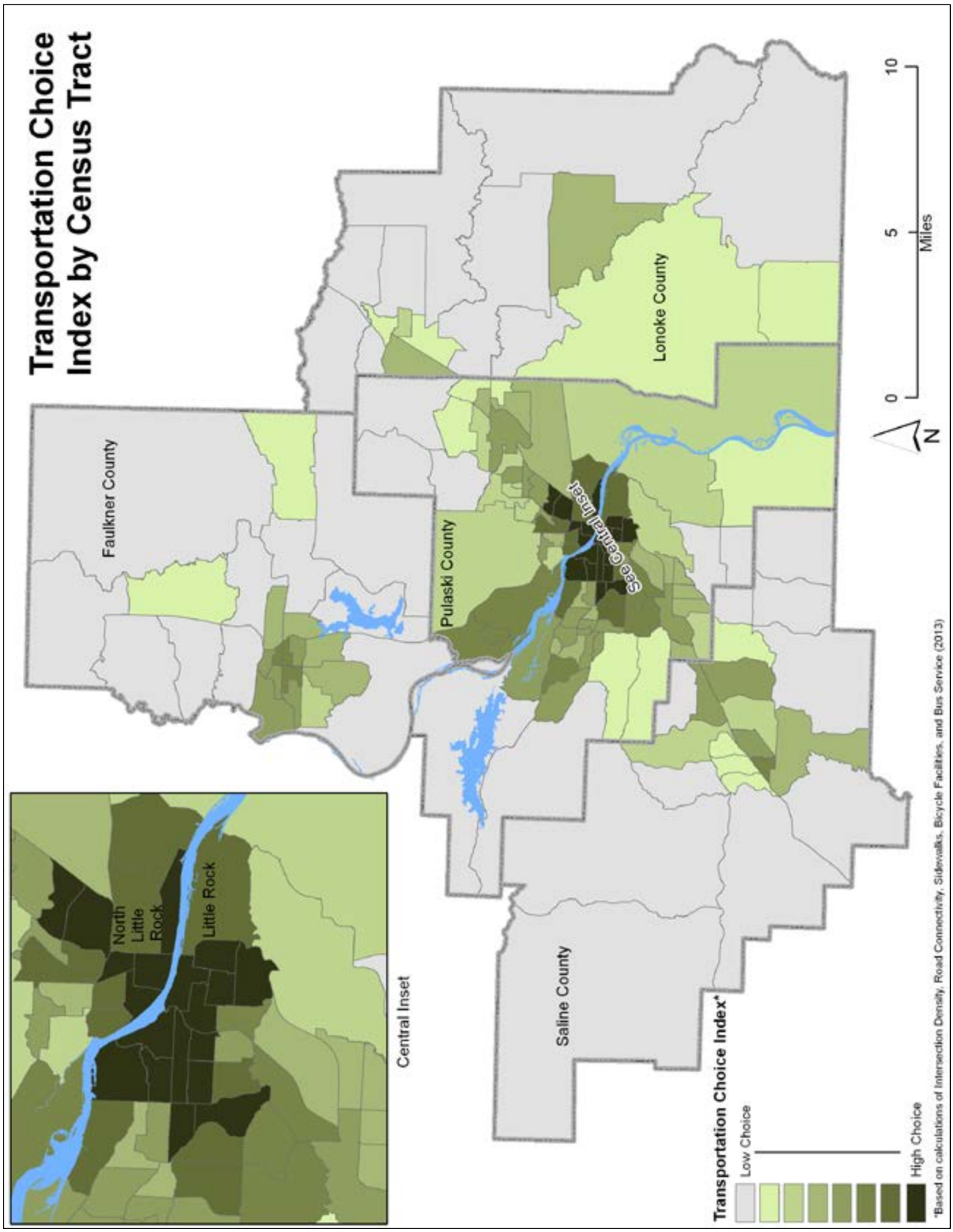
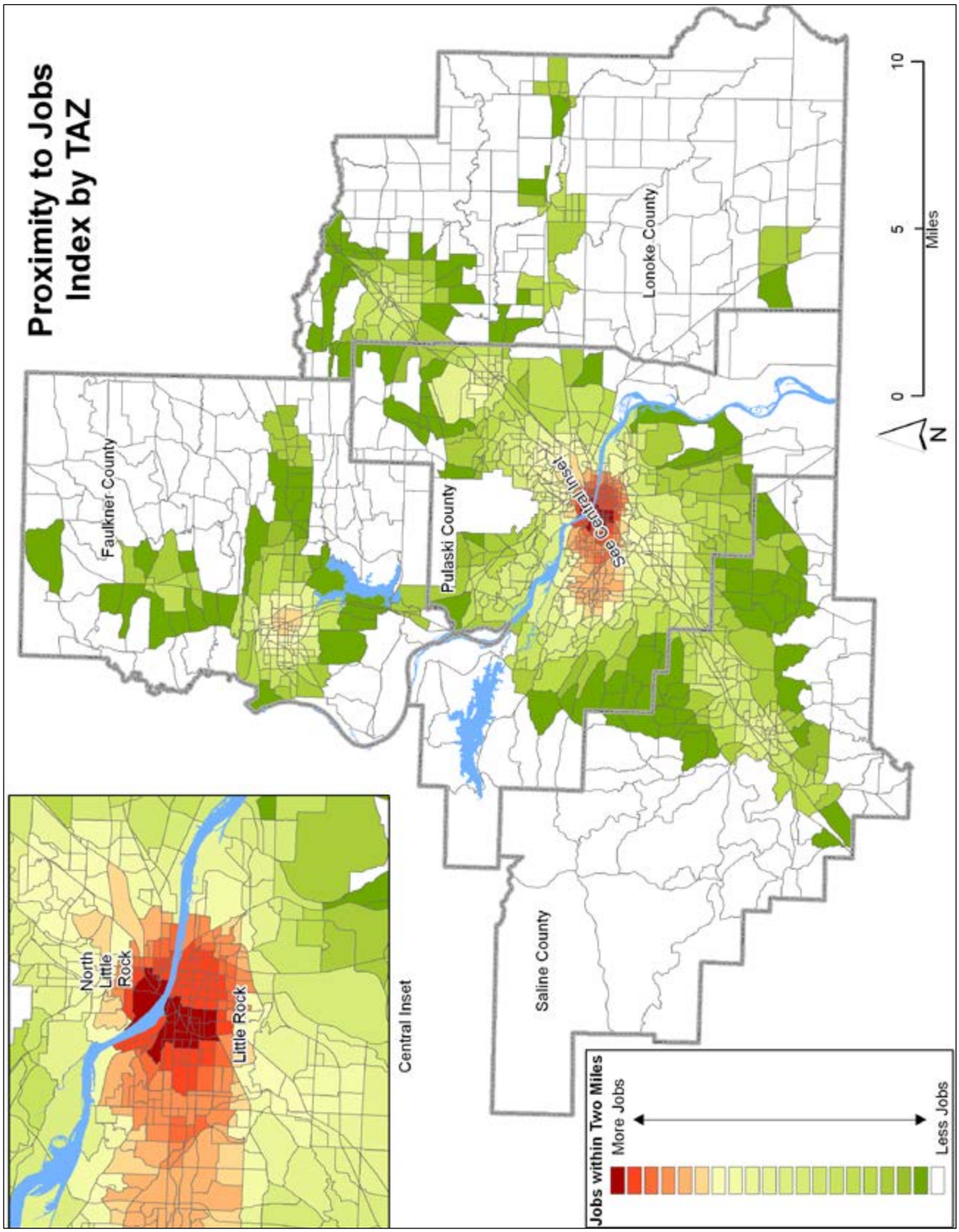


Figure 4-17. Access to Jobs by TAZ



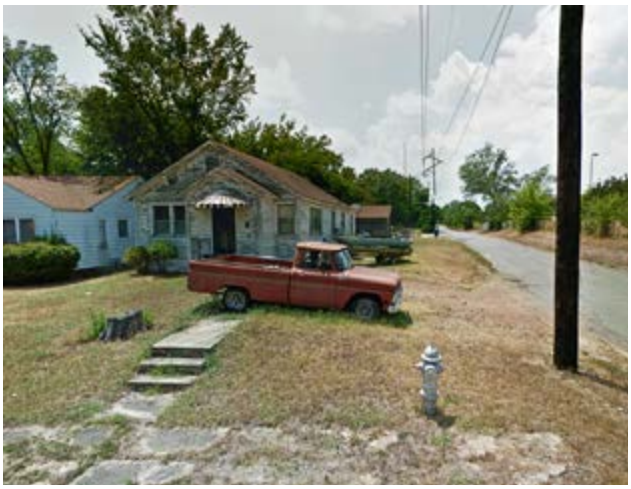
Pedestrian & Bicycle Safety

The most dangerous streets for pedestrians and bicyclists in central Arkansas are higher speed multi-lane arterials located near downtown areas. Often these areas are characterized by residential development on one side and commercial strips on the other, making it more likely that residents will cross streets on foot. The lack of safe pedestrian crossings, combined with higher speeds on these roads, contributes to the highest number of pedestrian crashes (between motorists and pedestrians). Roadways with the highest frequency of pedestrian crashes include: Pike Avenue, Camp Robinson, Broadway, Roosevelt, and Colonel Glenn. Central Arkansans who are African Americans, male, and/or age 10-30 are much more likely to be involved in a crash with a motor vehicle as either a pedestrian or cyclist. For more information see Metroplan's analysis of pedestrian and bicycle crashes at http://metroplan.org/files/53/2010Ped-BikeCrashAnalysis.pdf.

4.4.3 Increasing Opportunity: Better Living Arrangements

Fair Housing Assessment

In 2010, Metroplan was a recipient of a "Sustainable Communities Regional Planning Grant" from the US Department of Housing and Urban Development's (HUD) new Office of Sustainable Housing and Communities (OSHC). An essential element of the grant is the creation of a Fair Housing Equity Assessment (FHEA). The assessment analyzes the metropolitan area in terms of "access and opportunity" for both soft (jobs, health, etc.) and hard



A well-kept home in RCAP Tract 12 is next door to a boarded-up and condemned house.

(transportation, parks, etc.) infrastructure systems, but primarily focuses on the ability of persons in poor households to equitably access areas of high opportunity and services. Areas of high opportunity and services are sections of the community characterized by low crime, few environmental hazards, broad commercial and recreational choices and proximity to high performing schools. Increasing transportation choice, mixed-use developments and housing price point options throughout the metropolitan region are improving overall equity.

The metropolitan area's poorest households are predominantly African American and live in areas, defined by HUD as Racially Concentrated Areas of Poverty (RCAP), where more than 50 percent of

Figure 4-18. Pedestrian Crashes 2006–2011

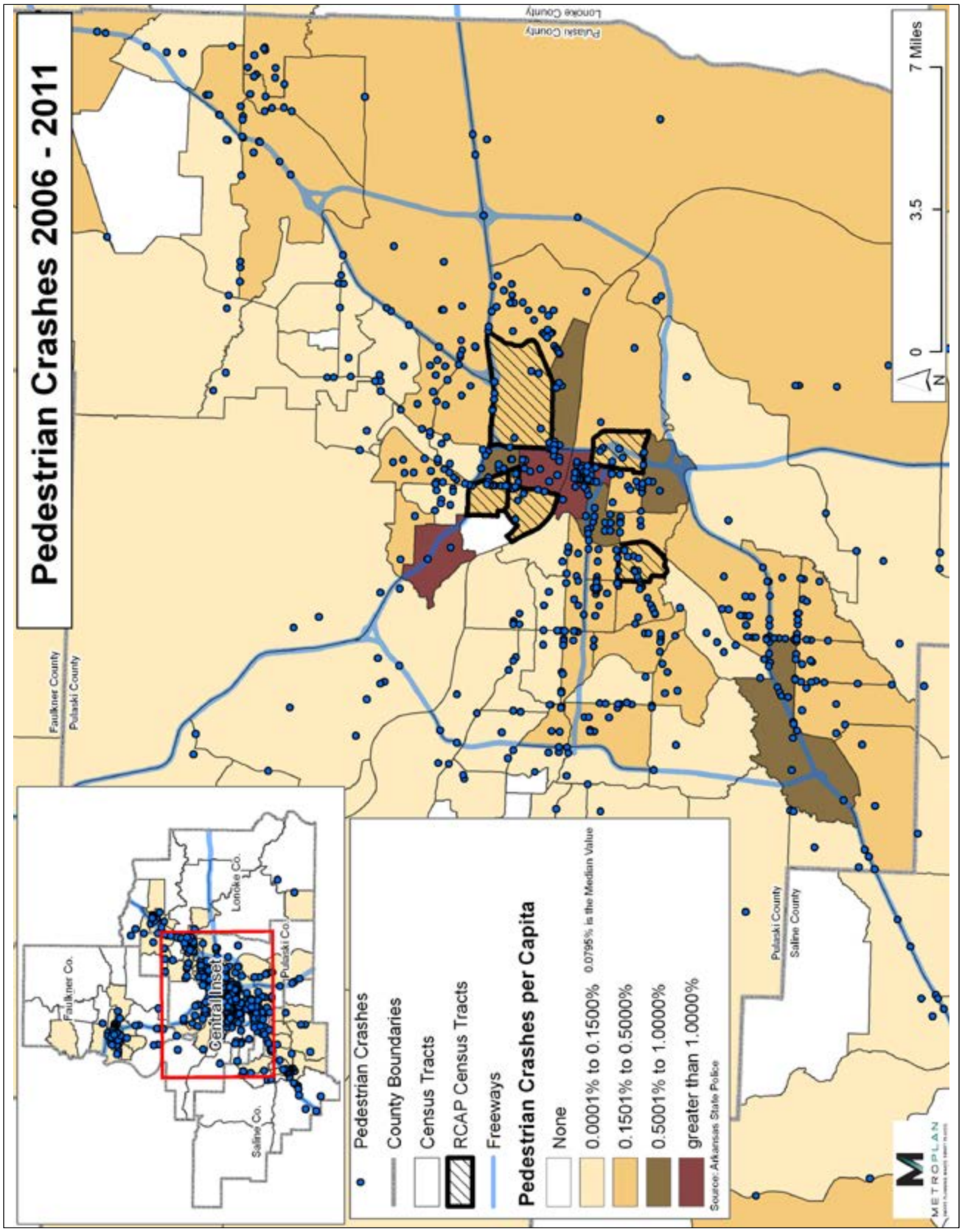


Figure 4-19. Bike Crashes 2006–2011

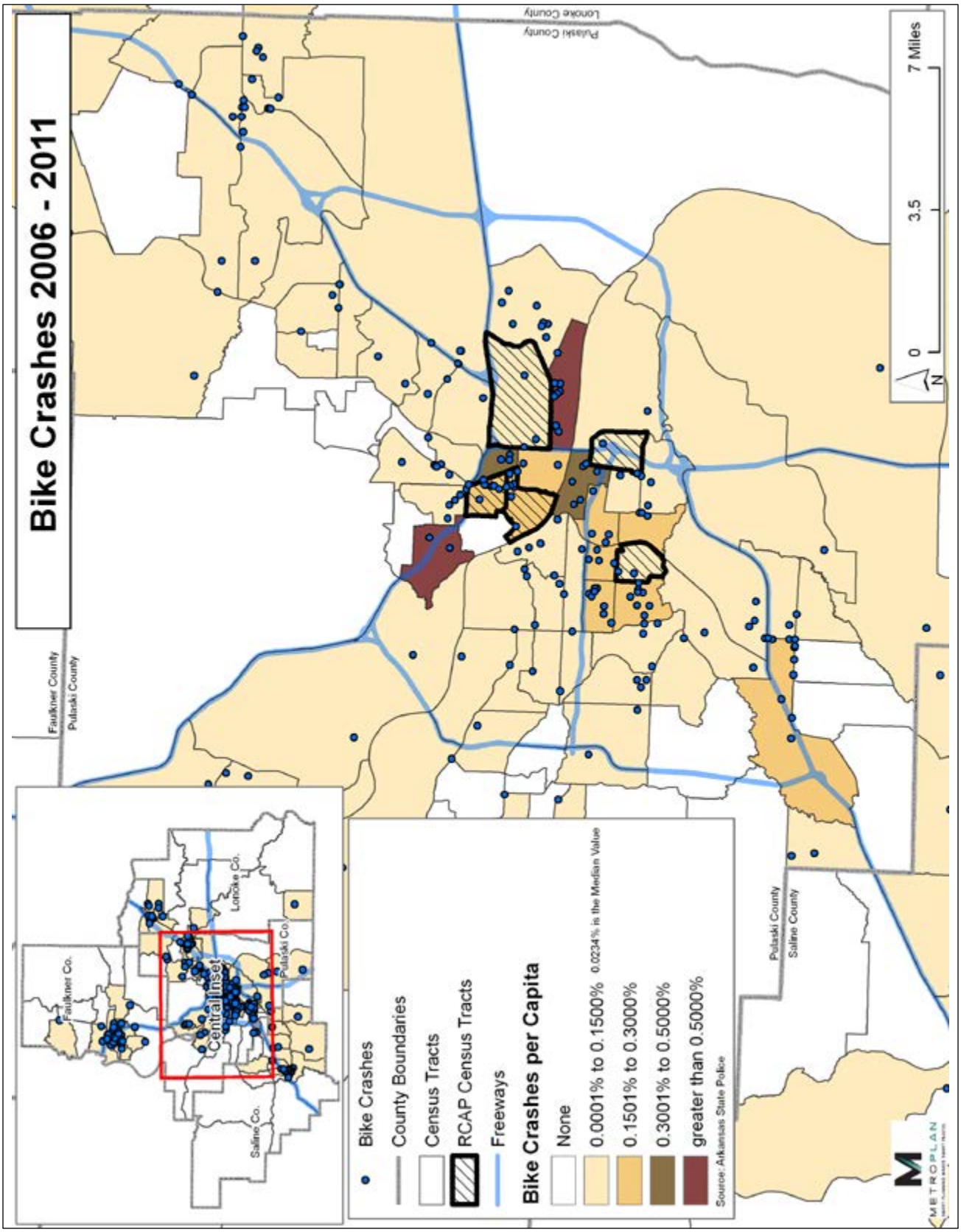
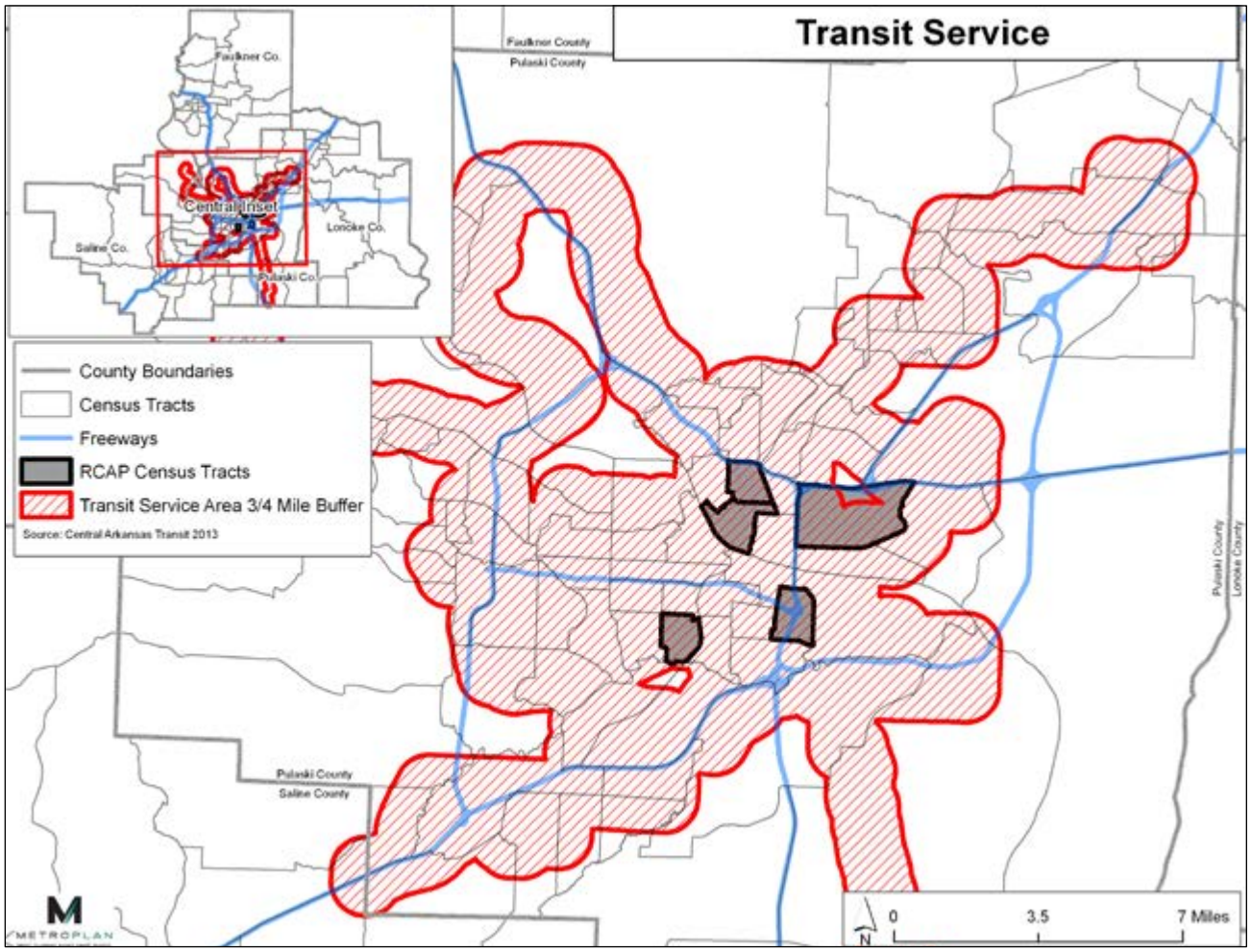


Figure 4-20. Transit Service

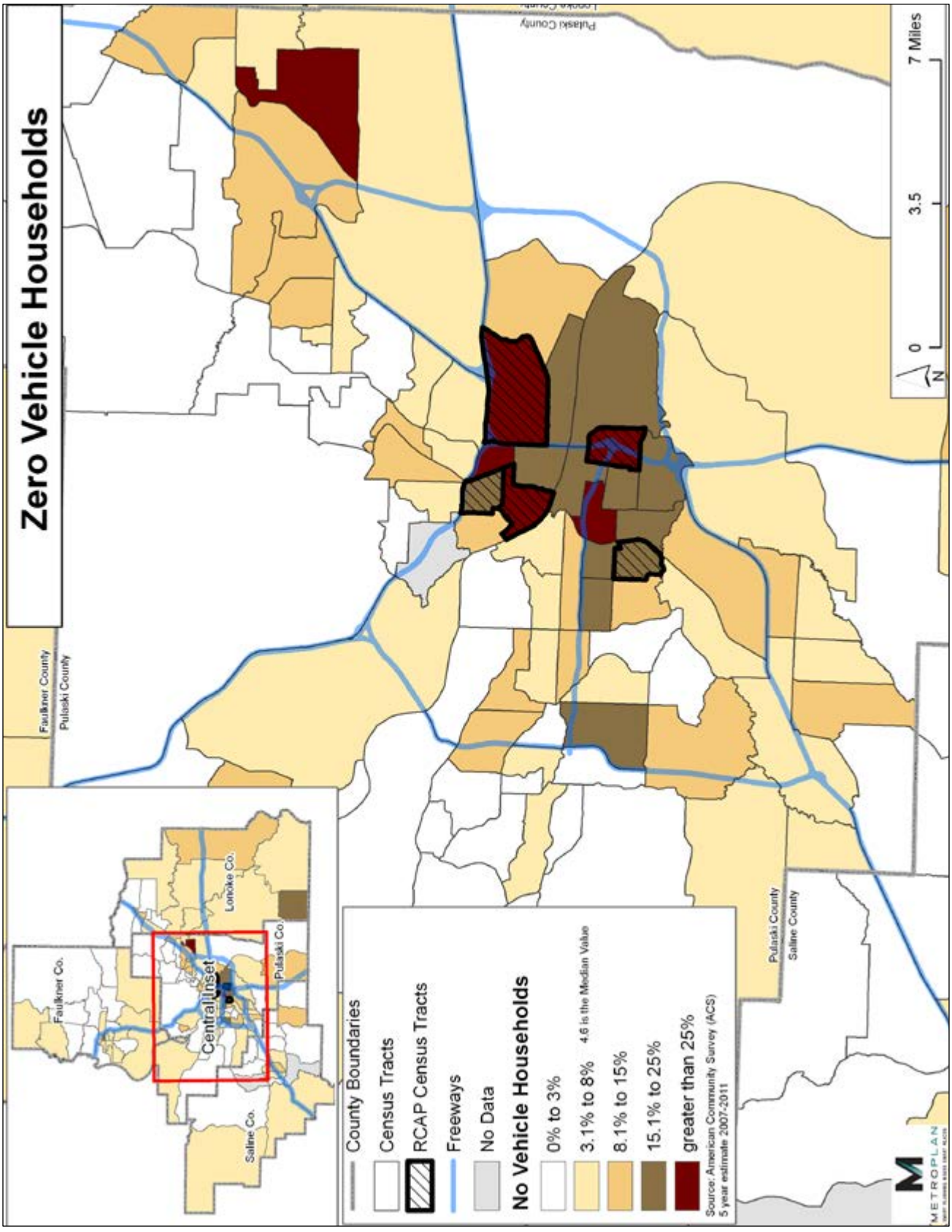


the residents are people of color and more than 40 percent of the residents have incomes less than or equal to the federal poverty line. There are five RCAPs, two located near downtown Little Rock and three located in North Little Rock. They are characterized as areas of few opportunities, high levels of violent crime and drug trafficking, numerous environmental hazards, lowest average household incomes, few commercial and/or recreational options and the highest percentages of children living below the poverty line (see Appendix J for copy of Fair Housing Equity Assessment). While the FHEA focuses primarily on the RCAPs, *Imagine Central Arkansas* focuses on equity in the broader region.

The Crime Effect

Crime has heavily influenced the pattern of suburbanization that has taken place in the last several decades. It has been so closely associated with urban decay that in many models crime is used as an indicator of decline. Prospective residents and business looking to settle and invest in the community consider crime as an important indicator. Since the 1970s, crime has been blamed for the mass exodus of urban dwellers to the suburbs and has similarly been linked to the disappearance of store fronts and the reluctance to redevelop downtown commercial areas. The most compelling argument against denser, mixed-use development is that violent crimes and drug arrests are found in greatest concentrations near the urban core and tend to deter major investments. Crime dissuades the efficient use

Figure 4-21. Zero Vehicle Households



*Zero vehicle households may include group quarter housing, like retirement homes.

of resources, thwarts development, promotes sprawl, and discourages diversity. Maintaining crime free neighborhoods is essential to achieving a sustainable community.

Limited-Auto Households

The lack of mobility is greatest for those central Arkansans with limited or no access to personal household automobiles. For this group, access to opportunity and mobility is measured to a greater extent by the availability and frequency of public transit and the walkability of neighborhoods. Reliance upon these modes makes it necessary for limited-auto households to live near bus routes or in close proximity to essential services and places of employment. A limited number of bus routes, reduced hours and/or days of operation, and a lack sidewalks all contribute to make accessing areas of high opportunity unavailable for this population, and can lead to these individuals living confined lives. For these households, public transportation is a lifeline. Economic independence depends on convenient access to employment, food options, and medical care.

Locating Opportunity

An important consideration to increase opportunity is the broader geographic availability of affordable and safe housing. The exclusion of a wider variety of housing types in areas of opportunity regularly involves the scarcity of affordable housing, which restricts where those of lesser means can afford to live.

The downtown cores and inner neighborhoods of Little Rock and North Little Rock offer three distinct benefits to residents: 1) Transportation costs within these areas are the lowest regionally, due to their proximity to areas of high employment and the availability of alternative transportation modes; 2) housing costs are also among the lowest in the region; and 3) they have the most public and subsidized housing options. To further capitalize on the benefits of these areas, crime must be reduced, education opportunities expanded and quality housing provided.

4.4.4 Imagine Central Arkansas' Role

Enhancing equity within the metropolitan area requires expanding both transportation and housing options. *Imagine Central Arkansas* provides the framework for investing in our regional infrastructure. The FHEA report provides regional quantitative data that local, state and federal governments, in collaboration with private developers, community stakeholders and advocates, can use to help provide area households with access to safe and healthy environments. The report also shows that transportation is of critical importance to achieve and maintain economic vitality not only within the RCAP areas but the region at large. By adding more transportation choices and expanding transit service, the metropolitan area can achieve greater equity for all residents.

4.5 Obstacles to Regional Sustainability

Is the region trending toward greater sustainability? Broadly speaking, the answer is "yes," but there are exceptions and the pace of movement toward sustainability is slower than it could be. The RPAC acknowledges that the public perception of sustainability and environmental stewardship is changing. Through Jump Start, Metroplan is initiating efforts throughout our region to incorporate sustainability and environmental considerations into small, local developments. These development plans demonstrate how developers and cities can build in a manner that provides economic benefits (to both the

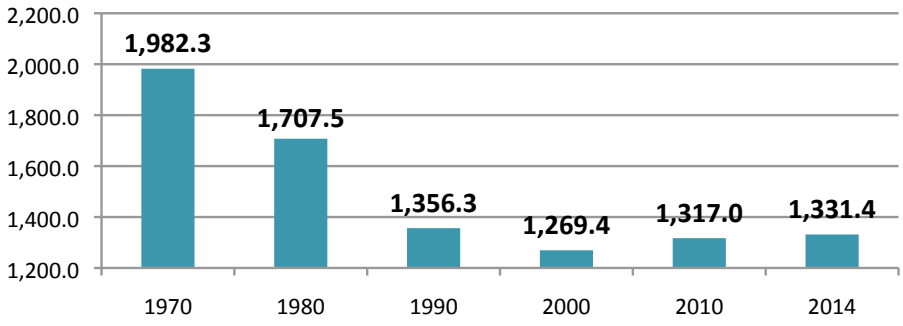
developer and city) while simultaneously achieving sustainability.

Ultimately, a failure to embrace sustainability could impact the region's ability to attract new jobs and residents, to maintain a high quality of life and to preserve our natural environment. A few metrics can help illustrate both the region's progress, as well as obstacles. While not the only measures, these elements illustrate how sustainable practices, or lack thereof, could affect environmental quality and economic costs.

4.5.1 New Development

The central Arkansas region is one of the least dense, in terms of persons per square mile, among the country's 100 largest urbanized areas (ranking 87th among the largest 100, at about 1,300 persons per square mile). While analysis indicates that density increased slightly from 2000 to 2010, and a bit more through 2013, (Table 4-10) the region lags the U.S. trend of more concentrated growth of residential population. Despite local exceptions, like redevelopment activities in downtown Little Rock, North Little Rock, Conway, and midtown Little Rock, on the whole the region continues developing in a low density, sprawling pattern that will make pedestrian and transit access problematic in the future, and which will continue the region's dependence on private automobiles.

Table 4-10. CARTS Area Incorporated Population per Square Mile 1970-2014



Note: figures are provisional because 2010 data represent GIS-based land area data for reasons of compatibility with 2014 land area data. Figures for 1970, 1980, 1990 and 2000 remain Census-based.

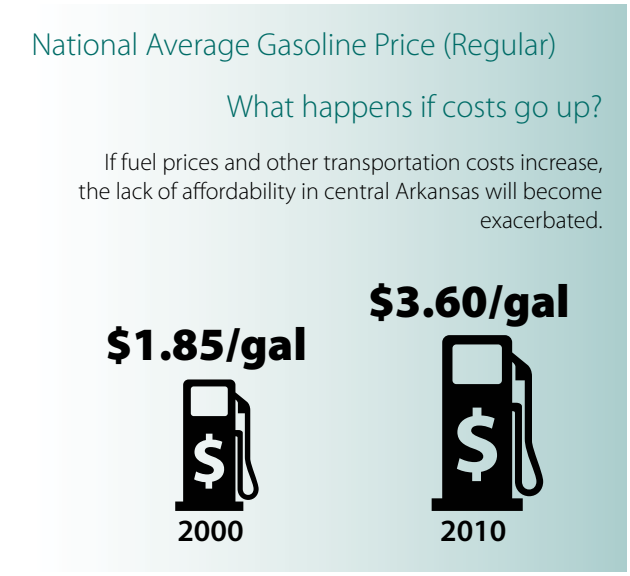
4.5.2 Transportation Effects

From a financial standpoint, transportation impacts sustainability in different ways. For one, the cost to build new roads continues to increase, while the amount of revenue available for maintenance and construction remains stagnant at best.

Chapter 7 of *Imagine Central Arkansas* includes a full discussion of the transportation revenue forecast for central Arkansas. Improved fuel efficiency, alternative fuel vehicles, and slower VMT growth are reducing conventional sources of transportation funding. At the same time, the construction cost of transportation facilities continues to increase, which hinders the region's construction program. Without new sources of revenue the future of our transportation network is bleak, as existing infrastructure falls into a state of disrepair.

On a regional level, residents of central Arkansas spend a disproportionate amount of their income on transportation; personal transportation affordability could become an even greater issue in the future if fuel costs continue to rise without alternative means of transportation available.

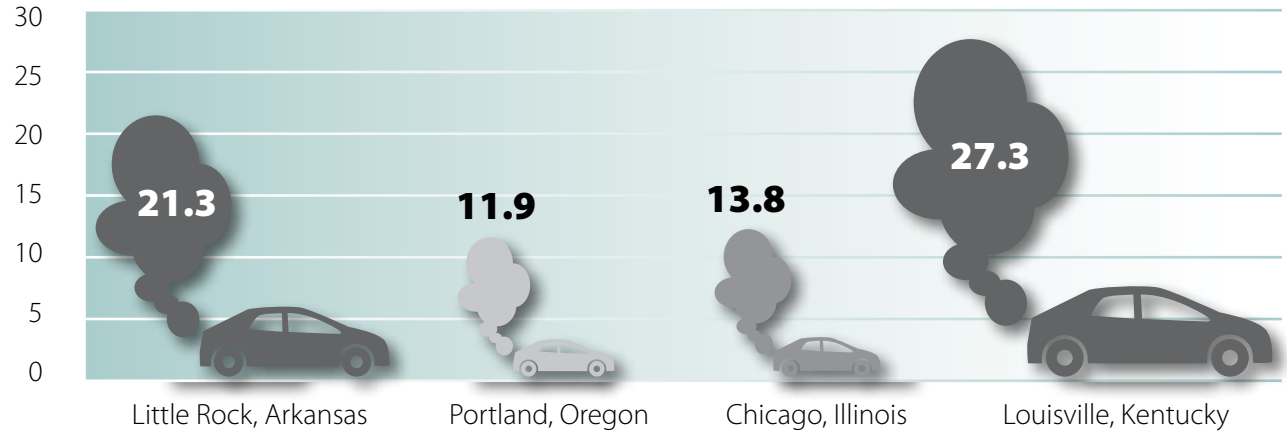
Figure 4-22. Average Price for Gasoline



Source: U.S. Energy Information Administration, adjusted for inflation

Indirectly, transportation impacts sustainability in other ways. The nature and framework of transportation investments in central Arkansas strongly influences development patterns across the region, affecting the amount of land and resources

Table 4-11. CO_2 Emissions Per Capita (tons)



Sources:

- *www.portlandoregon.gov/bps/article/268612*
- *http://www.cnt.org/repository/Chicago-Climate-Analysis-Final.pdf*
- *http://www.louisvilleky.gov/NR/rdonlyres/9C5722BB-62FD-481B-A8D0-5FD5F29A4640/0/Louisville_Metro_GHG_Inventory_Report_v420081120.pdf*

consumed, the amount we drive, and whether walking, cycling and riding transit is feasible.

4.5.3 Environmental Concerns

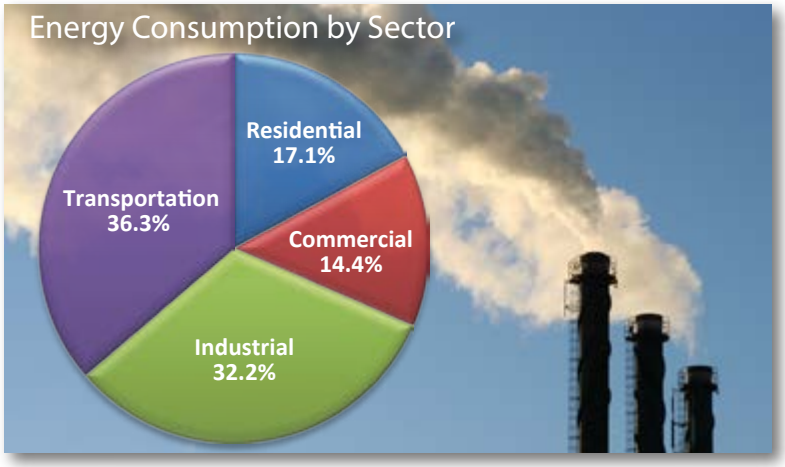
Air Quality

National-level studies of the region's carbon footprint demonstrate that the Little Rock-North Little Rock-Conway MSA ranks among the highest in the country for carbon emissions per capita. The region's high carbon footprint has at least two negative impacts: (1) if, in the future carbon regulations occur, the region will have to pay a greater economic penalty than average for remediation; and (2) the region's high carbon output suggests other inefficiencies that have costs in terms of energy waste and air pollution including emissions of other chemicals, like carbon monoxide and volatile organic compounds (VOCs).

The transportation sector is the single largest source of man-made greenhouse gas emissions in the region, responsible for almost one-third of all emissions. Transportation-related emissions are primarily attributed to the operation of motor vehicles, which are at their worst during periods of idling or in stop-and-go conditions.

Additionally, ground-level ozone is a significant health concern for the region, prompting "Ozone Action Days," an awareness campaign to reduce ozone-related emissions and prevent harmful

Figure 4-23. CO_2 Consumption and Emissions Per Sector

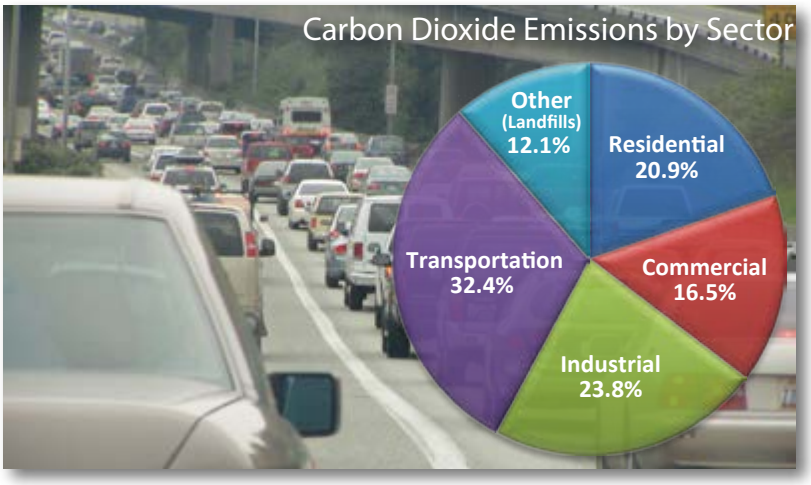


Power hungry.

Transportation consumes more energy in central Arkansas than any other source. A majority of the region's energy comes from fossil fuels, which are a finite resource.

Clearing the air.

Transportation is the single largest source of man-made carbon dioxide emissions in central Arkansas. Carbon dioxide is a direct source of ground-level ozone, which carries significant health risks, and is linked to environmental issues.



Source: Data was entered into the CACP 2009 software program using guidance from the Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories (version 1.1) and ICLEI Community-wide Greenhouse Gas Inventory Instructions: CACP 2009 Data Entry & Quality Control.

exposure when levels are at their highest. Ground level ozone is formed from the combination of volatile organic compounds (VOCs) and nitrogen oxide (NO_x), a by-product of fossil fuel combustion.

Water Resources

Central Arkansas Water (CAW) serves as the utility company for approximately 400,000 residents in the metropolitan area. The water sources for CAW are Lake Winona, located in Saline County, that supplies 35 percent of daily system-wide demand and Lake Maumelle, located in west Pulaski County that provides about 65 percent of daily system-wide demand. American households typically use 107,000 gallons of water each year. Conserving water not only protects our water sources, but also saves money.

According to the U.S. Department of Energy, Arkansans spent $3,655.33 on energy per person in 2009, a difference of $194.61 from the national state average, ranking Arkansas 24th on energy expenditure per capita. In terms of total energy usage of the same year, Arkansans consumed 365 million BTUs* per person compared to an average of 208 million in the US, ranking Arkansas 17th in states with the highest energy consumption. This means that Arkansans use and pay for more energy than the average American.

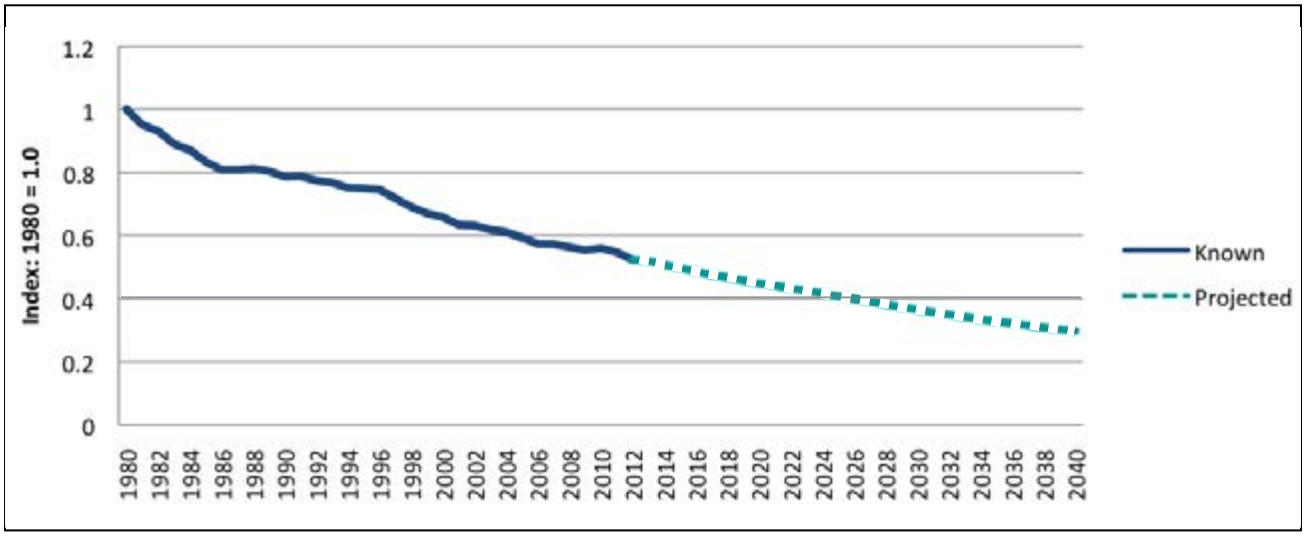
Also, the transportation sector is the single largest consumer of energy, accounting for over one-third of all energy consumed in central Arkansas. We are burning more fuel, and generating more traffic per capita than the national average. This makes the region vulnerable to fuel price hikes, and contributes to regional air pollution. Fossil fuels, including coal and electricity derived from coal, oil and gas, are the primary sources of energy for the region. Fossil fuels

are a finite resource. Just as important, fossil fuels are closely associated with environmental damage, particularly air pollution.

**British Thermal Unit, a BTU is a way to measure the amount of energy needed to cool or heat one pound of water by one degree Fahrenheit.*

Table 4-12 shows the trend in U.S. energy use per dollar of GDP for the years 1980-2012, with a U.S. Department of Energy forecast to 2040. As the chart shows, by 2012 it took barely more than half as much energy to generate a dollar of economic activity as it had 32 years earlier. The improvement reflects more energy-efficient vehicles and appliances, the use of information technologies for more efficient allocation of resources, and other improvements. While specific figures do not exist for central Arkansas, there can be little doubt the local trend has been similar. While specific figures do not exist for central Arkansas, there can be little doubt the local trend has been similar.

Table 4-12. U.S. Energy Use per Dollar of GDP 1980–2040



Source: U.S. Energy Information Adminstration, 2014

Top Ten Trends

In the spring of 2013, the Regional Advisory Planning Council (RPAC) and the general public were challenged to consider how external **trends** will **influence** central Arkansas over the coming decades and determine how these trends will impact *Imagine Central Arkansas*. The following list is the top 10 trends that these groups identified as having the greatest **impact** on central Arkansas:

1. New and expanded **alternative fuel** sources and vehicles will positively impact the environment but negatively impact transportation funding revenue.

2. Demographic and market shifts will create demand for more accessible and **smaller-lot housing** in walkable neighborhoods in close proximity to groceries, parks and schools.

3. More **active lifestyles** and greater transportation choices will be desired.

4. Improved **technology**, such as real-time arrival **information** via mobile device, will make public transit easier to use.

5. National transportation policy will have a major influence on transportation **funding**, generating the need for new sources of revenue.

6. Growing **diversity** in our population will impact our choices in living environment, housing and community interaction.

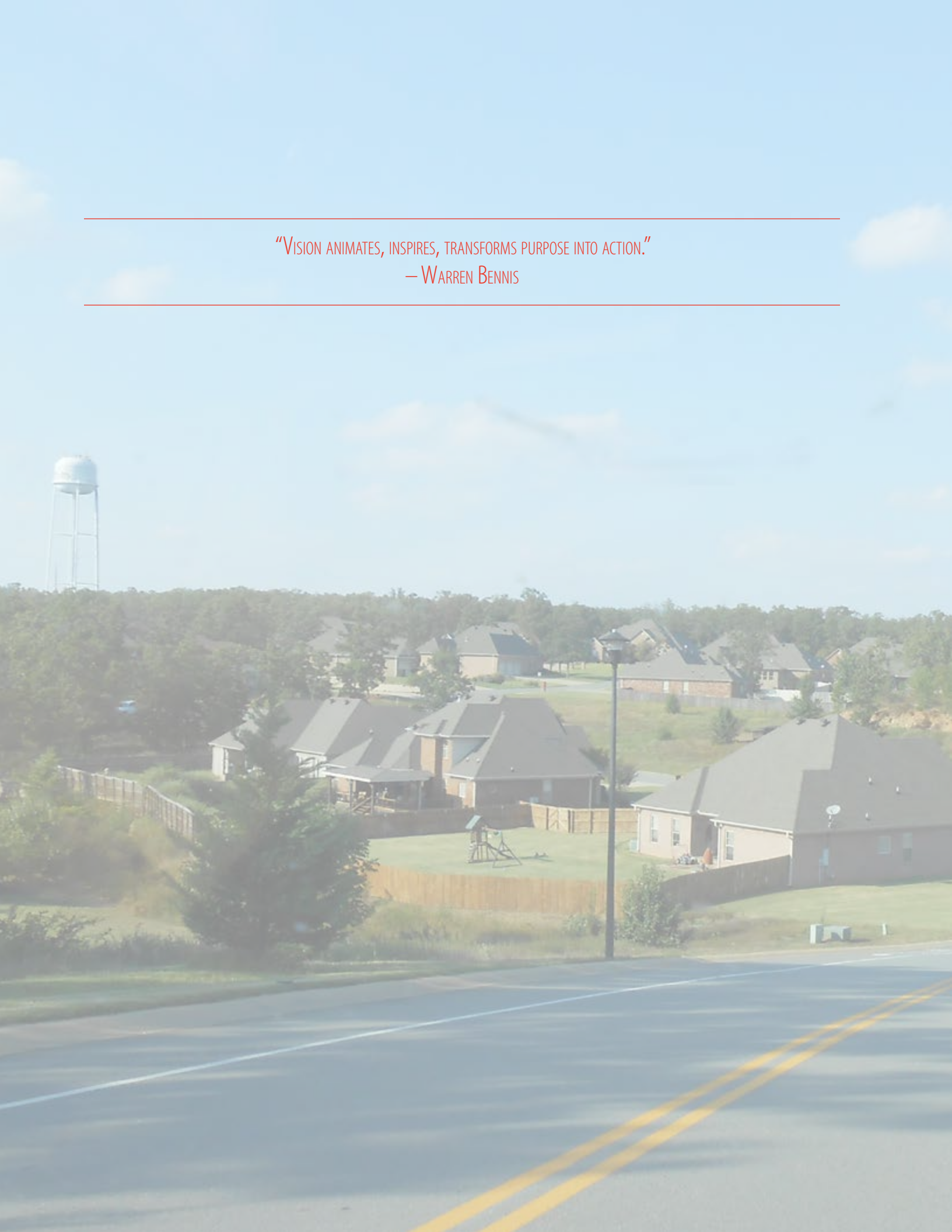
7. Aging and **millennial populations** will desire more opportunities for walking and bicycling.

8. Integration of **technology** into **vehicles** (i.e. dashboard screens, collision avoidance systems) will improve the efficiency and **safety** of our transportation system and minimize **congestion**.

9. The public perception of **sustainability** and the environment will impact future practices (i.e. recycling, driving habits).

10. **Population growth** will generate resource conflicts and the risk of ecosystem collapse, which will lead to changes in available **resources**, and as a result, quality of life.

"Vision animates, inspires, transforms purpose into action."
– Warren Bennis



Chapter 5. *Imagine Central Arkansas* — A Long Term Sustainable Vision

Imagine Central Arkansas is a broad, regional vision "imagined" by central Arkansans. The vision seeks to retain the livability — quality of life — that we have come to treasure about our region, while moving the region toward true sustainability. The vision includes strategies to provide more housing options, real transportation choices and access to healthier foods and services to a larger segment of our population; coupled with better stewardship of our environment and energy systems all supported by a foundation of a robust economy and globally-competitive educational system.

Chapter 5 introduces the Vision, Goals and Objectives of *Imagine Central Arkansas*; the concepts of livability and sustainability; tools for measuring the plan's progress; and an in-depth look at quality of life for our region.

5.1 Setting the Agenda for Change: Vision, Goals and Objectives

The plan's vision for central Arkansas is compelling, but it is not new. The responses gathered during this two-year planning effort strongly reaffirmed aspirations that have been articulated since 1995, when METRO 2020 was developed. Eighteen years later, *Imagine Central Arkansas* continues along that path.

For *Imagine Central Arkansas* to be effective there must be a policy framework to guide decision-making and setting of priorities. These policies are most often carried out through member governments' and agencies' adoption of jurisdictional land use and master street plans, zoning and subdivision regulations and transportation project development and implementation.

The vision statement and supporting goals and objectives are intended to guide the implementation and development of the region's vision, including the technical analysis and evaluation of specific projects.

5.1.1 Sustainable Vision

Imagine Central Arkansas is a community-driven guide to creating a sustainable, healthy and prosperous region that celebrates diversity, regional cooperation, educational excellence, economic vibrancy, and quality choices in housing and transportation. Imagine…

5.2 Livability and Sustainable Communities

Livability and sustainability are often used interchangeably, yet the two terms are not synonymous. There is no universally accepted definition of livability or sustainability, nor is there general agreement as to how each can be achieved. With that in mind, central Arkansans, under the guidance of HUD's six livability principles, crafted their own versions of these concepts. Through a variety of online survey tools and in-person venues, participants consistently drew a picture of a region with places to connect and play, and a quality of life that contributes to and helps ensure a stable economy and affordable lifestyle.

What Do Central Arkansans Value?

- Natural and civic spaces.
- Places to connect and play.
- Choice in transportation (including transit, walking, bicycling).
- Safe, family-friendly.
- Economy and affordability.
- Quality of life.

Based on responses collected through the website, social media and face-to-face outreach. See Appendix B for more information.

Imagine Central Arkansas' definitions of livability and sustainability are derived from criteria presented in the Vision, Goals and Objectives.

Livability

The concept of "livability" is understood intuitively. Across a wide spectrum of residents, definitions of livability all hark to common themes: accessible housing and transportation, environmental stewardship, economic resilience, educational excellence and the value of community interaction. Essentially, livability for central Arkansans is quality of life.

Sustainability

Sustainable living means meeting current needs without compromising the ability of future generations to meet their own. When these needs are met, the region can maintain the qualities that make it unique without jeopardizing its future. Sustainability is a system that is affordable, efficient, and one that creates opportunity for central Arkansas residents and businesses.

Identifying the Public's Direction

The public realized that how we build directly affects livability and sustainability. The vision that emerged focuses on compact, mixed-use growth both in scale and function, but is shaped by a regional transit network. Features include defined activity nodes along transportation corridors throughout the region, complemented by a mix of compact, walkable neighborhoods, as well as traditional suburban and rural areas. The characteristics of central Arkansans' ideal built environment will be presented in this chapter as well as in more detail in Chapter 6.5.3

A History of Sustainability

The idea of sustainability has long been a feature of ecology and biological diversity. The concept of sustainable living emerged from the world's first Earth Summit in Rio De Janeiro in 1992. The concept resonated with people and has since been on the minds of scientists, planners, and communities.

5.3 Maximizing Regional Livability and Sustainability

The Vision, Goals and Objectives outline aspirations for a more livable and sustainable region. The following common themes are categorized and presented as Economy and Education; Housing; Transportation and Mobility; Health and Safety; and Environment, Energy, and Natural Resources. However, these themes are inter-woven to form a complete fabric of a sustainable region. The interconnectedness of these facets is crucial to help the region grow in a fashion that optimizes success and ensures livability for generations to come. Each of the five themes mentioned above contains a "Sustainable Connections" section that displays how the themes relate to one another, as well as how they improve the region's chances for sustainability by offering affordability, efficiency and opportunity.

Figure 5-1. Goals

GOAL 1. ECONOMIC GROWTH AND VITALITY

Maintain and grow the central Arkansas economy as a diverse, globally competitive market through responsible development practices to attract people and businesses that contribute to economic growth and vitality.

GOAL 2: QUALITY CORRIDORS & TRANSPORTATION CHOICE

Build and enhance a regional network of quality transportation corridors with high design standards for efficiency in moving traffic, with provision for pedestrian, bicycle and transit options, and with consideration of freight needs. Create a metropolitan system that allows all citizens reasonable access to services and jobs without regard to age, income or disability by providing many transportation choices.

GOAL 3: ENVIRONMENTAL QUALITY AND SUSTAINABLE ENERGY

Protect and enhance the quality of the natural and built environments within central Arkansas.

GOAL 4: LAND DEVELOPMENT AND HOUSING

Protect and enhance the efficiency of the metropolitan transportation system by linking land development and the provision of transportation facilities. Proper land development is essential for creating conditions that foster sustainable housing and neighborhoods. Housing for central Arkansas should be safe, affordable, energy-efficient, geographically available and accessible.

GOAL 5: HEALTHY AND SAFE COMMUNITIES

Create and support the conditions that will enable central Arkansas to become known as the healthiest and safest community in America.

GOAL 6: FUNDING ADEQUACY

Identify and provide funding sources adequate to build, maintain and operate metropolitan infrastructure systems, including both soft and hard infrastructure systems - transportation, utilities, schools, universities and housing - with the safety and protection services necessary to make them usable.

GOAL 1. ECONOMIC GROWTH AND VITALITY

Maintain and grow the central Arkansas economy as a diverse, globally competitive market through responsible development practices to attract people and businesses that contribute to economic growth and vitality.

1.1 Provide a world class education to the residents of central Arkansas, and increase the proportion of skilled workers in central Arkansas. Recognize that education is the key to be globally competitive and to create jobs and human capital needed to meet the ever-changing requirements of the global market place in the 21st Century.

Strategies include:

- Reduce the high school dropout rate to zero.
- Raise the percentage of college educated within central Arkansas beyond the current 26.7 percent of persons 25 years or older, to above the national average.
- Retrain and coordinate education programs for jobs that are currently unfilled.
- Educate the future workforce in skills and thinking needed to stay relevant and competitive during periods of rapid change.
- Effectively utilize and coordinate workforce development resources.
- Connect all schools, universities, and research labs via advanced communications network.
- Educate people for current technologies, and prepare them for future technological innovations.

Note (1.1): The economy of central Arkansas cannot compete or prosper while absorbing the loss of human capital. This begins by finding ways to reduce "chronic absenteeism" among students.

1.2 Build and operate a multi-modal metropolitan transportation system that supports the economic growth of central Arkansas through the safe and efficient movement of people and goods.

1.2.1 Freight. Build a multi-modal transportation system that provides for critical intermodal freight connections in order to improve competition and service and to lower transportation costs to businesses and consumers in the metropolitan area.

Strategies include:

- Fully develop **intermodal hubs** in the region to support economic growth. Develop the Port of Little Rock/Clinton National Airport complex as the primary intermodal freight hub in the region. Provide container traffic to and from the Little Rock Port via effective rail access to several trans-continental rail carriers (multiple class 1 railroads). Improve connectors to other intermodal freight facilities in the region from the Nation Highway System.
- Market ***river*** transportation by emphasizing the Port of Little Rock's connection to all the ports of the world via the inland river system connections to the Port of New Orleans and other Gulf ports. Complete a twelve foot channel along the Arkansas River connecting the MSA with the Mississippi River.
- Improve ground access to airport facilities consistent with airports' master plans.
- Improve interstate **truck** movement by widening the interstate highways in the metropolitan area to six main travel lanes, removing freight bottlenecks, and providing driver information on urban congestion to allow truckers to take alternative routes. Increase accessibility to commercial and industrial areas for freight movement.
- Separate highway and rail at all high-use crossings in the metro area in order to improve rail efficiency and highway safety. Complete remaining top priority grade-separated crossings by 2020. Construct a high speed rail connecting Little Rock with Dallas, Memphis, and St. Louis.

Note (1.2.1): A strategic objective for the Little Rock-North Little Rock-Conway metropolitan area is to reduce freight drayage between Little Rock and Memphis on I-40, thereby reducing damage to the highway and the environment and improving highway safety. This could be accomplished by bringing a freight hub to the central Arkansas region or by providing modal options for freight travel between the two regions (new railroad).

1.3 **Quality of life**. Contribute to a high quality of life and place in the metropolitan area by minimizing congestion, providing modal choice, encouraging high quality design in transportation facilities, and by providing an adequate and well-maintained public infrastructure at a reasonable cost.

1.3.1 Maintain quality infrastructure that can support regional growth for all citizens.

Strategies include:

- Create higher density developments
- Analyze the long-term cost of maintaining infrastructure when making development decisions.
- Create more walkable communities.
- Invest in technology infrastructure that provides universal access to high speed internet.

Note (1.3.1): higher density developments decrease transportation cost and public sector expenditures on infrastructure maintenance and increase supporting tax revenue per acre.

Note (1.3.1): As shown in property valuation studies, high "walk scores" for cities and neighborhoods are strongly correlated with greater desirability and higher property values. http://blog.walkscore.com/wp-content/uploads/2009/08/Walking TheWalk_CEOsfor Cities.pdf

1.3.2 Creative Spaces. Create places where people want to live, work, and play.

Strategies include:

- Create and rehabilitate active, walkable town and neighborhood centers.
- Contribute to a high quality of life in the metropolitan area by minimizing congestion, providing modal choice, encouraging high quality design in transportation facilities, and providing an adequate and well-maintained public infrastructure, at a reasonable cost.
- Promote recreational use of rivers and water features.

Note (1.3.2): High quality jobs are mobile. Employers increasingly locate where people want to live. Foster places and local amenities that will be attractive to knowledge-based workers. Vibrant public spaces, entertainment, nightlife, arts and culture all contribute to a unique sense of place that attracts people.

1.4 **Increase Regional Community and Economic Development**

Strategies include:

- Collaborate on regional projects.
- Create a community-based resource directory for central Arkansas.
- Support the technology sector and other sectors that have been identified by the state and economic development organizations as targeted industries for central Arkansas.
- Participate in development of an internal and external marketing plan based on regional assets.
- Build the capacity of local leaders to work regionally and develop their local economies through training, sharing of best practices, and regular roundtable discussions of regional issues related to community and economic development.
- Support economic development activities that address business retention and expansion, entrepreneurship and small business support.
- Enhance technological infrastructure, specifically communications technology to encourage business recruitment.
- Prepare for future technological innovation by having the infrastructure necessary to support advancements.

Potential resources to implement Goal 1 and its Objectives:

- University of Central Arkansas, Center for Community & Economic Development www.uca.edu/cdi
- UALR Small Business Resource Center
- Local Chambers of Commerce and Economic Development Commissions
- Little Rock Metro Alliance

GOAL 2: QUALITY CORRIDORS & TRANSPORTATION CHOICE

Build and enhance a regional network of quality transportation corridors with high design standards for efficiency in moving traffic, with provision for pedestrian, bicycle and transit options, and consideration of freight needs. Create a metropolitan system that allows all citizens of central Arkansas reasonable access to services and jobs without regard to age, income or disability by providing many transportation choices

2.1	**High Design Standards.** Incentivize local governments to make routes on the regional arterial system attractive public spaces for pedestrians, cyclists and drivers alike by providing lighting, street furniture and plantings, where possible.
2.1.1	Incentivize local governments to require high design standards for land development—new and redevelopment/infill—on these routes.
2.2	**Urban Character / Rural Character.** Design transportation facilities to reflect and reinforce the character of the areas through which they pass. In urban areas, encourage local governments to plan for compact, mixed-use development that is pedestrian-friendly and transit-friendly. In rural areas, encourage local governments to maintain the rural character of the countryside with appropriate design of the facility and control of adjacent land development.
2.3	**Access Management on Key Corridors.** Managed access to and from adjacent property in key corridors (1) improves vehicular and pedestrian safety, and (2) safeguards investment in those facilities by protecting traffic capacity.
2.4	**Traffic Management Techniques.** Maximize the use of existing roadways and minimize the need for new roadways through measures such as ridesharing, transit service, computerized and coordinated traffic signals and traffic operations.
2.5	**Public Transit System.** Provide adequate and stable funding to operate existing public transit systems in the near term.
2.6	**Pedestrian Facilities.** Provide improved pedestrian connectivity by providing sidewalks to every development that offers goods, services, or jobs, and providing safe pedestrian crossings of busy roadways at appropriate locations.
2.7	**Bikeway Facilities.** Develop a regional bikeway system that will provide safe routes of travel between home, work and services as an alternative means of transportation.

Note (2.5): For transit to be considered a primary transportation option by the public, it will have to be supported with compatible land development policies (compact, mixed-use corridors and nodes) and adequate funding. Passenger intermodal hubs at the Bill and Hillary Clinton National Airport and among bus, rail and auto are important components of a strong public transit system as rail is deployed.

Note (2.6): This objective should be reflected in local master street plans, adopted regional roadway cross-sections and AHTD design manuals. Pedestrian facilities should meet or exceed ADA design standards.

Note (2.7): This objective should be reflected in local master street plans, adopted regional roadway cross-sections and AHTD design manuals.

2.8 **Mixed Use/Compact Clusters.** Incentivize local governments to provide zoning for clusters of mixed use (jobs, services, and residences in close proximity) and compact development along major transportation arteries in their land use and zoning plans.

Note (2.8): Mixed use development reduces the need for private autos and facilitates walking and bicycling.

2.8.1 Encourage local governments to adopt parking codes that are conducive to transit-friendly, walkable communities, and that promote mixed-use, compact development.

Note (2.8.1): inflexible minimum parking requirements present a barrier to better infill and redevelopment, as well to new projects. Empty parking lots create a "dead zone" in the middle of what ought to be bustling commercial districts or neighborhoods. Flexible parking policies can encourage growth, save money, improve the environments and meet broader community goals.

GOAL 3: ENVIRONMENTAL QUALITY AND SUSTAINABLE ENERGY

Protect and enhance the quality of the natural and built environments within central Arkansas.

3.1 Air Quality

Maintain good air quality as measured by attainment with the Clean Air Act pollution standards and greenhouse gas emissions.

Note (3.1): The transportation sector can minimize air pollution by managing roadways for greater efficiency and by reducing the need to make automobile trips through mixed-use land development and use of alternative modes of transportation. It is also important to support the overall vehicle fleet fuel efficiency and converting large public and private fleets to alternative fuels.

3.1.1 Promote the Ozone Action Days program to help reduce harmful vehicle emissions and the number of ozone alert days.

3.1.2 Promote alternative modes of transportation, such as walking, biking, ride-sharing and transit.

3.1.4 Improve fuel efficiency of vehicle fleets and increase the use of cleaner energy sources.

Provide infrastructure to support alternative fuel vehicle fleets.

3.1.5 Promote anti-idling policies for municipal and commercial fleets.

3.2 Water Quality

Maintain good water quality in the region's rivers, streams and groundwater.

3.2.1 Reduce non-point source urban runoff by minimizing the amount of impervious surfaces (i.e. roads and surface parking lots).

3.2.2 Protect water sources and watersheds.

Strategies include:

- Build on the work already produced in the Regional Green Guide by developing a regional green infrastructure plan that identifies areas to protect as natural, in order to preserve watersheds, protect drinking water sources and guide land development. Align local development plans with the regional green infrastructure plan.
- Use innovative and best practices strategies for water conservation in buildings, with public facilities leading the way.
- Use best practices to design and manage unpaved roads to reduce the amount of sediment entering waterbodies from storm runoff.

3.2.3 Protect water sources by educating people on the importance of water as a valuable resource.

3.3 Sensitive Lands

Reduce development impacts on sensitive environmental areas (wetlands, aquifer recharge areas and surface stream buffers) that can be attributed to transportation facilities through better transportation facility siting and design.

Note (3.3): Local governments should adopt land use regulations that are responsive to this issue.

3.4 Reduce fossil fuel consumption and carbon emissions

3.4.1 Incentivize local governments to adopt policies that allow mixed use/compact clusters to meet a portion of housing and commercial demand. Promote development forms that reduce driving distances, increase use of alternative modes of transportation, and that will create more walkable areas that will have positive impacts on air quality and provide increased opportunities for preserving open space, critical habitats and other natural resources.

3.4.2 Substitute communication technology for transportation (for example, telecommuting and e-commerce) that will reduce the number of trips at congested peak hours.

Strategies include:

- Improve fuel efficiency of governmental vehicle fleets and cleaner energy sources.
- Promote anti-idling policies for municipal and commercial fleets.

3.4.3 Provide modal options—walking, biking, and high-occupancy vehicles such as buses and streetcars—that reduce emissions per trip and will improve transportation system efficiency by reducing roadway congestion.

3.5 Energy Efficiency

Increase energy efficiency in residential and commercial structures.

3.5.1 Conduct comprehensive energy evaluations of existing buildings (private, commercial, and government) and recommend modifications.

3.5.2 Develop and adopt energy and resource efficient building standards for all existing municipal facilities.

3.5.3 Contribute to the coordination of regional and local energy efforts with state and federal energy plans to maximize funding and efficiency.

3.5.4 Update codes to incorporate the latest provisions for energy efficient and healthy buildings.

3.5.5 Increase energy efficiency in affordable housing by working with housing authorities.

3.5.6 Assist small businesses, community organizations, and public agencies in gaining access to energy efficiency services.

3.5.7 Energy rate new homes and include energy efficiency ratings on all new homes being sold in the MLS system.

3.5.8 Assist with programs that increase the availability of home energy audits.

3.6 Renewable Energy

Increase the use of renewable energy in central Arkansas.

3.6.1 Assist in identifying local renewable energy sources. (Examples may include, but are not limited to: methane, hydro, solar and biofuel.)

3.6.2 Evaluate potential energy savings through more efficient use of transportation technology and alternative fuels.

3.6.3 Identify barriers in municipal codes for small scale renewable energy installation and deployment.

3.6.4 Increase use of renewable energy for a percentage of total regional energy productions by exploring the development of a regional renewable profile standard.

3.6.5 Increase residential access to distributed energy.

Note (3.6.5): Defined by the Department of Energy as pooling resources to purchase and share renewable energy for multiple residences.

Strategies include:

- Participate in Virtual Net Metering (VNM).

Potential resources to implement Goal 3 and its Objectives:

ADEQ, Recycling Branch; regional solid waste management districts:

- Faulkner county Regional Solid Waste Management District (for Faulkner County)
- Central Arkansas Regional Solid Waste Management District (for Lonoke, Monroe, and Prairie Counties)
- Regional Recycling and Waste Reduction District (for Pulaski County)
- Saline County Solid Waste Management District (for Saline County)
  http://www.edeq.state.ar.us/solwaste/regional_boards_sql.asp

GOAL 4: LAND DEVELOPMENT AND HOUSING

Protect and enhance the efficiency of the metropolitan transportation system by linking land development and the provision of transportation facilities. Proper land development is essential for creating conditions that foster sustainable housing and neighborhoods. Housing for central Arkansas should be safe, affordable, energy-efficient, geographically available and accessible.

4.1 **Land Use Plans, Master Street Plans, and Capital Improvement Plans.** Incentivize local governments to link their land use plans to their master street plans and capital improvement plans, so that changes in the land use plan will be reflected in capacity improvements to the transportation system.

4.2 **Access Management on Key Corridors.** Develop access management plans for the regional arterial network, and educate local public works and planning officials to make them sensitive to the issue on other facilities.

Note (4.2): Managed access to and from adjacent property in key corridors (1) improves vehicular and pedestrian safety, and (2) safeguards investment in those facilities by protecting traffic capacity.

4.3 **Design for All Modes.** Incentivize local governments and private developers to consider all modes of access (pedestrian, transit and bicycle) in the development process.

4.3.1 Incorporate ADA-standard pedestrian facilities into all urban roadway designs, except freeways.

4.3.2 Adopt complete street policies ensuring that all modes are considered as part of design.

4.3.3 Encourage compact, mixed-use development.

4.3.4 Develop alternative housing types, such as micro-houses and adaptive re-use of under-utilized structures, to meet a variety of economic, physical and social needs.

Note (4.3.2): The design of pedestrian facilities and property development together should make walking both safe and inviting. Planner and developers should consider elements such as the distance of building fronts to the sidewalk, the closeness of adjoining buildings, the percent glazing on building fronts, the width of the sidewalk, and the separation of sidewalks from the roadway with greenways, plantings and/or on-street parking. Connections to the pedestrian network should even be incorporated into cul-de-sacs or dead end streets.

4.4 **Regional Development Pattern.** Incentivize local governments in the metropolitan area to adopt land development plans that encourage compact, mixed-use development patterns that are efficient in the use of infrastructure and public facilities and that complement the regional transportation framework.

Note (4.4): Compact residential developments should provide a mixture of housing prices affordable to a wide range of incomes. Low density sprawl increases the cost of providing needed public infrastructure (including transportation systems), reduces open spaces, generates congestion, threatens ecologically sensitive areas, intrudes on rural and small town communities and, over time, lowers the region's quality of life.

4.4.1 Stabilize existing neighborhoods by facilitating the routine maintenance and renovation of existing structures and infill construction of new compatible housing units, in a manner that is most conducive to investment and revitalization efforts.

4.4.2 Develop alternative housing types, such as micro-houses and adaptive re-use of under-utilized structures, to meet a variety of economic, physical and social needs.

4.4.3 Adopt energy-efficient housing standards for both the renovation of existing structures and construction of new housing units.

4.4.4 Promote universal design to ensure accessibility for all.

Note (4.4.4): universal design meets or exceeds ADA standards.

4.4.5 Identify and provide incentives for infill development and innovative solutions for adaptive re-use of under-utilized structures for housing.

4.4.6 Remove impediments in existing codes and administrative procedures to facilitate renovations of existing buildings.

4.4.7 Reduce vacant and abandoned structures through stricter code enforcement/compliance, purchase and/or rehabilitation and when necessary, demolition of derelict and dangerous structures.

4.5 **Neighborhood Infrastructure.** Build, repair and maintain existing neighborhood infrastructure, which includes but is not limited to: housing, schools, drainage facilities, transportation network, lighting, parks and open space.

Note (4.5): Keeping infrastructure in good repair can create community pride and improve the safety of the neighborhood.

4.5.1 Build and maintain sidewalks that facilitate walkability and connectivity within the community.

4.5.2 Reduce vacant and abandoned housing in neighborhoods through code compliance, purchase, rehabilitation, and when necessary, demolition of derelict and dangerous structures.

4.5.3 Supply transit that provides efficient, frequent, reliable bus service and access, with comfortable, sheltered transit stops.

4.5.4 Develop neighborhood parks, community centers and recreational open spaces.

4.5.5 Increase community value through renovation and investment in historic properties.

4.6 **Housing Choice and Availability.** Increase the variety and geographic availability of housing types for homebuyers and renters alike.

4.6.1 Develop and expand existing programs that provide residential education workshops.

4.6.2 Identify and help communicate local and regional barriers to affordable housing.

Note (4.6.2): This is not simply referring to the provision of subsidized housing, but the actual local and regional issues that may influence the price of housing and/or household incomes.

4.6.3 Create policies, education, training and legislation that support and encourage appropriate landlord accountability and improves renters' rights.

Note (4.6.3): According to a report issued by the Non-legislative Commission on the Study of Landlord-Tenant Laws, Arkansas ranks at or near the bottom in landlord accountability and tenant rights.

4.6.4 Develop alternative housing types, such as micro-houses and adaptive re-use of under-utilized structures, to meet a variety of economic, physical and social needs.

4.6.5 Enforce Fair Housing Laws

4.7 **Combine Household and Transportation Cost.** Reduce the percentage of central Arkansas households that spend more than 45 percent of their income on combined housing and transportation costs.

Note (4.7.1): This recognizes that the full cost of home ownership includes heating and cooling costs, maintenance and transportation costs in addition to principal, interest, taxes, and insurance (PITI)—which is all that is considered now.

4.7.1 Adopt accessible, energy-efficient housing standards for both new and renovated construction. 4.7.2 Encourage compact, mixed-use development.

4.7.3 Improve transit via (1) efficient, frequent, reliable bus service to employment centers; (2) accessible, comfortable and sheltered transit stops; and (3) expanding transit service coverage area and increasing frequency of service.

Potential resources to implement Goal 4 and its Objectives:

- Jump Start neighborhood project results
- Fair Housing Equity Assessment (FHEA) report

GOAL 5: HEALTHY AND SAFE COMMUNITIES

Create and support the conditions that will enable central Arkansas to become known as the healthiest and safest community in America.

5.1 **Neighborhood Safety.** Healthy communities are ones where people do not have to be concerned about their personal safety. For our region to be labeled as "healthy" the crime rate for each central Arkansas community must not only rank below the national average, but where the number of murders is zero.

5.1.1. Institute a "Fix the Broken Window" policy. This means taking quick, deliberate action to stem acts of vandalism, graffiti and neglect that lead to greater problems if not addressed.

5.1.2 Enforce existing misdemeanor laws, including truancy.

5.1.3 People who are able to provide economically for themselves and their families are less prone to resort to crime. Central Arkansas must commit to a coordinated effort to reduce crime.

Strategies include:

- Coordinate current workforce development resources that target the chronically unemployed or under-employed.
- Educate the future workforce in skills and thinking needed to stay relevant and competitive during periods of rapid change.
- Retrain and align education programs for jobs that are currently unfilled.
- Identify high demand jobs and skills trends for the future and begin training for future workforce needs now.

5.1.4 Create neighborhood watch programs.

5.2 **Active Transportation.** Increase central Arkansans' universal access to active transportation.

5.2.1 Provide ADA-standard sidewalks between residential areas and developments that provide goods, services, and jobs and provide safe pedestrian crossings of busy roadways at appropriate locations.

5.2.2 Develop the regional bike system that provides safe routes of travel between home, work and services as an alternative means of transportation.

5.2.3 Develop a more robust, expanded transit system that can serve as a primary transportation mode for the general public.

5.3 **Multi-modal Transportation Network.** Increase transit-oriented development, mixed-use development and intermodal connectivity.

5.3.1 Provide clusters of mixed-use (jobs, services, and residences in close proximity) and high-density development along major transportation arteries in land use and zoning plans.

5.3.2 Reinforce region-wide complete streets policies with increased safety for all modes.

Strategies include:

- Adopt a standard design of streets that promote safety for all travel modes and encourage economic development.
- Incorporate complete streets policies into existing infrastructure by applying standards to resurfacing projects.

5.4	**Safety, Efficiency and Convenience.** Improve the safety, efficiency and convenience of active transportation modes.
5.4.1	Make routes on the regional arterial system attractive public spaces for pedestrians, cyclists and drivers by providing amenities such as street furniture and landscaping.
5.4.2	Increase the safety of sidewalks and bike paths by providing appropriately scaled lighting and signage to all neighborhood facilities.
5.4.3	Design and operate the metropolitan transportation system to reduce the likelihood of accidents and correct dangerous situations for all modes of transportation.
5.4.4	Increase public awareness for safe travel and sharing the road for all modes of travel.
5.5	**Access to Healthy Foods.** Expand central Arkansans' access to healthy foods.
5.5.1	Increase accessibility to affordable fresh fruits, vegetables and other foods that make up the full range of a healthy diet to all central Arkansas residents.
5.5.2	Collaborate with educational programs and activities that promote healthy living.
5.5.3	Identify and help reduce policy barriers to local farmers markets, mobile markets, and local food production.
5.6	**Environmental regulations.** Protect and enhance public health through environmental regulations.
5.6.1	Minimize pollutants entering the air, soil and water.
5.6.2	Minimize risks that environmental problems pose to human and ecological health.
5.6.3	Expand the multi-modal transportation system to minimize pollution and motor vehicle congestion, and ensure safe mobility and access for all without compromising our ability to protect public health and safety.

- Clinton Health Matters Initiative

GOAL 6: FUNDING ADEQUACY

Identify and provide funding sources adequate to build, maintain and operate metropolitan infrastructure systems, including: both soft and hard infrastructure systems - transportation, utilities, schools, universities and housing - with the safety and protection services necessary to make them usable.

6.1 Maintain and preserve the existing capital assets of the metropolitan infrastructure systems as a high priority for funding. This should include a systematic inventory of the condition on all infrastructure systems, particularly the transportation network.

6.2 Secure sources of new funding that can be used to complete the metropolitan infrastructure systems as needed to support economic growth.

Infrastructure

The word immediately brings to mind the "hard" infrastructure that is part of our daily life, such as roads and bridges, and municipal water and sewer. But infrastructure also includes parks and trails, libraries, schools, museums — as well as police, fire and ambulance services. Infrastructure underpins our built environment and is critical to our quality of life.

6.2.1 Utilize innovative financing methods to accelerate construction and improvements to the federal-aid roadway systems and other metropolitan infrastructure systems.

6.2.2 Identify new sources of local revenue for infrastructure systems, such as a local option fuel tax or public private partnerships (PPPs), and seek authority for them from the General Assembly.

6.2.3 Identify grant-making institutions and grant writers that can partner to seek funding for specific ICA Goals and Objectives.

6.2.4 Develop proposals for dedicated local funding for major transportation projects—roadway and transit—that might be referred to the voters.

6.2.5 Fund the Regional Arterial Network through the development of a Regional Mobility Authority.

6.3 System Efficiency and Preservation

Maximize the capacity of existing facilities on regionally significant routes through use of intelligent transportation system (ITS) technology, access management and land use practices that protect roadway capacity. Improve overall system performance by utilizing public transit and informing the public of its transportation choices. Preserve the public's capital assets by adequately maintaining the transportation system.

6.3.1 Sustainability. Develop land in a pattern that fully supports urban services and infrastructure within the available tax base and minimize energy consumption, per-mile travel, greenhouse gas emissions, and criteria pollutants.

6.4 System Safety and Reliability and Accident Reduction

6.4.1 Develop infrastructure systems that provide reliability, and a transportation system that minimizes delays.

6.4.2 Design and operate the metropolitan transportation system to reduce the likelihood of accidents and correct dangerous situations where they exist.

Incentivize? What does this mean?

Offering incentives to local governments may come in a variety of forms depending on the unique needs of the jurisdiction. Providing technical expertise in updating codes or assisting with grant applications is often a welcome incentive.

Table 5-1. Vision and Goals Matrix

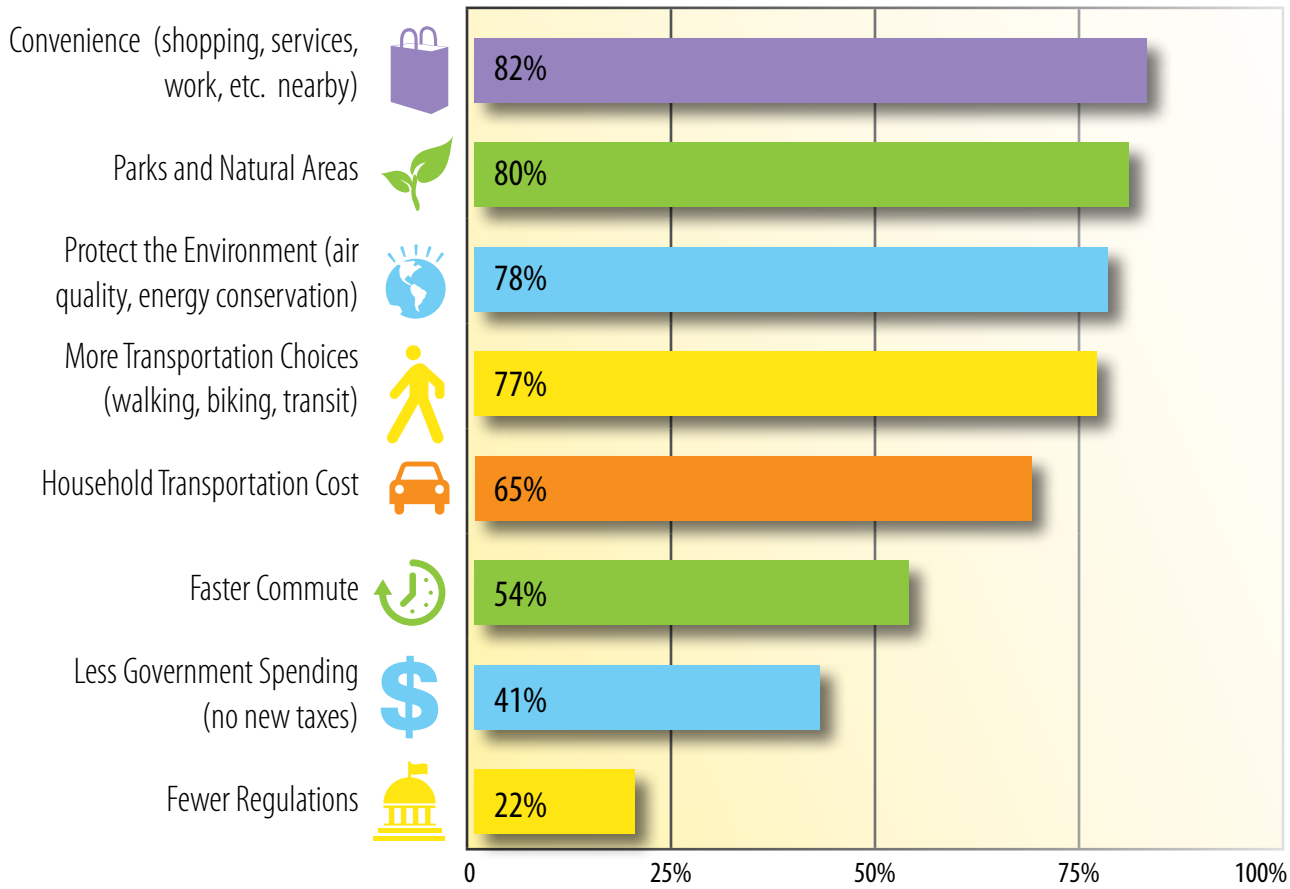
	Goal 1 Economic Growth	Goal 2 Quality Corridors & Transportation Choice	Goal 3 Environment & Energy	Goal 4 Land Development & Housing	Goal 5 Health & Safety	Goal 6 Funding Adequacy
Access management				4.2		6.3
Air Quality			3.1, 3.1.1, 3.4.1		5.6.1	
Airports	1.3.1	2.1				
Alternative Modes/Choice	1.3.1, 1.4, 1.6.2	2.3	3.1, 3.1.2, 3.4.1		5.2.2	6.3
Bicycling		2.7, 2.8	3.1.2, 3.4.4	4.3	5.2.2, 5.4.1, 5.4.2, 5.4.4	
Buses		2.5	3.4.4	4.5.3, 4.7.3		
"Complete Streets"					5.3.2	
Composting			3.7.2, 3.7.6			
Economic Growth/ Related Issues	1.2, 1.3, 1.3.1, 1.5, 1.6, 1.6.1			4.3.4, 4.4.2, 4.6.4	5.1.3, 5.3.2	6.2
Education	1.1, 1.2			4.5	5.1.3, 5.3.3	
Energy			3.1.4, 3.4.3, 3.5, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.8, 3.6, 3.6.1, 3.6.2, 3.6.3, 3.6.4, 3.6.5	4.4.3, 3.7.1		6.3.1
Environment	1.3.1		3.3		5.6, 5.6.2	
Food Access					5.5, 5.5.1, 5.5.2, 5.5.4	
Freight	1.3.1					6.4.1
Funding		2.1				6.1, 6.2, 6.2.2, 6.2.3
Health			3.5.4		5, 5.5.3, 5.6, 5.6.2, 5.6.3	
Housing		2.4	3.4.1, 3.5.5	4.3.4, 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.5, 4.5.2, 4.6, 4.6.2, 4.6.4, 4.6.5, 4.7, 4.7.1		
Housing Diversity				4.6		
Infrastructure	1.4, 1.4.1		3.2.2, 3.4.3	4.4, 4.5	5.3.2	
Intelligent Transportation System (ITS)						6.3
Job Access	1.1, 1.4.2	2.6, 2.8			5.2, 5.3.1	

The metropolitan Vision, Goals and Objectives are integral to Imagine Central Arkansas and are interwoven throughout the plan narrative. The matrix was developed as a cross-reference tool to easily find where these goals and objectives are specifically discussed. Topics are listed in alphabetical order on the left side of the page and cross-referenced with the goal or objective that is addressed.

Table 5-1. Vision and Goals Matrix (continued)

	Goal 1 Economic Growth	Goal 2 Quality Corridors & Transportation Choice	Goal 3 Environment & Energy	Goal 4 Land Development & Housing	Goal 5 Health & Safety	Goal 6 Funding Adequacy
Maintenance	1.4.1			4.4.1, 4.7.1		
Mixed-use Development		2.1, 2.4	3.1, 3.1.3,3.4.1	4.3.3, 4.4, 4.7.2	5.3, 5.3.1	6.2
Multi-Modal	1.3, 1.3.1				5.3, 5.6.3	
Neighborhoods	1.4.1, 1.6.2			4.4.1, 4.5, 4.5.2, 4.5.4	5.1, 5.1.4	
Ozone Action Days			3.1.1			
Parks & Recreation	1.6.2			4.5, 4.5.4		
Pedestrians / Walkability	1.4.1, 1.6.2	2.1, 2.6	3.1.2, 3.4.4	4.2, 4.3, 4.3.1, 4.5.1	5.2.1, 5.4, 5.4.2, 5.4.4	
Policies/Regulations		2.5, 2.8	3.1.5, 3.4.1, 3.4.3	4.1, 4.3, 4.3.2, 4.4, 4.6.3	5.3.2	
Pollution			3.1, 3.1.1, 3.4, 3.4.4		5.6.1	6.3.1
Port Authority	1.3.1					
Rail	1.3.1	2.5				
Recycling			3.7.1, 3.7.3, 3.7.4, 3.7.5			
Regional Arterial Network (RAN)				4.2		6.2.4
Regional Collaboration	1.5		3.5.3, 3.6.4	4.4, 4.6.2	5.2.2	
Renewable Energy			3.6, 3.6.1, 3.6.3, 3.6.4, 3.6.5			
Rural Character		2.2		4.4		
Safety/Security	1.3, 1.3.1	2.3, 2.6, 2.7		4.2, 4.3.2, 4.5	5.1, 5.2.1, 5.2.2, 5.3.2, 5.4, 5.4.2, 5.4.4, 5.6.3	6.4
Solid Waste			3.7			
Technology	1.2, 1.4.1		3.4.2, 3.6.2			6.3
Telecommuting	3.4.2					
Transit	1.4.1	2.5	3.1.2, 3.4.4	4.3, 4.5.3, 4.7.3	5.2.3, 5.3	6.2.3, 6.3
Urban Issues	1.3.1	2.2	3.2.1	4.3.1		6.3.1
Virtual Net Metering			3.6.5			
Water Quality	1.6.2		3.2, 3.2.2, 3.2.3		5.6.1	

Figure 5-2. Public Input for Top Priorities



The chart shows the number of times the items were selected as a priority divided by total completions during the public outreach phase of Imagine Central Arkansas.

5.3.1 *Building a Vision: the Livability Index and the Green Agenda*

Central Arkansas Livability Index

Once the Vision, Goals and Objectives were identified, key measures or indicators to gauge the community's progress in attaining this ideal were formulated. These indicators have been organized into three key areas: Opportunity, Enterprise, and Interaction and by regularly monitoring these indicators the community believes that it can actively work toward sustainability.

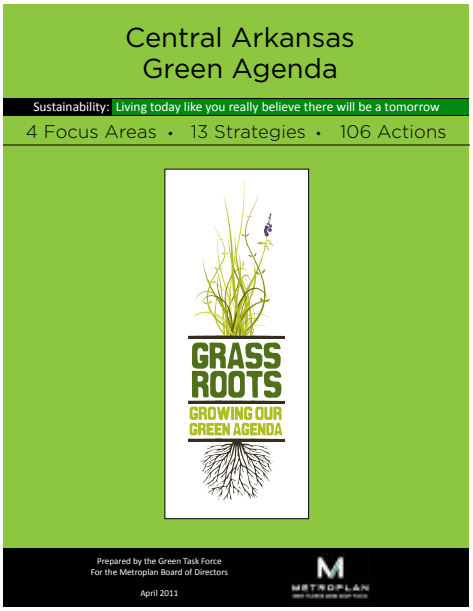
The indicators selected come from a variety of reputable sources and many are updated annually. Indicators were selected for gauging the community's fitness in key sectors. The sectors include housing, transportation, health and safety, the economy, education, and access to cultural activities among others. The index when progressively tracked will show where the community is excelling and will also expose deficiencies.

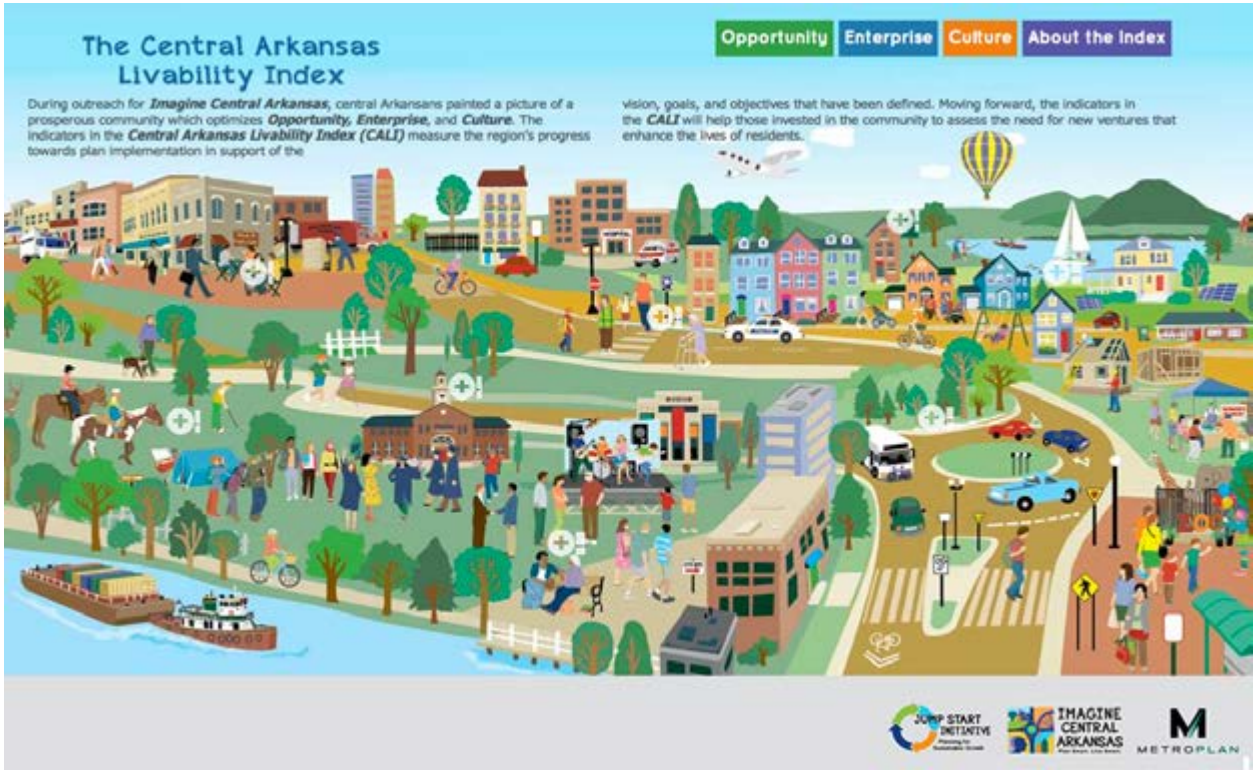
The Green Agenda

In 2010, Metroplan dove deeper into sustainability by establishing the Green Agenda Task Force and drafting the Central Arkansas Green Agenda. Adopted in 2011, the Green Agenda was driven by over 200 ideas and more than 22,000 votes from community members. Four areas of focus: movement, power, nature and knowledge; 13 strategies and 106 actions guide today's leaders with sustainable principles. Strategies include: improve bicycling options, encourage energy efficiency, plan for thriving communities, and showcase successful sustainability efforts.

Themes from the Green Agenda are woven throughout the *Imagine Central Arkansas* plan, and can help guide the region toward 2040 and beyond.

While the Green Agenda kick-started sustainability efforts in 2010 and 2011 through research, public input, and community buy-in, *Imagine Central Arkansas* transforms these strategies into a comprehensive vision and plan.





Visit the Web site: centralarkansaslivability.org

5.4 The Economy

The economy, so vital to central Arkansas' sustainability, must be strong for the region to grow and prosper. Improving the economy means providing opportunities for individuals to maintain a higher quality of life and businesses to invest and expand. Central Arkansas wishes to catapult itself to the pinnacle of competitiveness and to be recognized as a leader in education, innovation and job creation.

5.4.1 World Class Education

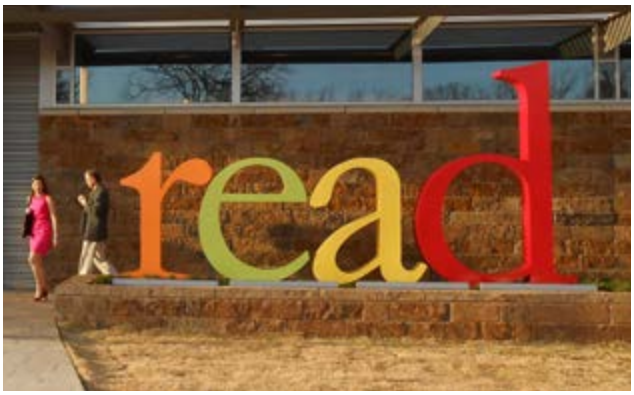
The education of our citizens is a priority. Education is the key to global competitiveness and the essential means to develop the human capital necessary for a 21st century economy.

The first goal must be to reduce the high school dropout rate. There are many good quality jobs that do not require a college degree, but they do require specialized training, on-the-job training, and mentoring/apprenticeship relationships. Partnerships between local corporations and educational institutions are the essential ingredient to success in this area. Local colleges have already developed programs that match students with mid-range skill levels to jobs in manufacturing, culinary, construction, repair, maintenance and other specialties. These efforts must be supported and extended.

The second educational goal must be to raise the share of college-educated citizens in central Arkansas above the current 28.4 percent share of persons 25 and older. This can be done in two ways. The first is by attracting well-educated people from other parts of the country. There is evidence that the central Arkansas region is already able to do this. High-quality urban design characteristics, good recreational assets, and so-called "cultural infrastructure" like a lively arts scene can help achieve this goal. The second means is to educate a higher share of local young adults and to keep them in the region after graduation.

Students at the Art Connection in North Little Rock.

Despite a marked improvement in the overall rates of graduation and educational attainment, the achievement rates and test scores of the region's poorest residents have remained below those of students in median income or above households. Although efforts to reduce this disparity have been in place for decades, bridging the educational achievement gap has proven elusive. The close correlations between poverty and parental educational achievement have forced educators to reconsider previous assumptions about the achievement gap and adopt a broader approach which includes creating safe study and play areas in the area's lower-income communities. The Central Arkansas Library



Hillary Rodham Clinton Children's Library and Learning Center in Little Rock. Photo credit: Mason Ellis.

System has promoted a wide variety of afterschool and evening activities that have included snacks, meals, and educational experiences for children and teens. This effort provides students with access to books, structured Interaction of other children, and a safe environment to learn.

5.4.2 Quality Infrastructure

By developing and maintaining high-quality infrastructure, the region can increase the speed of economic exchange.

Evidence from around the country suggests that high-quality pedestrian environments are increasingly the best "velocity multipliers" around, because pedestrian-friendly environments mix people and ideas together more cohesively than any other system. The highest-quality economic output is generally found in pedestrian-friendly environments, and academic literature has suggested that the higher the density of workers in an area, the greater their economic output.

The cost of future infrastructure must be carefully assessed when making development decisions. The mix of infrastructure with land development is a vital element. Several downtown environments in the region are already mixing higher-density land use with infrastructure, particularly in proximity to the River Rail system in downtown Little Rock-North Little Rock.

Since the bulk of the region's land use is suburban in nature, the "retrofitting of suburbia" theme could be a useful template for the future. Developers must be encouraged to recognize the hidden value of "under-utilized asphalt" seen in many suburban parking lots, particularly where retail centers have entered a cycle of decline. In many cases, these declining retail nodes are well-located within the regional transportation web. There are opportunities for innovation-minded developers, and local governments must be willing to engage them with transportation projects that assist with suburban redevelopment.

5.4.3 Regional Community and Economic Development

Since regional community and economic development is already a priority, the key here is to re-think and re-invigorate efforts already underway. The public sector must become more able to understand and engage with the private sector, which remains the source for most of the capital, land ownership, and creativity which drives community economic development. At the same time, government leaders can develop affirmative outlooks that encourage private developers to see the benefits of public-private engagement.

Governments can play a useful role by working with private businesses to identify internal and external marketing plans based on analysis of existing regional assets and strengths. The public sector must also play a key role as a promoter of locally-owned and minority businesses.

5.4.4 Skilled Workforce

There are already numerous dynamic workforce development efforts underway in central Arkansas. The effort to link academic knowledge with workplace needs must be expanded. Academic research has shown that job-specific workforce training is particularly effective because it gives workers an opportunity to apply newly-learned skills on the job, and hence to learn more quickly and effectively than in a purely abstract academic environment.

5.4.5 Creative Spaces

There is little doubt that the quality of the built environment has a lot to do with the human creative capacity.

Fortunately, the central Arkansas region approaches this challenge with several already-existing advantages. The region is physically attractive. Its varied landscape lies at the intersection of 4 of the 6 geographic regions of Arkansas. The Arkansas River is a particularly attractive feature that bisects the region, and its potential has yet to be fully exploited.

In addition, there are many elements of the existing built environment that already comprise a useful hub of attractive landscapes. These can be found near the State Capitol in Little Rock, in the varied and pleasant streets of the River Market District, Argenta, Hendrix Village, several university and college campuses, a presidential library and a number of extraordinary parks that round out the existing high-potential landscape. Five communities in central Arkansas have been chosen for Metroplan's Jump Start program, which will incorporate sustainable techniques in the built environment. These areas will serve as a model for the way the region's most urban places can develop effectively and efficiently.

While the region already owns the potential for creative spaces, much more can be done. Again, public-private cooperation is key. Modern visioning tools can become a powerful means of getting leaders and decision-makers together to maximize the potential for developing further creative spaces.

The different themes of future economic development include education, infrastructure, skilled workforce, and creative spaces. None of these characteristics is worth as much in isolation as they are working in unison. Together, they can form a culture of creative entrepreneurship that will build a future that is fun, equitable, and prosperous.

5.4.6 Sustainable Connections: Economy and Education

Arguably, the most important component to a successful, sustainable region is its economy fueled by a well educated population. It is this element, essentially, that gives people a chance to grow and thrive and achieve what they consider livability.

Affordability

Businesses are attracted to areas with an educated population. As businesses compete for skilled workers and new clientele, wages rise and prices of goods and services are driven down. Also, education can help inform an individual to make sound financial decisions and achieve an affordable lifestyle. Access to information for job training skills, healthy lifestyles and alternative transportation can empower residents to manage their budgets. Together, these concepts can help the region attain affordability and make wallets a little bit fatter.

Efficiency

The health of our economy and educational system is tied directly to how efficiently we build our environment. Grouping essential services, employment hubs, and entertainment options with places to live can help residents keep costs down while promoting efficient movement of people and products. Businesses close to residents can benefit greatly. A study that classified 66 places within the Washington, D.C., metropolitan region based on their walkability found that a 19-point increase in walkability was associated with an 80 percent increase in retail sales and a nearly $7 per square foot increase in retail rents. (Smart Growth and Economic Success: The Business Case)

Opportunity

The economy and education are the quintessential components of opportunity. Knowledge is power; it provides social and economic mobility. Educational attainment directly correlates to the economic potential of an individual and a community as a whole. Businesses look to invest in communities with highly skilled workers. Typically, these communities enjoy better health, higher earning power and an all-around greater quality of life. Creative professionals tend to flock to communities that display these facets of livability.

5.5 Housing and People in Central Arkansas

***Imagine Central Arkansas* envisions "housing that is safe, affordable, energy-efficient, geographically available and accessible to all citizens."**

Housing in central Arkansas consists primarily of single family detached units (Figure 5.1), dispersed across almost 223,000 developed acres. This pattern of development is largely the result of design rather than organic movement. Government policies in the mid-century favored the auto industry and new house construction. The "American dream" of suburban home ownership was urged onward by unprecedented investment in roadway infrastructure. A booming economy and cheap fuel enabled "on-the-go" Baby Boomers and their parents to thrive in an auto-dependent suburban culture.

In 2013, a new report from the Urban Land Institute (ULI) underscores the influence that growing demographic groups in the US are exerting in reshaping the urban built environment. Based on the nationwide survey, the report suggests that demand continues to rise for infill development, development that fills in the gaps of the traditional community footprint without expanding, that is less auto-dependent. Across the three major generations — Baby Boomers, Gen-X and Gen Y — the preference was for smaller houses closer to all the amenities and opportunities afforded in an urbanized area.

People born between 1980 and 1994 — the Millenials (also known as Gen Y) — comprise the largest, most ethnically diverse generation, that but are still not fully immersed in the housing and job market. ULI predicts that this generation will have a dramatic impact on housing and transportation, spurring development of compact, mixed-use communities with reliable, convenient transit service. Compared to earlier generations, younger generations are delaying their entrance into the housing market. Gen Y is more burdened by debt - often due to education loans - and graduation has coincided with the country's recession and economic downturn. Most recent reports indicate that jobs are increasing and consumer confidence is building. If this trend continues, the region should experience growth in housing demand.

Table 5-2. Units in Structure

	Faulkner County	Lonoke County	Pulaski County	Saline County	Four-County Region
1-unit, detached	29,981	20,312	119,852	32,358	202,503
1-unit, attached	674	816	2,794	504	4,788
2 units	1,717	1,036	5,152	279	8,184
3 or 4 units	621	571	7,837	837	9,866
5 to 9 units	1,408	628	6,711	671	9,418
10 to 19 units	5,460	31	9,309	633	15,433
20 or more units	2,317	280	16,572	1,170	20,339
Mobile home	5,915	4,137	10,404	9,372	29,828
Boat, RV, van, etc.	0	0	75	142	217
Total Housing Units	48,093	27,811	178,706	45,966	300,576

Source: 2012 American Community Survey

5.5.1 The Housing-Location Connection

Until very recently, Americans have shown an inclination to move out of urban areas to suburbs. Thanks to the car, "drive till you qualify" became the key to owning an affordable single-family-detached dream home.

Now, the era of cheap oil that allowed this sprawling style to persist appears to be over. Suburbanites that enjoy large lot homes in exchange for long commutes to the workplace and major service hubs must now reconcile the budget to pay for their homes plus much higher energy and transportation costs.

Higher energy costs may factor into development changes that trend toward more compact lifestyles with closer access to work, recreation and services. While these developments are more pronounced in the region's urban core, compact developments are beginning to appear in our traditional suburban areas as residents look for a variety of housing options. Some residents can now make fewer trips into Little Rock and North Little Rock and save on transportation cost and energy consumption. Sixty years of low density suburban sprawl development will make for a slow transition. However, with population projected to grow over 30% in the upcoming decades, along with the need to replace aging housing stock, there should be ample opportunity for new housing patterns to develop. The goal is to encourage more of these sustainable type developments throughout the region to create a balance of housing and jobs.

5.5.2 Housing and Energy Consumption

During public outreach, many central Arkansans identified energy cost as a primary concern. According to the Arkansas Energy Office (AEO), Arkansas ranks as 11th highest in overall energy consumption and the fourth highest for average gallons used per registered vehicle in the United States. The EPA suggests that "how and where communities are constructed has an enormous effect on our energy consumption."

Buildings and transportation together account for about 70 percent of energy use in the United States. In a 2012 report commissioned by the EPA, the Jonathan Rose Companies studied energy use associated with a wide range of development approaches. The report contrasts energy use in suburban-style, automobile-dependent locations with transit-oriented locations; multi-family construction with single-family detached and attached housing types; and conventional cars and homes with their energy-efficient counterparts. The paper concluded that housing type and location, along with energy-use features of homes and vehicles, all have an important role to play in achieving greater energy efficiency. Findings suggest that a multi-faceted approach is the most effective. Energy savings can be achieved with fairly modest actions on the part of individuals and communities, but these actions should be part of a regionally concerted, coordinated effort.

5.5.3 Creating Options in Housing

The Fair Housing Equity Assessment (FHEA) was undertaken to help inform *Imagine Central Arkansas*. One of the five findings of the FHEA indicated that there was a need for housing diversity in the region. The lack of housing diversity was one of the contributing factors to urban decline, the dispersion of resources and the consolidation of poverty. Throughout the metropolitan area, different neighborhoods tend to be homogenous and display distinct socio-economic traits. Commercial and public resources tend to cluster around those areas with greater disposable incomes, creating a service

Fair Housing Equity Assessment

One of the deliverables for the Imagine Central Arkansas planning process was the Fair Housing Equity Assessment (FHEA) Report. The information in the FHEA has been used to inform the overall plan development as well as the Jump Start project selection process. The FHEA examines elements of housing in central Arkansas by asking three questions: where are we today; how did we get there; and what should we do to improve deficiencies and continue those things that we do well? The FHEA is included in Appendices.

gap in other areas. This pattern of development creates a barrier for many residents to accessing affordable living spaces that are close to good jobs and services.

To increase opportunity, job access, safety, and social and environmental equity in the region, the FHEA endorses the development and expansion of neighborhoods containing a diverse array of housing types and a wide variety of price points. Options for single family and multifamily housing can increase the affordability for residents and help mitigate homelessness, discussed in greater detail in the FHEA. The development of diverse neighborhoods encourages commercial development, promotes job creation, density, cross cultural interaction and can alleviate the effects of poverty. Denser than their suburban predecessors, these neighborhoods tend to consolidate their population near shared resources and job locations. They encourage a variety of uses, are walkable and do not require all residents to make lengthy commutes to job sites. Reduced dependence on automobiles provides residents with ample opportunities to engage in more active modes of transportation, bicycling and walking, and thereby encourages healthier and more environmentally friendly lifestyles - all while saving money.

5.5.4 Creating Affordable Living

Fifty years ago, affordable housing often meant income-segregated apartment complexes typically in public housing projects. More recently, discussions on meeting affordable housing demand include a variety of housing types at different price points.

Today, our understanding of affordable housing has broadened. "Affordable" for a bank executive is not the same for a teacher, firefighter or restaurant worker - but all must work within a household budget to *afford* a place to live.

With that concept in mind, "affordable" housing is currently defined as spending no more than 45 percent of household income on combined housing costs plus the cost of transportation. This new definition emerged from private and public economic research on how these cost impacts on the American family, and has been adopted by US Departments of Housing Urban Development, and Transportation and the Environmental Protection Agency. Combined housing cost plus transportation cost (the H+T Index) represents a more comprehensive way of thinking about housing and what is truly affordable to most people.

If only housing cost is considered, most places in central Arkansas have affordable living options. Housing costs vary from a low of 20.5 percent of median household income in Faulkner and Saline Counties to a high of 23.1 percent in Pulaski County.

In central Arkansas, 89 percent of families spend more than 45 percent of their household income on housing and transportation. Thus, based on the H+T Index, most places in central Arkansas are unaffordable. Families find themselves spending an disportionate percentage of their household budget on fuel and mortgages/ rent. Lack of investment in other transportation options — bus, walking, biking — exacerbates this condition. The implication for our region is that money is not spent on goods and services that will contribute to the local economy. (for example, clothing, groceries, and entertainment, or even education and health care) as they take a back seat to the more urgent need for house and car payments. Affordable living can help families save money and inject new life into the local economy.

How can we change this unsustainable dynamic? Because of these economic pressures and the social stresses associated with them, stakeholders believe that policy makers must focus on reducing the percentage of households that spend more than 45 percent of income on combined housing and transportation costs.

5.5.5 Sustainable Connections: Housing

When we think about sustaining a our quality of life, housing is one of the first thoughts that comes to mind. Housing is an individual's little piece of central Arkansas, and it influences how they interact in their communities. Housing location determines the amount of travel that is necessary to get to essential destinations and how much energy will be expended to do so. Better housing options can help the region attain sustainability.

Affordability

Denser urban housing that provides varying price points throughout the community can lower the cost of living. Economically diverse neighborhoods promote equitable dispersion of resources, since most neighborhoods can attract commercial development. In these communities, residents live closer to amenities and employment that they can opt for cheaper travel. Diverse and dense living patterns save time and money.

Efficiency

Development where homes are close to everything residents need can promote a more efficient transportation infrastructure, waste less energy, limit harmful effects on the environment and ultimately lead to a healthier and safer population. Denser neighborhoods coupled with abundant green space encourage residents to get out, walk and become physically active. Efficient housing developments can help alleviate traffic congestion and unhealthy pollutants that come from a herd of idling cars. Not only does the correlation between dense housing and less car traffic limit pollution, it also reduces accidents between cars, pedestrians and bicyclists.

Opportunity

Neighborhoods should offer ample opportunity for a higher quality of life. Housing that has access to grocery stores and farmer's markets with fresh foods, employment hubs, and other services within walking distance can help residents increase physical activity, social interactions and reduce costs of healthcare and transportation. These benefits may be missed in a less connected neighborhood. Greater pedestrian activity on the streets can deter criminal activity and help attract commercial investment in the neighborhoods.

5.6 Transportation and Mobility

The region seeks to achieve economic vibrancy and high quality living through the development of an efficient, multi-modal transportation network that serves the needs of all citizens. In *Imagine Central Arkansas*, transportation is woven into the fabric of sustainability, and reaffirms transportation's role in improving livability within the region with improvements to freeways, the regional arterial network, transit and bicycle networks . Residents came together to identify an overall desired blueprint and policy direction for land use and development, transportation systems and other infrastructure, and other environmental and social equity considerations that form the basis of this Plan.

5.6.1 Planning Mobility for People

Metropolitan regions that plan successfully for the future provide a clear vision of their goals, along with very specific actions to implement them. The mobility element of the regional vision describes the seamless, multimodal, transportation system to be operated by the Arkansas Highway and Transportation Department (AHTD), the Central Arkansas Transit Authority (CATA) and the cities and counties responsible for developing and constructing transportation infrastructure.

Central Arkansas has historically focused the largest part of its transportation investments on roadway improvements. The end result is an expensive system in which most central Arkansans are dependent on single-occupancy automobiles. While central Arkansans value roadways and the mobility they provide, the vast majority of central Arkansans engaged through *Imagine Central Arkansas* envision a region rich in transportation choices, such as expanding transit, walking and cycling opportunities. (see Appendix A for a comprehensive description of the public outreach process and results).

Transportation Vision Statement

The Metropolitan Transportation Plan will contribute to a more livable and efficient environment in central Arkansas. This plan should significantly change how we allow our transportation systems and our communities to develop, by defining an intermodal transportation system that:

- Maximizes the mobility of people and goods;
- Minimizes transportation related fuel consumption and air pollution; and
- Establishes a strong link between transportation infrastructure and land use.

Previous Long-Range Transportation Plans

Every five years Metroplan undertakes the task of developing a long-range transportation plan for central Arkansas. The vision was first articulated by the citizens of central Arkansas in METRO 2020 through the Visual Preference Survey (VPS), was affirmed in METRO 2025, and continues to be refined and expanded in each update. METRO 2030 was built on the previous efforts and METRO 2030.2 presented a revision for several key chapters of METRO 2030.

- METRO 2020 was adopted July 26, 1995
- METRO 2025 was adopted August 30, 2000
- METRO 2030 was adopted September 28, 2005
- METRO 2030.2 was adopted February 24, 2010 (Transit section was adopted March 24, 2010)

Thinking long term, if the region desires to maintain high levels of mobility for its residents and its economic competitiveness, it must rehabilitate existing roadway facilities, build 21st century transit facilities and bike systems, and also consider ongoing maintenance costs. To achieve access to a robust set of affordable transportation choices that will expand regional mobility, leaders and stakeholders must become proactive in developing additional infrastructure for walking, cycling and transit with responsible land development practices in mind. Long term planning of the region's infrastructure must consider how freight will move, whether primarily by truck or through a balance of modes, including water and rail. As a result, the *Imagine Central Arkansas* Transportation and Mobility Vision reflects a balanced approach to the development of our transportation system over the next several decades.

5.6.2 Regional Growth Framework: The Transportation and Land Use Connection

The cornerstone of an effective, sustainable transportation network is complementary land use. When land use and transportation are closely coordinated, key destinations (work, school, shopping and services) are within a short walk, bike or transit ride, or drive. Residents and visitors have a number of viable alternatives to sitting in traffic, and less energy is consumed. Walkability, or the ability to traverse a place with access to living spaces, working places and services, is crucial to sustainable regional development and must be integrated into the region's transportation infrastructure.

The Vision for *Imagine Central Arkansas* includes a regional growth framework that uses the existing roadway network and proposed regional transit

Figure 5-3. A Balanced Approach to Mobility

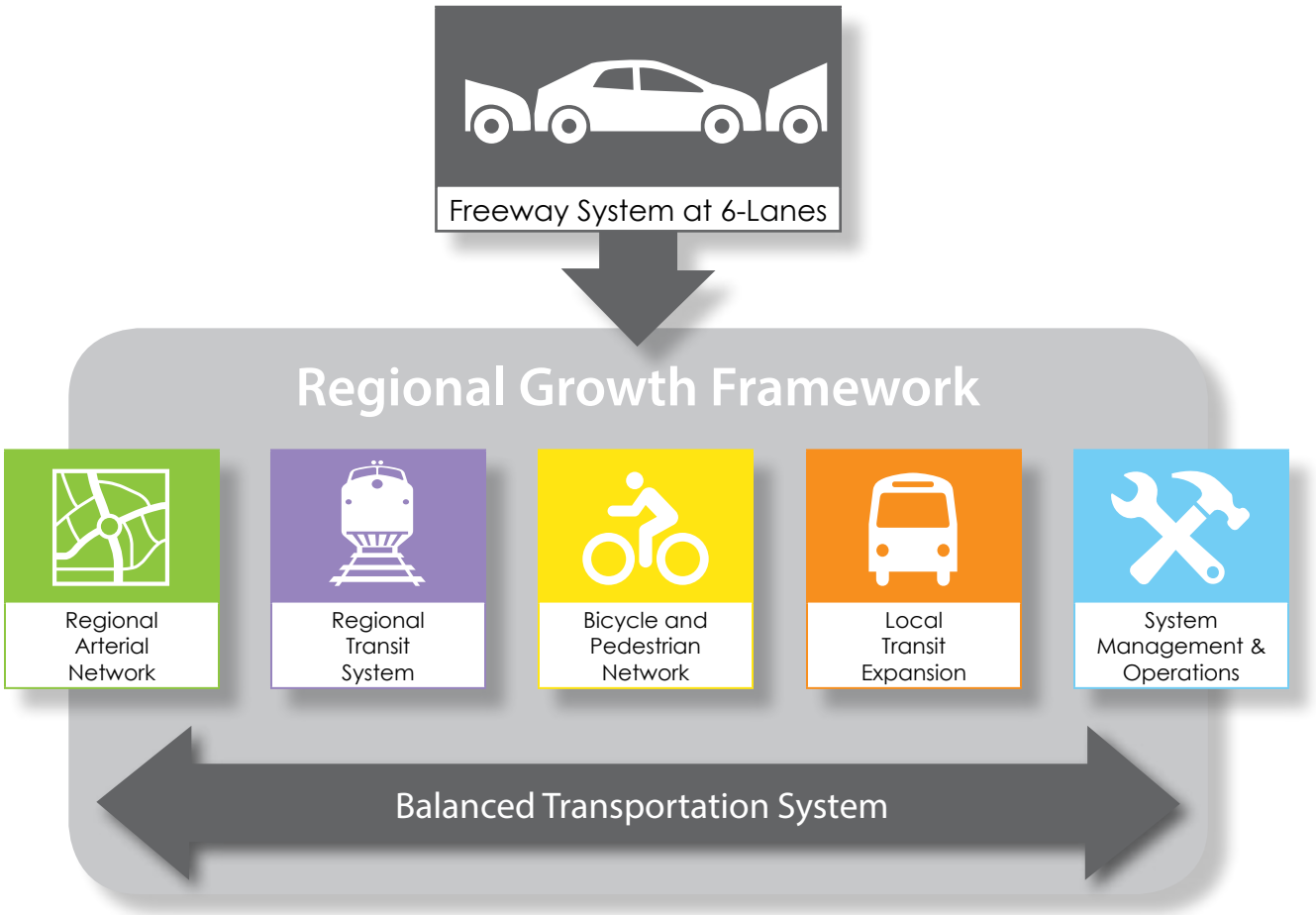
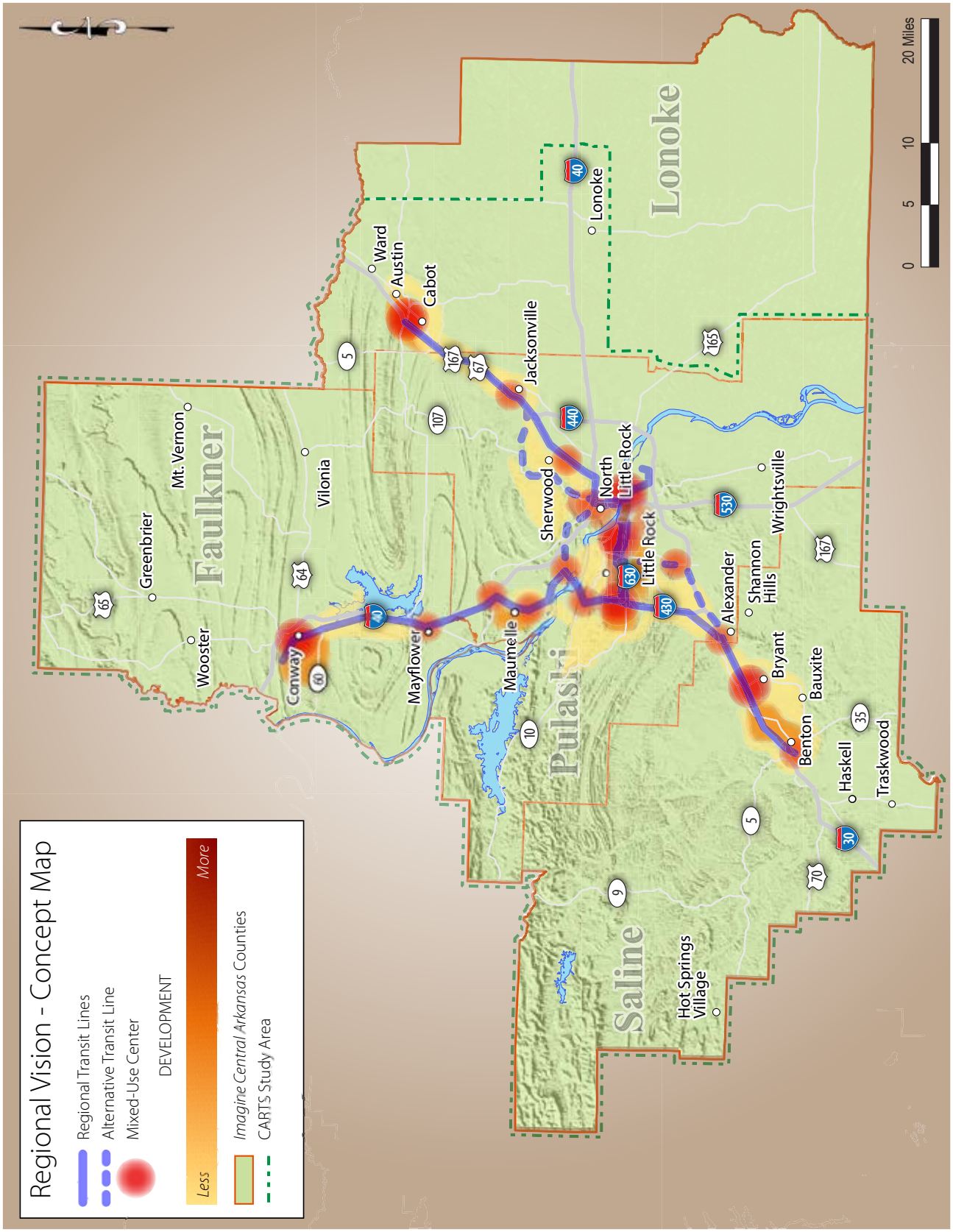


Figure 5-4. Regional Growth Framework Vision Map



network as fundamental organizing elements. This framework can be described in terms of a few key components:

- **Core: Downtown Little Rock and surrounding areas form the region's "core" where rail corridors (and other elements of the transportation system) converge.** In this area, continuation of large-scale infill and redevelopment/intensification is encouraged, surrounded by compact urban neighborhoods with a mix of multi-family and single family housing.
- **Regional Mixed Use Centers: Outside the core, major employment and commercial centers are encouraged to be developed or redeveloped at strategic locations along rail lines, including the Medical Center Corridor along I-630, West Little Rock and I-630 and I-430 and in Conway.** These would form major station areas and would include a mix of office, retail and multi-family residential, surrounded by walkable neighborhoods.
- **Neighborhood Mixed-Use Centers: Secondary station areas would form neighborhood-scale mixed-use centers, including retail/services, small office and multi-family surrounded by walkable neighborhoods.** This includes traditional towns (Mayflower, North Little Rock, Jacksonville, Benton, Bryant) as well as other important destinations (UALR).
- **Corridor "wedges": The areas in between regional transit corridors – the "wedges" would include a mix of walkable neighborhoods and more conventional suburban residential neighborhoods.**
- **Rural development: Some residents of central Arkansas may choose a rural lifestyle.** The regional Vision acknowledges this choice through the provision of rural development away from urban/suburban places but near rural arterials.
- **Industrial/Business Parks: Outside of mixed use centers, industrial development (manufacturing, distribution, etc.) is encouraged at industrial parks throughout central Arkansas.**

5.6.3 Roadway Network

Area-wide Freeway System

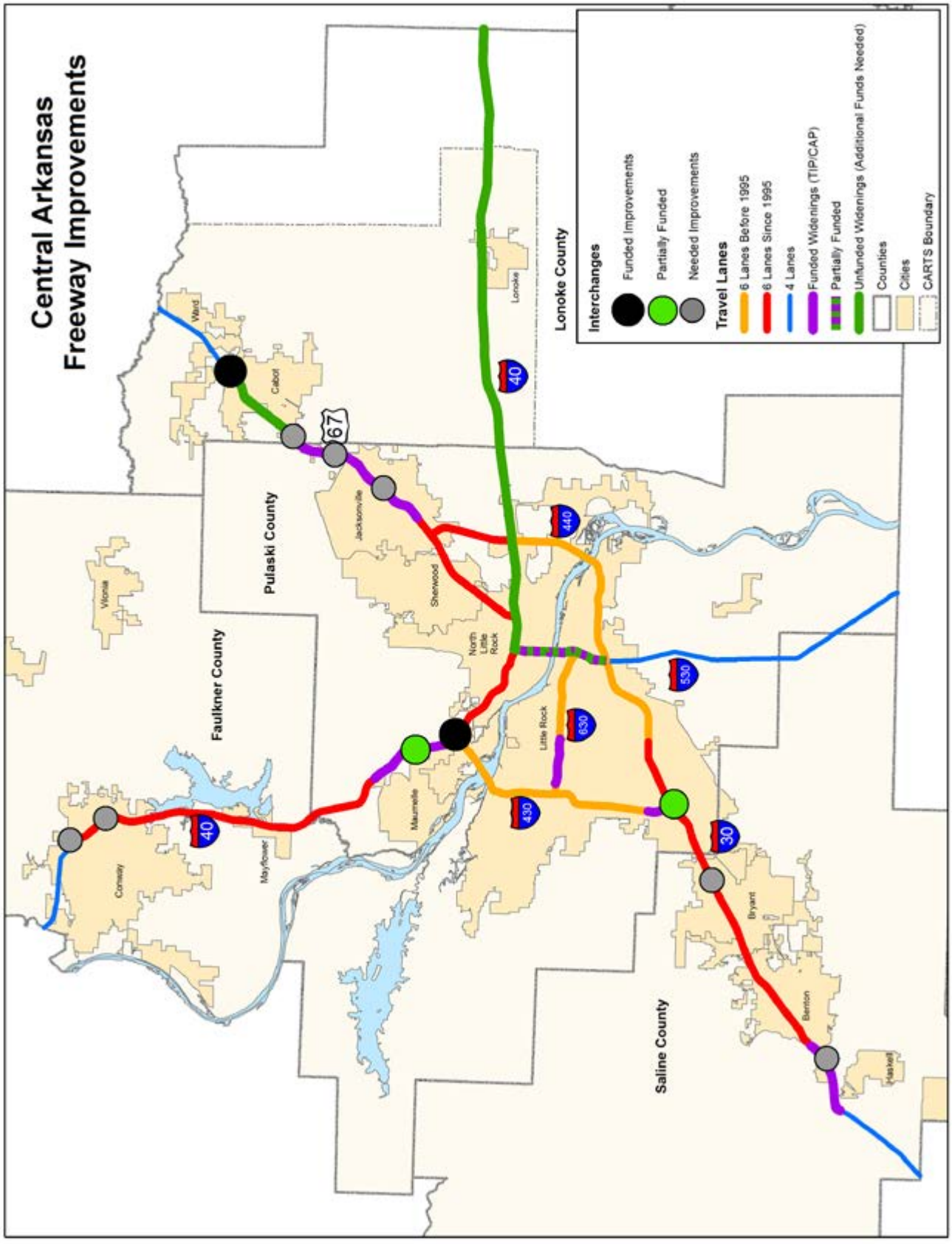
Freeways are an important part of our regional system of personal, freight and goods movement. Expanding the regional freeway system to six lanes (three in each direction) should be completed by 2030.

Freeway Vision

The primary purpose of the regional freeway network is to connect the central Arkansas economy with the state, national and global economies. As such, freight movement and long-distance travel are their primary missions. An important secondary mission, is to provide intra-regional connections that enlarge market areas for businesses and consumers and to enlarge the potentially available work-force for central Arkansas businesses. Without a balanced metropolitan transportation system, these two missions can come into conflict with each other.

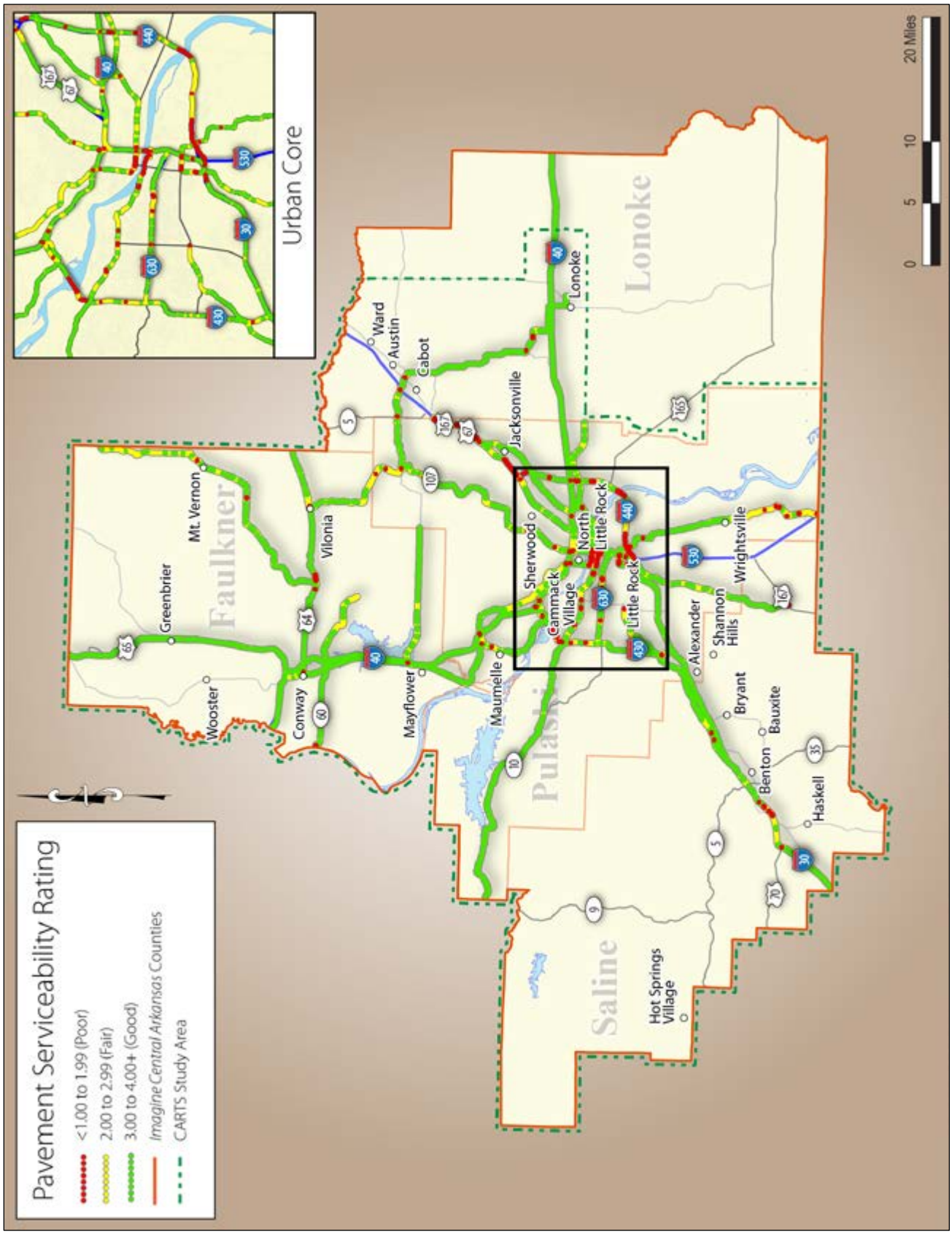
The investment strategy developed in 1995 was to complete the area's circumferential freeway system i.e. East Belt (440) and Northbelt Freeways and to widen all freeways in the metro area to six through lanes to more safely accommodate rapidly increasing truck freight and commuter demands. At that point freeway investments would focus on

Figure 5-5. Area-wide Freeway System



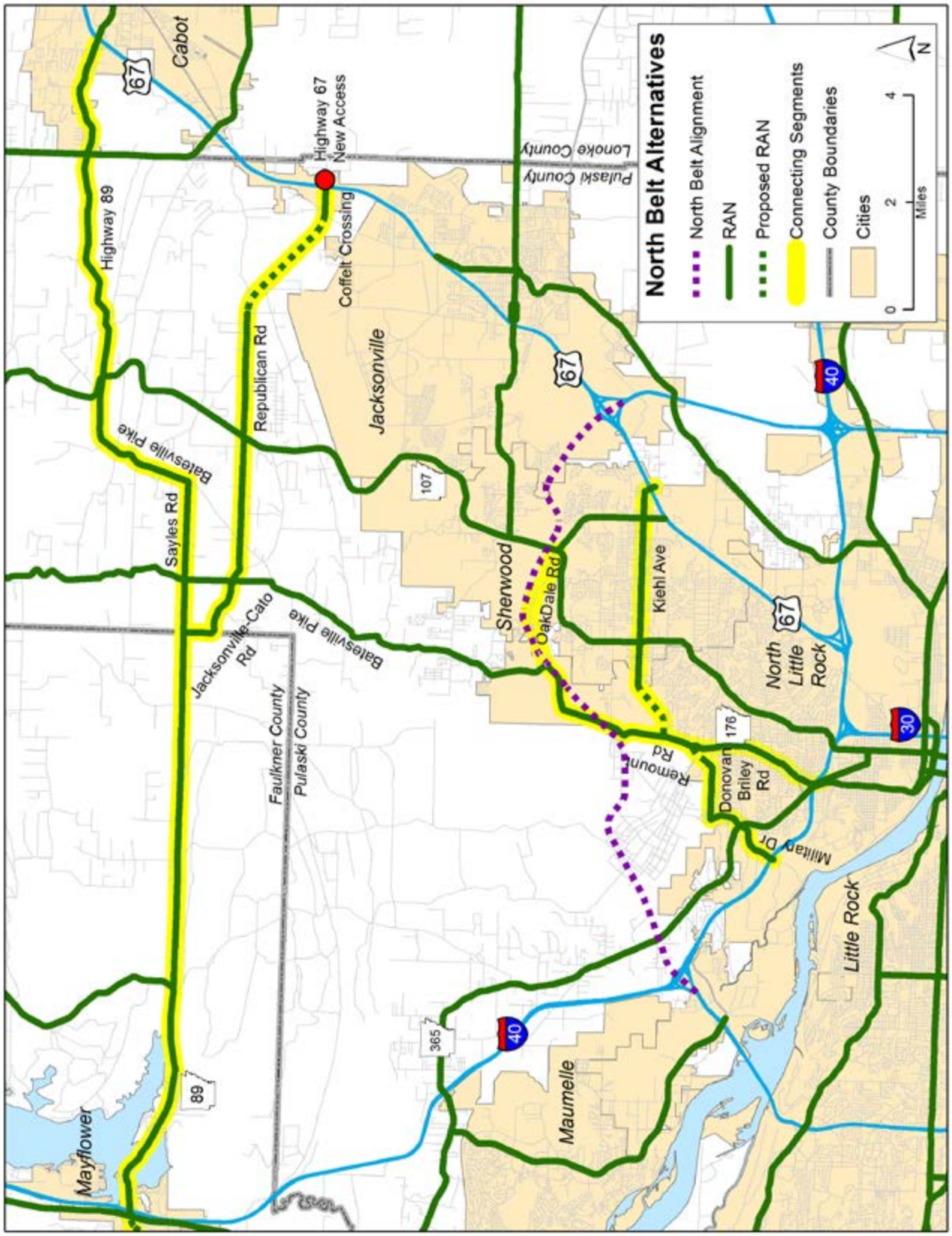
*Freeways are recommended to be widened to 6 through lanes as volume warrants.

Figure 5-6. Pavement Serviceability Rating



Source: Arkansas State Highway and Transportation Department.

Figure 5-7. North Belt Freeway - Removed



*The North Belt Freeway has been removed from the Vision and alternative arterial segments added to the RAN.

correcting choke points at interchanges, maintaining pavement quality and bridge structures on an aging system, and improving traffic flow by more actively managing the system through the use of advanced technology.

Additional lane capacity needs should be revisited after investments are made in robust regional arterial and transit systems that provide a balanced metropolitan system and allow the freeway network to focus on its primary mission.

North Belt Freeway

The long planned North Belt Freeway was to have been the final piece of the circumferential freeway network surrounding Little Rock and North Little Rock. Included in the 1991 Highway Improvement Program of AHTD, the initial segment from I-40 East to Hwy 67 was completed in 2002. Alignment disputes and a lack of funding halted expenditures for the freeway segment from Hwy 67 to I-40 west. Recently, a toll study revealed an increase in the freeway's estimated cost to $648 million, and raised serious funding questions. Consequently, the North Belt Freeway has been removed from the vision and financially constrained transportation plan. It may be reconsidered in the future if new funding is identified. In the meantime, improvements to Highway 89, construction of the Coffelt Crossing interchange in Jacksonville and the extension of Kiel Avenue, Oakdale Road and Batesville Pike have been added to the plan or given higher priority in the Northbelt's absence.

Regional Arterial Network (RAN)

The Regional Arterial Network (RAN) was created by Metroplan as a system of highly functioning surface streets throughout central Arkansas that provide feasible alternatives to freeways for regional travel. These highly functioning roadways located along 23 corridors in central Arkansas are:

- Feasible alternatives to freeways for regional travel;
- Serve intra-regional travel;
- Receive first priority for funding, and
- Typically are locations where cost-saving operational improvements are made prior to major roadway widening.

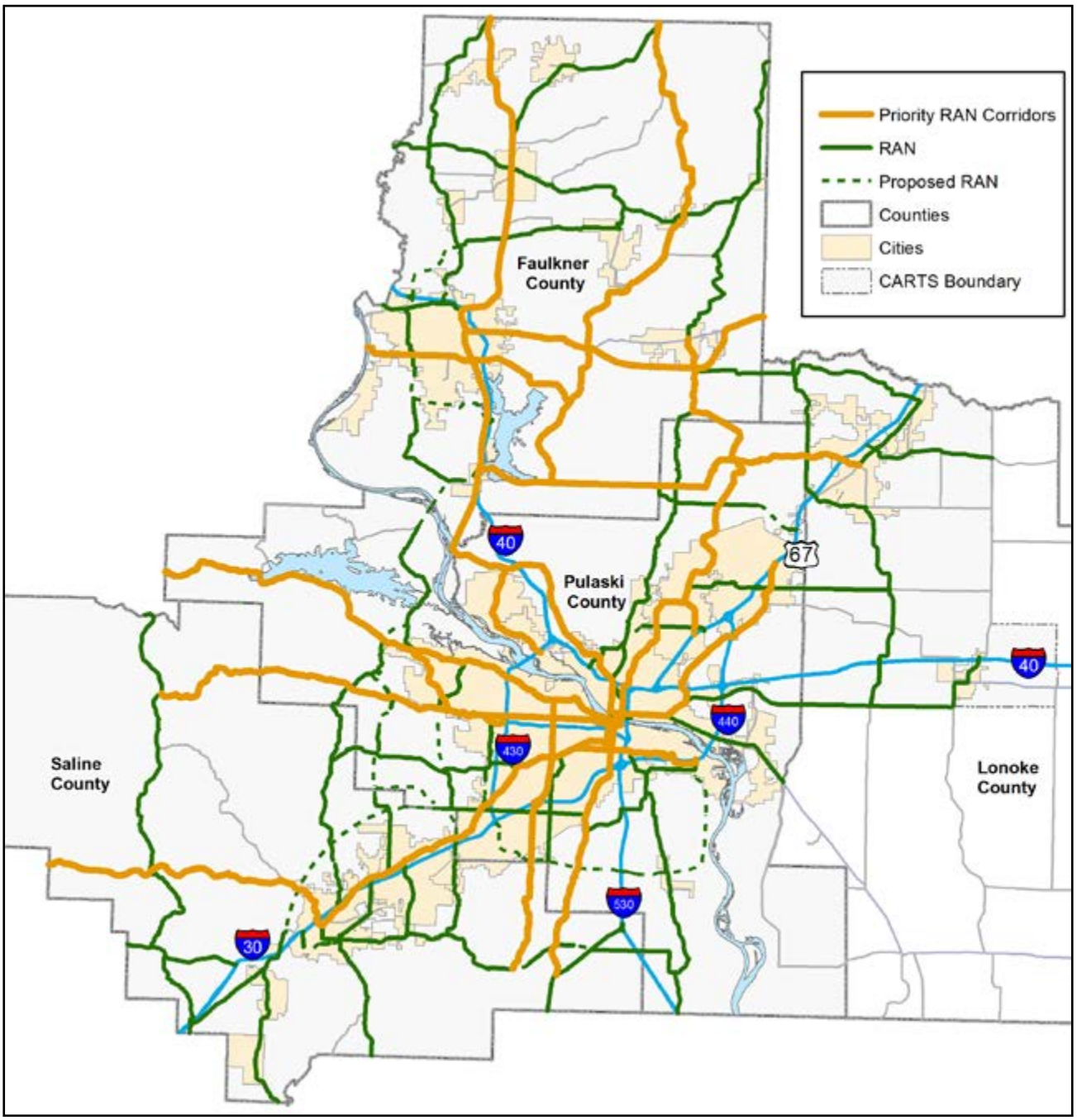
RAN VISION

The vision of the Regional Arterial Network (RAN) is to develop this network of highly functioning arterials that serve intra-regional travel and major traffic generators, thereby providing a viable alternative to the freeway network. Regional arterial roadways are designed to integrate pedestrian, transit and (if on a designated route) bicycle travel.

The strategy for RAN development will require a significant investment of state resources, since over 70% of RAN miles are state routes. Local governments or a regional mobility authority must expect to partner in RAN development with the state.

A mix of projects and strategies are recommended for each corridor, segment and bridge to ensure a high level of mobility. Corridor improvement recommendations for existing roads include intersection improvements, access management, grade-separated rail crossings, widening at select locations, intelligent transportation systems, bridge improvements, alternative transportation modes and roadway widening. The RAN also includes the completion of several key road connections.

Figure 5-8. Regional Arterial Network



5.6.4 Advanced Transportation Management Systems

Advanced Transportation Management Systems include the use of electronic and communications technology and other equipment to monitor and manage the transportation system, especially the freeway and arterial systems. Some key features include:

- Cameras linked to the region's traffic control centers;
- Changeable message boards and other warning systems;
- Traffic control centers, and
- A "quick response" incident management system.

5.6.5 System Maintenance and Operations

Most important is the need to properly maintain the infrastructure already in place before starting on new transportation facilities. Many of the arterials and freeways, especially bridges, are in need of repair, or will be soon (see the Pavement Serviceability Rating map). System maintenance and operations focuses on four major activity areas:

- A "fix it first" policy to avoid incurring higher maintenance and operations costs in the future by avoiding/deferring repairs that are needed,
- Preventative maintenance activities to keep infrastructure in good repair and lessen the potential for more costly repairs in the future, and
- Rehabilitation and repairs to undertake needed major repairs on a scheduled basis to extend the lifecycle of the equipment, and to minimize the need to replace infrastructure with more costly expenditures.
- Include maintenance cost in any new project recommendations.

Roundabouts

A roundabout is a one-way, circular intersection without traffic signals in which traffic flows around a center island. Because the only movement allowed within a roundabout is a right turn, the occurrence of injury-causing crashes is substantially reduced. Typically, small-angle collisions associated with right-hand turns, are less severe.

Benefits of a roundabout include:

- Lives saved (up to a 90% reduction in fatalities, a 76% reduction in injury crashes, a 30-40% reduction in pedestrian crashes and 75% fewer conflict points than four way intersections)
- Slower vehicle speeds (under 30 mph)
- Efficient traffic flow (30-50% increase in traffic capacity)
- Money saved (No signal equipment to install and repair and the service life of a roundabout is 25 years (versus the 10-year service life of signal equipment)
- Community benefits (traffic calming and aesthetic landscaping)

5.6.6 Economic Implications of Automobile Ownership

The American Automobile Association (AAA) estimates that Americans spend on average $8,946 each year on their cars. Of that amount, only 19.6 percent or $1,753, stays in the local economy. The rest goes out of the state or out of the country. A typical family of four, with children of driving age, owns at least three vehicles. If Arkansans could eliminate just one motorized vehicle from their household, not only would they pocket nearly $9,000 of after tax income for discretionary spending, but that additional money would remain in the local economy. Middle class and lower income people tend to spend more on household necessities and small luxuries. Kids get orthodontic braces, homes get painted, porch rails get repaired, rooms get new carpet. Retail sales flourish, as do mid-market family-style restaurants.

Railgrade Separations

During development of Metro 2020, residents in all parts of the region raised significant concern regarding at-grade railroad crossings. Their concerns included safety risk, noise impacts and delay for school buses, emergency vehicles and motorists due to the high frequency of trains per day. Metro 2020 targeted $26 million of future federal funds for up to twelve rail grade separations.

In 1996, the Metroplan Board of Directors (MPO) directed the Technical Coordinating Committee (TCC) to review and prioritize regional rail grade separations. Using quantifiable evaluation factors (delay, accessibility, connective, geographic distribution, and safety) and preliminary engineering studies, twelve rail grade separations were recommended to the Metroplan Board.

In 1997 the Metroplan Board committed to funding for the following 12 Rail Grade Separations by 2020 (requesting AHTD to fund 4 of the projects). **To date seven of the rail grade separations have been completed at a cost of $42 million, with an additional 3 separations scheduled in the TIP at a cost of $43 Million.**

Table 5-3. Railgrade Separations

Rail Grade	Location	Current Status
East Main Street	Jacksonville	Completed
Baseline Road (SH 338)	Little Rock	Completed
South Loop	Little Rock	Completed
Hwy 89 Extension	Mayflower	Scheduled for 2016
North Cabot Railroad Overpass (SH 38)	Cabot	Completed
Salem Road	Conway	Completed
Edison Avenue (SH 35/183)	Benton	Completed
McCain Blvd	North Little Rock	Scheduled for 2015
Maumelle Blvd (SH 100)	Maumelle	Completed
Geyer Springs	Little Rock	Scheduled for 2016
JP Wright Loop	Jacksonville	Considered for 2016-2019 TIP
Springer/Confederate Blvd (SH 365)*	Little Rock	Cancelled

*During *Imagine Central Arkansas* AHTD and the City of Little Rock requested that the Springer /Confederate Blvd project be removed due to construction disruptions and changing train traffic patterns which reduced the need for the grade separation.

Intelligent Transportation Systems

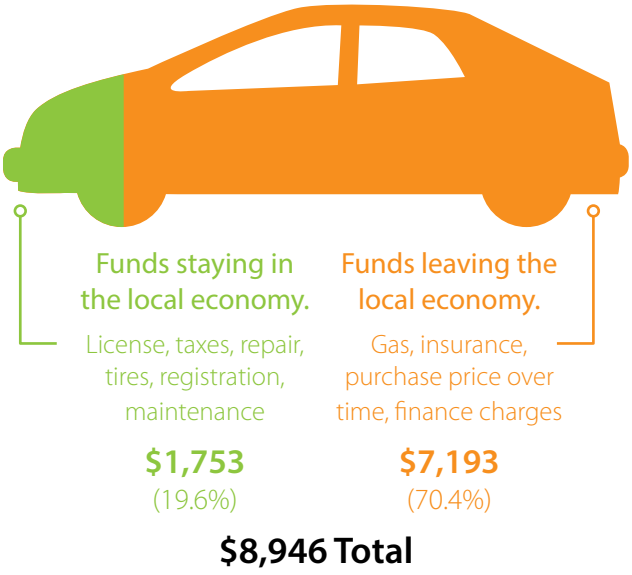
Intelligent Transportation Systems (ITS) provide a proven set of strategies for assuring safety and reducing congestion, while accommodating the growth in transit ridership and freight movement. ITS improves transportation safety and mobility, and enhances productivity through the use of advanced communications, sensors, and information processing technologies. When integrated into transportation infrastructure, and into vehicles themselves, these technologies relieve congestion, improve safety, and enhance productivity.

ITS includes advanced traffic signal operations, to automated monitoring of traffic conditions, weather monitoring and disseminating real-time traveler information to the public.

Examples of ITS applications and their benefits to a metropolitan region are:

- Advanced arterial signal systems can reduce motorists delay up to 42%, reduce stops up to 35%, increase average travel speeds up to 22%, and reduce fuel consumption up to 18%
- Freeway management systems can increase travel speeds by 16-62%, reduce travel time 20-48%, increase capacity by 17-25%, and reduce accidents up to 50%
- Roadway weather management systems can reduce weather-related accidents by over 70% through enhanced detection and motorist warning or guidance
- Advanced transit routing and scheduling applications can reduce passenger travel times by 30% and increase para-transit trips by 55%
- Surveys have found that 18% of drivers changed travel routes more than 5 times per month based on traveler information posted on Dynamic Message Signs
- Computer Aided Dispatch (CAD) and Automatic Vehicle Location (AVL) technologies can improve on-time bus performance up to 23%

Figure 5-9.
Cost of Owning a Car (per year)



Based on 2012 AAA report data.

On a broader scale, fewer automobiles translate to more sales tax in the coffers, and also less wear and tear on roadway infrastructure. The same AAA report suggests that if a city could reduce car ownership by 15,000 cars, a little over $127,000,000 could stay in the local economy. That could translate to increases in funding for schools, libraries, law enforcement and fire fighters, a more sustainable way of financing essential services.

5.6.7 Transit Vision

Central Arkansans envision a region where transportation options are rich and plentiful, where a majority of our citizens live within walking distance of safe, affordable, and frequent transit services, and where major population centers within the region are connected with premium transit service (light-rail or bus rapid transit).

The strategy for implementing the vision will require a dedicated revenue source for transit services to allow enhanced bus service in the short to mid-term, and provide premium regional transit services on a regional scale in the long-term. Improved transit services must be underpinned with strategic planning for appropriate development, parking facilities, implementing policies, and public awareness.

Regional Transit System

A regional transit system for central Arkansas allows people to travel between virtually all major destinations safely and efficiently via rail or bus. Exact alignments and modes (whether light rail, commuter rail or bus rapid transit) require further study, the system's broad features are described below:

- The West Corridor would operate along or parallel to I-630 and connect downtown to numerous medical centers, west Little Rock and Clinton National Airport to the east.
- The Northeast Corridor will connect Cabot, Jacksonville, Sherwood and North Little Rock to downtown Little Rock along the US 67/167 corridor. An alternative alignment would run along SH 107/JFK Boulevard/Main Street in Sherwood and North Little Rock.
- The Northwest Corridor will connect Conway, Mayflower, Maumelle to downtown Little Rock via an alignment following I-40, Maumelle Boulevard, I-430 and I-630. An alternative alignment would continue down the existing railroad into North Little Rock and downtown Little Rock.
- The Southwest Corridor would connect Benton and Bryant to the West Corridor in west Little

Rock along I-30 and either I-430 or University Avenue

Local Transit System

Only about one in four central Arkansas residents currently have access to fixed route transit services. The regional vision for local transit means that a majority of our region can live within 1/4 of a mile walking distance of safe, affordable frequent transit services. Specific fixed-routes and alignments would be determined through further study. This transit vision includes the expansion and coordination of demand response and human services transit services to rural and small urban areas that have a high need but no existing transit service.

Parking needs must be considered for a successful transit system with maximum potential ridership. Convenient park and ride lots near transit stops are needed for ease of use. Denser development with limited parking opportunities works better in the urban core. Increased ridership on the local transit lines allows it to feed into the larger, more robust regional transit network.

Planning for Transit

Ultimately, transit must be supported by strategic planning for appropriate land development. This includes policies that encourage transit-oriented development (TOD), promote citizen awareness of transit benefits and facilitate population growth and density. Provisions for pedestrian access and amenities should be included for all proposed developments along transit lines. Transit—bus or rail - does not operate in isolation from other travel modes and the community at large; rather, it contributes to the overall synergy of the built environment,

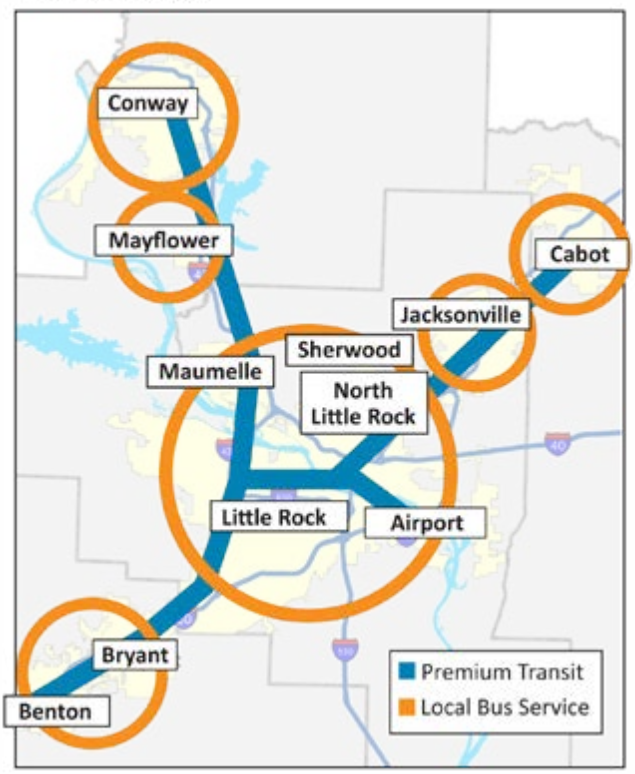
5.6.8 Pedestrian and Bicycle Facilities

Many of our streets lack adequate accommodations for bicyclists and pedestrians, such as sidewalks, bike lanes/shoulders, opportunities for safe crossing, etc. Additionally, there are very limited opportunities to travel via bicycle or foot between different places in central Arkansas. In order to make the region more bicycle and pedestrian friendly, new streets must be built and existing ones transformed to include safe, comfortable accommodations for all users.

Bikeways Vision

The Regional Bikeways Vision for central Arkansas includes a network of multi-use paths

Figure 5-10. Transit Vision



and on-road bike facilities that enable cyclists to access centers of employment, shopping, other services, and homes throughout central Arkansas.

The strategy for implementing the Bikeways Vision calls for the construction of signature pieces of the network, such as the Arkansas River Trail, that serves both transportation and recreational purposes as a means to stimulate bike ridership in the region. The regional plan calls for connecting the region with on-road bike facilities to connect major cities within our region, feeding into locally developed bike networks.

The Regional Vision for bicyclists includes:

- **Inclusion of bicycle facilities on new and retrofitted streets.** Bicycle facilities could include dedicated lanes, wide shoulders, shared lanes or parallel facilities, depending on the context. Less than two percent of central Arkansas roads have designated bicycle facilities and less than 100 miles of paved off-road trails exist in the region, although significant strides have been made in the area recently.
- **Completion of a regionally connected system of off-road trails and on-road bicycle routes.** In some cases, this could be a standalone project (such as the Arkansas River Trail and portions of the Southwest Trail), but in most cases this will occur concurrent with other projects. For example, many of the regional bicycle routes are located on the Regional Arterial Network (RAN) system. Projects for RAN facilities that are part of the regional bikeway network include bike lanes, shoulders and/or parallel off-road trails.

Pedestrian Friendly

The Regional Vision for pedestrians includes:

- **Sidewalks or other facilities (multi-use trails) concurrent with new road construction/reconstruction.** Currently, only about one in seven central Arkansas roads have sidewalks. This is a basic element necessary for creating a seamless multimodal transportation system.
- **Careful consideration of other pedestrian features when transportation facilities are designed or improved.** Elements like intersection design and medians can have a significant impact on pedestrian safety and accessibility.
- **The creation of walkable places within our region.** Homes, schools, shopping, services and employment can be connected by compact

development. Walkable block systems will result in places where walking is safe and convenient.

While Chapter 5 lays out the vision for transportation by network, Chapter 7 includes the steps and financial requirements to reach that vision.

5.6.9 Sustainable Connections: Transportation and Mobility

Movement influences how we live. The ease with which we travel from point A to point B and everywhere in-between directs us to determine where we want to live and how we interact with our environment. Transportation affects the region's settlement pattern, and with it, the access to important features in the community.

Affordability

Transportation has become a costly endeavor. Cheaper more active and healthy forms of mobility (namely the ones that require human power) are unable to succeed amongst the hustle and bustle of cars. Although cars have provided convenient and fast travel, they can be financially draining. Certain responsibilities such as insurance premiums, fuel and maintenance costs can stretch a budget thin; studies have shown that households located in walkable mixed-use neighborhoods can make do with fewer cars. Banks have recognized this advantage and can offer better mortgage terms in such areas.

Transportation costs are not only a burden to individuals, but to the region as a whole. Expanding road infrastructure comes with a high price tag. Every new road will require maintenance. The cost may not only be financial, but environmental. Expanding roads attract higher volumes of vehicles and stretching new roads to previously undeveloped places will create greater distances in which residents have to travel. This will only increase greenhouse gas emissions. Considering the costs of the system that is already on the ground, it is wise to weigh how much the region can afford.

Efficiency

Central Arkansas can develop a more efficient system of transportation. Universal adoption of complete streets policies will ensure planning is being done for pedestrians, bicyclists and transit riders in addition to the attention placed on private vehicles. Denser communities can allow residents freedom to move quickly from destination to destination. With these practices, the regional average travel can decrease, thus, reducing traffic congestion, air pollution, energy consumption. Greater physical activity, reduced social isolation and reduced maintenance costs are added benefits.

Opportunity

Opportunities increase in areas that favor a mobile population. Every trip made without a car saves money; money that can be saved to increase an individual's financially security or spent on local businesses that provide jobs for residents. Increasing mobility options can also help certain populations, such as people with disabilities, children or the elderly, become more independent and better connected to their community. When the region can spend less on building and maintaining new roadways it can focus its investments on better housing, community health and safety, economic development and educational advancements.

5.7 Health and Safety

Imagine Central Arkansas stakeholders envisioned our region "to become known as the healthiest and safest community in America." This is an admirable and ambitious vision – achievable, but not easy.

The Arkansas Department of Health keeps data on behavioral, environmental, policy and clinical care factors and the likely outcomes of those determinants. The 2012 summary of those determinants and outcomes is displayed in Table 5-2. Although some behavioral and policy determinants, such as smoking and lack of health insurance, are beyond the scope of *Imagine Central Arkansas*, the impact of such issues on the local economy is great. Other determinants – obesity, physical inactivity, air pollution – have implications to the way we build and move in our environment.

5.7.1 Physical Inactivity

Health Risks of a Sedentary Lifestyle

I've been through every diet under the sun, and I can tell you that getting up, getting out, and walking is always the first goal. – Oprah Winfrey

Dispersed land development has produced a number of unforeseen consequences to the environment, economy, even foreign policy - and to our health. Becoming dependent on the private automobile has effectively limited physical activity among both adults and children.

Chronic diseases are steadily increasing the amount of health care dollars spent for conditions that are largely preventable. According to the Milken Institute, assuming this trend in obesity continues, up to one-fifth of health care expenditures will be required to treat the consequences. As calculated by the Arkansas Department of Health, by 2023 over $42 billion will be spent in Arkansas if nothing is done to reverse the trend toward overweight and obesity, especially among young people.

Physical inactivity leads to loss of muscle and bone mass, which in turn can exacerbate conditions, like osteoporosis and vascular problems. Many chronic diseases are associated with physical inactivity and obesity. These include:

- Heart disease
- Hypertension
- Diabetes
- Arthritis
- Sleep apnea
- Depression and anxiety-related disorders
- Gallstones
- Some forms of cancer (breast, endometrial, kidney, pancreatic, colorectal and esophageal)

These diseases are thought of as "old people's ailments" but, alarmingly, are becoming more common in children. Moreover, these chronic diseases are not a natural part of the aging process. They are not found in great numbers in developed countries that have an infrastructure supportive of active lifestyles.

Economic Effect of Physical Inactivity

According to the World Health Organization, physical inactivity is the fourth leading cause of death worldwide and has been identified as the greatest public health challenge of the 21st century. [Source: As cited in July 2014 ITE Journal, "The Transportation Profession's Role in Improving Public Health, by Daniel Bornstein and William J. Davis] Being physically active is not just a personal decision. Community design, availability of open spaces and

recreation areas, and the perception of security are factors that strongly influence how people interact with their community. Many of these interactions are subtle. For example, the decision to take an elevator to the second floor is influenced by the prominent placement of elevator banks versus the hidden, unadorned stairway. The unconscious message received is that the elevator is the way you should go up to the second floor.

In the United States, and more specifically in central Arkansas, the health and well-being of individuals is interwoven with community economic vitality. People make many trips within the urban area and often less than two miles using automobiles rather than walking, bicycling or taking the bus. The loss in productivity results in lower economic activity which often translates to decreased tax revenues for cities. Higher insurance premiums increase the cost of medical care. Money that is needlessly spent on medical care and insurance is money that is most often taken out of the local economy.

Becoming Physically Active

Central Arkansas boasts miles of on- and off-road biking and walking facilities that are used for both recreation and transportation. Demand for additional connecting bikeways and trails is increasing as residents and jurisdictions alike discover the economic, recreational, and health benefits to becoming physically active.

Table 5-4. Health Determinants & Outcomes

		COUNTY				STATE
		Faulkner	Lonoke	Pulaski	Saline	Arkansas
DETERMINANTS	BEHAVIORS					
	Smoking (Percent of adult population)	18.0	21.0	20.0	24.0	23.0
	Excessive Drinking (Percent of adult population)	14.0	14.0	16.0	11.0	13.0
	Obesity (Percent of adult population)	33.0	34.0	32.0	31.0	32.0
	Physical Inactivity (Percent of adult population)	28.0	31.0	29.0	26.0	31.0
	High School Graduation (Percent of 9th graders)	87.0	79.0	68.0	85.0	81.0
	COMMUNITY & ENVIRONMENT					
	Violent Crime (Offenses per 100,000 population	300.5	409.8	1103.9	271.9	508.2
	Children in Poverty (Percent of persons under age 18)	17.7	18.8	23.3	15.2	27.8
	Air Pollution (Micrograms of fine particles per cubic meter)	12.0	12.1	11.9	11.8	11.8
	POLICY					
	Lack of Health Insurance (Percent < 65 without health insurance)	17.9	17.6	18.3	16.4	20.6
	CLINICAL CARE					
	Low Birthweight (Percent of live births)	7.7	7.8	10.5	8.3	9.1
	Primary Care Physicians (Ratio of pop to primary care physicians)	47.0	17.0	102.0	40.0	62.0
	Preventable Hospitalizations (Rate per 1,000 Medicare enrollees)	54.0	79.0	64.0	60.0	79.0
OUTCOMES	Diabetes (Percent of adult population)	10.0	11.0	11.0	11.0	11.0
	Poor Mental Health Days (Days in previous 30 days)	3.5	4.0	3.4	4.3	3.9
	Poor Physical Health Days (Days in previous 30 days)	4.2	3.5	3.2	4.0	4.1
	Infant Mortality (Deaths per 1,000 live births)	6.9	7.3	9.7	8.4	7.9
	Cardiovascular Deaths (Deaths per 100,000 population)	251.1	271.5	248.7	243.4	284.9
	Cancer Deaths (Deaths per 100,000 population)	175.7	205.2	188.0	185.8	193.7
	Premature Death (Years lost per 100,000 population)	7296	9021	9374	7307	9290

Source: Arkansas Department of Health

Bicycling is considered a base training activity. Base training activities are those that provide endurance and aerobic benefits at the same time. Walking is aerobic exercise. Neither requires a high level of skill, nor are they limited to a single age group. These activities can be enjoyed by the whole family without a large investment.

Bicycling builds strength in a holistic manner, in that every part of the body is involved. Regular cycling strengthens leg muscles and improves mobility of hip and knee joints. It can even improve arm-to-leg, feet-to-hands and body-to-eye coordination. According to the British Medical Association, cycling just 20 miles a week can reduce the risk of coronary heart disease by 50 percent. Steady cycling burns approximately 300 calories per hour. Cycling for 30 minutes every day burns 11 pounds of fat in a year, while building muscle and boosting the body's metabolic rate long after the ride is finished.

Walking is also good for your heart. A recent Harvard study shows that walking at a moderate pace (3 mph) for up to 3 hours a week—or 30 minutes a day--can cut the risk of heart disease in women by as much as 40%. This is the same benefit a person would get from aerobics, jogging, or other vigorous exercise. The benefits to men are comparable.

Along with its benefits to the heart, walking and biking:

- improve circulation and lower blood pressure
- help breathing
- combat depression
- bolster the immune system
- help prevent osteoporosis
- help prevent and control diabetes
- help control weight
- decrease chronic pain
- improve digestion and lung function

Obesity has become an epidemic among Americans; it is especially troubling that so many American children are now overweight or obese. In central Arkansas, nearly a third of the adult population is classified as medically obese. Numerous studies have shown that lack of physical activity is a major factor.

Studies have also shown that people are most likely to stick to exercise when it is part of their daily lives. When individuals start looking for opportunities to use a bike or walk, they are often amazed at how many there are. For example, biking or walking to the nearest bus stop can combine physical activity with cost savings. An added financial benefit is that these activities do not require expensive fuel or parking fees. These also cut down on air pollutants from burning fuel, which can provide additional health benefits

As central Arkansas develops it should consider a pattern that encourages physical activity. This could mean greater connectivity to a robust network of parks, nature trails and also infrastructure dedicated to active forms of mobility.

Number of calories a 150-pound person burns walking at a moderate pace (3 mph)

Time	Distance	CaloriesBurned
10 minutes	0.5 mile	44
20 minutes	1 mile	88
30 minutes	1.5 miles	132
40 minutes	2 miles	176
60 minutes	3 miles	263

5.7.2 Access to Healthy Food

Food is a fundamental need for central Arkansas. Food provides security, displays culture, stimulates community interaction and economic growth but most importantly influences health. Providing access to healthy, affordable food is a priority for central Arkansas.

Fresh Markets

Community gardens are increasing in popularity. Currently, there are 36 such community-sponsored gardens in central Arkansas, and another 11 are planned for 2014. Although there is currently no hard data on health outcomes, anecdotes abound. Healthcare and community workers note that where gardens have been established, neighborhoods have blossomed in others ways. Residents have come together to undertake other neighborhood projects and become more active in neighborhood watch groups.

The proliferation of farmers' markets throughout the region is another indicator that people have an appetite for healthy foods and are willing to pay for locally grown fresh produce and meat. According to the Arkansas Agriculture Department (AAD), there are currently 25 farmers markets in the four county region. In order to reach a large concentration of consumers, most farmers' markets are located in urban centers, such as Little Rock's River Market District and North Little Rock's Argenta. The success of these and other farmers' markets has highlighted the desirability of broadening the availability of the products to suburban areas.

The City of North Little Rock recently funded a "mobile farmers' market" that will travel to outlying parts of the city. These mobile farmers' markets have the ability to reach people whose access to healthy, fresh food is limited by suburban design that fosters isolation and auto-dependency.

The expansion of farmers' markets has reduced the number of miles central Arkansans drive to access food as residents commonly elect to walk; consequently, gas expenditures and greenhouse gas emissions have been reduced. As a result, neighborhood markets have become destinations that stimulate social interaction and even encourage development of new restaurants, cafés, and coffee shops nearby. The region can benefit greatly by continuing this trend.

Food Deserts

The USDA defines a "food desert" as areas "void of fresh fruit, vegetables, and other healthful whole foods." Food deserts occur typically in lower-income neighborhoods. Maintaining a healthy diet is difficult for families who don't have convenient access to affordable healthy foods. A grocery store or convenience store may be present and within a short drive or walk; however, food choices are limited to cheap products with "filler" ingredients that increase shelf life but provide zero nutrition, and fresh produce is of poor quality.For more information on food deserts and a link to the IOM study, see Arkansas Coalition on Obesity Prevention (ARCOP) website. Although the cost of this cheaper food is often nearly equal to higher quality offerings found in other communities, residents in food deserts may not have the means to travel longer distances to obtain healthy food. As community gardens and farmers' markets proliferate, the availability of nutritious alternatives to high calorie, low nutritional value options may

prompt grocery stores in those areas to compete by providing a high quality and better variety of products.

The Arkansas Department of Health (ADH), in coordination with ARCOP, has championed efforts to ensure that lower-income Arkansans have access to fresh fruits and vegetables. Working together, these agencies have promoted the development of several farmers' markets and have advocated and provided training for merchants desiring to accept SNAP cards and vouchers. They have also provided incentive programs such as "Double Bucks", to promote healthier diets. Programs like Double Bucks allow SNAP recipients to purchase healthy alternatives to junk food by doubling the purchasing power of their SNAP vouchers in farmers' markets. The program has proven to be both beneficial to the SNAP recipients and the merchants in the markets.

Still, it is important to extend the reach of fresh food to outlying areas. These foods can help residents improve their nutrition, and ultimately lower the cost of their healthcare. Every cent saved translates to greater disposable income which improves the residents' economic standing, and ultimately helps secure a sustainable food system.

5.7.3 Safe Communities

Constructing a Safe Environment

A plethora of variables determine an individual's decision to roam free in his or her community. One of those variables is the sense of personal safety, both real and perceived. Plans for roadway improvements such as sidewalks and bike paths (complete streets) will improve the quality and appearance of the neighborhood. Creating both crime prevention programs and personal safety programs (such as bike helmet and car seat safety checks) will improve the safety of residents.

The National Crime Prevention Council (NCPC), working in concert with planners, architects, landscapers, neighborhood stakeholders and law enforcement professionals, provides training that specifically addresses community improvement through a program called Crime Prevention through Environmental Design (CPTED). The principles

Food Insecurity

Arkansas is the fifth ranked state for food insecurity among households without children, and 28.2 percent of households with children report difficulty affording food. Source: Food Hardship in America analysis of data collected by Gallup as part of the Gallup-Healthways Well-Being Index, 2008-2012.

Available assistance for food insecurity rests primarily in two federally subsidized programs:

- **Arkansas Supplemental Nutrition Assistance (SNAP)**
  SNAP, formerly known as Food Stamps, helps low income families afford groceries. It is funded through the US Department of Agriculture (USDA) Food and Nutrition Services and administered by the Arkansas Department of Human Services. Monthly benefits are delivered through electronic debit cards that are used for food. Most grocery stores and some farmers markets accept SNAP., which is intended to be a temporary, short-term solution for individuals and families. Most participants stay on the program less than a year.
- **Women, Infants, and Children (WIC)**
  WIC, the Special Supplemental Nutrition Program for Women, Infants and Children, provides nutritious foods during a time of critical growth and development, as well as nutrition education to improve dietary habits and health. Additionally, WIC provides information and encouragement for breastfeeding, and referrals to other health services as needed. The WIC program is administered by the Arkansas Department of Health through a grant provided by the Food and Nutrition Service (FNS) of the USDA.

outlined focus on crime prevention, but the strategies mirror "smart growth" concepts long discussed within planning and "new urban" circles. More importantly, *Imagine Central Arkansas*' Vision also unites with these principles.

At Bici Fiesta in Levy, children received new helmets and bicycles, as well as instruction on riding a bike and making repairs.

Following are NCPC principles that can help the region achieve its sustainable Vision:

- **Maintenance and management of space. Proper upkeep - mowing grass, trimming trees and landscaping, picking up trash, repairing broken windows and light fixtures and erasing graffiti or other signs of vandalism and neglect – There are signal factors that a neighborhood is well cared for and its residents attentive to what goes on within the area.**
- **Access control. Designing streets, sidewalks, building entrances and neighborhood gateways to clearly indicate transitions from the public environment to semi-private and private areas.**
- **Territorial reinforcement. Sidewalks, landscaping and porches help distinguish between public and private spaces. Neighborhood residents display signs of ownership that convey a message to mischief makers or criminal offenders.**
- **Surveillance. It is vital to maximize the visibility of people, parking areas, vehicles, and site activities through strategic placement of windows, doors, walkways, parking lots and motorways.**

While the NCPC's mission is crime prevention, its strategy promotes neighborhood cohesiveness, personal safety and freedom from fear of criminal activity. For example, well-maintained properties and public infrastructure increase land values and provide safe use of sidewalks, bike lanes and parks. They also send the subliminal signal that residents are on the alert in their neighborhoods. Keeping sidewalks in good repair enables elderly residents to safely access nearby retail destinations and transit stops. Biking is safer and a more attractive activity when the bicycle lanes are free of trash and debris, and the roadway is in good repair. Street lighting that is scaled to human dimension was frequently cited by central Arkansans as a factor that contributes to community safety and security.

5.7.3 Sustainable Connections: Health and Safety

The prosperity and economic resilience of any community is directly linked to the health and safety of its residents. Health is a beneficiary of and a contributor to development and a key indicator of what people-centered, equitable and sustainable development seeks to achieve.

Affordability

Healthcare costs have increased substantially and are expected to continue rising. The best defense against these rising costs is a healthy lifestyle. Those who stay physically active and maintain a healthy diet have lower rates of obesity, a wide array of cardiovascular diseases and even anxiety and depression. These lifestyle choices may help residents avoid numerous doctor visits, pricey medications or expensive procedures which could lower the amount of capital dedicated towards healthcare. Businesses may also benefit from healthy employees by paying less for insurance services which could lead to increases in individuals' coverage.

Efficiency

Efficient land development and street designs can lead to a healthier and safer population. Denser development coupled with abundant green space encourages residents to get out, walk around and become physically active. This could help alleviate traffic congestion and the unhealthy pollutants that come from a herd of idling cars. Furthermore, complete streets can accommodate all forms of mobility and make movement smoother and safer for all individuals.

Opportunity

A safe and healthy community increases opportunity. Access to grocery stores with fresh foods and neighborhood farmer's markets within walking distance from large populations can help residents reduce costs of healthcare and transportation, as well as increase physical activity and provide social interactions that may be missed in a less connected environment. Greater activity on the streets can deter criminal activity and attract commercial investment in the neighborhood. A safe, healthy community optimizes opportunity.

5.8 Environment, Energy, and Natural Resources

Central Arkansas' natural environment is cherished by its residents. It is an asset that enhances quality of life and which attracts new people and businesses with fresh ideas for a better community. For our region to remain beautiful, healthy and competitive, we must keep air clean, water clear, promote efficient energy use and emphasize public green space.

Conserving our natural resources is not a new priority for central Arkansas. When Metroplan received the Sustainable Communities Initiative grant to integrate housing, economic development, environment and health issues along with transportation into its plan, the transition was easy. HUD's Sustainable Communities Resource Center states "A sustainable community is an urban, rural, or suburban community that has a vibrant local economy, more housing and transportation choices, is closer to jobs, schools and shops, is more energy independent, and helps protect clean air and water."

5.8.1 Beautiful Green Spaces

The natural environment, with parks and open spaces for the public to gather, is one of the region's top assets. Central Arkansans participated in "Treasured Places," the outreach event where residents submitted a picture of their favorite places in central Arkansas. Several natural areas, such as Murray Park, Big Dam Bridge, the Covered Bridge at Burns Park and areas close to parks like the Little Rock River Market, Maumelle Pool/Community Center, Hendrix College and the Argenta District were most favored.

The results solidify the need to invest in green spaces. The American Planning Association (APA) suggests maintaing at least 883 acres of parkland for every 100,000 residents. Parks of varying sizes and function should be spread throughout the community so they are accessable to several neighborhoods. Pocket parks, or small neighborhood parks, can raise nearby house values and provide a safe environment for children to play without the threat of traffic. Larger community parks can offer cultural amenities such as outdoor theaters, mueseums or community gardens.

Imagine Central Arkansas wishes to promote its natural environment to provide opportunities for

physically activity, affordable entertainment and scenic views. Setting aside green space can be a powerful recruitment tool because it shows that the region is committed to quality of life for its residents. More investment in parks will continue to make our region attractive to new residents and investors while keeping current residents healthier and happier.

Burns Park

Burns Park is one of the nation's largest municipal parks, with close to 1,600 acres of lighted ball fields, hiking trails, fishing, and a 36-hole championship golf course. Recreational opportunities abound at North Little Rock's Burns Park as well as sports activities along with a unique urban equestrian trail, scenic River Trail, Emerald Park Mountain Bike and Multi Use Trails.

Arkansas River Trail System

In 2012, a "Memorandum of Understanding" established the Arkansas River Trail System to be extended 88 miles across multiple cities and counties. The signatories to that MOU are the cities of Little Rock, North Little Rock, Maumelle, Mayflower, Conway and Bigelow, Pulaski and Faulkner Counties, the Arkansas Department of Parks and Tourism, the Arkansas State Highway and Transportation Department, and the US Army Corps of Engineers. It began as a 14-mile loop between Little Rock and North Little Rock, transecting and connecting the riverfront parks of both cities. Today it has become the catalyst for the development of bicycling, walking, and running trails in the entire metropolitan area, traveling west on both sides of the Arkansas River to Pinnacle Mountain State Park over the Two Rivers Park Bridge.

The Arkansas River Trail System connects a total of 38 different parks across the metropolitan area. The most prominent of which are Pinnacle Mountain State Park, Two Rivers Park, Burns Park, North Shore Riverwalk Park, Rebsamen Park, Maumelle Park, and Riverfront Park.

"There is nothing so American as our national parks. The scenery and the wildlife are native. The fundamental idea behind the parks is native. It is, in brief, that the country belongs to the people, that it is in process of making for the enrichment of the lives of all of us. The parks stand as the outward symbol of the great human principle."
Franklin D. Roosevelt

Figure 5-11. Arkansas River Trail System

5.8.2 Air Quality

Air quality continues to be an important issue that could impact the planning process, public involvement, funding and the development and implementation of CARTS transportation plans, programs and projects. The United States Environmental Protection Agency (EPA) is required under the Clean Air Act of 1970 (CAA), as amended, to set National Ambient Air Quality Standards (NAAQS) for ozone, particulate matter and four other "criteria" air pollutants. No portion of central Arkansas has ever been designated as "nonattainment" under NAAQS; however, at various times since 1970 ambient ozone and particulate levels have threatened our region's clean air status.

Under nonattainment, central Arkansas would be required to conform to a new level of standards with EPA and DOT regulations. This is not a sustainable scenario. Aside from the added costs, *Imagine Central Arkansas* recognizes the importance of air quality to the well-being of the region's residents and economy and aims to protect it through the Ozone Action Days program, which hopes to improve fuel efficiency of government vehicles, utilize cleaner energy sources and optimize traffic operations. Equally important is the reduction of point source emissions from non-transportation pollution through improved technology. Ultimately, the region seeks to not only stay in attainment of the national ozone standard, but improve air quality to increase livability for its residents.

Ground Level Ozone

Ground level ozone, a chemically unstable form of oxygen, is the air pollutant most problematic for central Arkansas. It is the main ingredient in photochemical smog which is a health hazard in high concentrations. Even at low levels, ground-level

ozone can cause a number of respiratory disorders, especially in sensitive individual, such as, children and adults with asthma or COPD. The health effects of ozone became apparent in 1948 when a thick cloud formed, lingered for five days and caused 20 deaths and 6,000 illnesses above the industrial town of Donora, Pennsylvania.

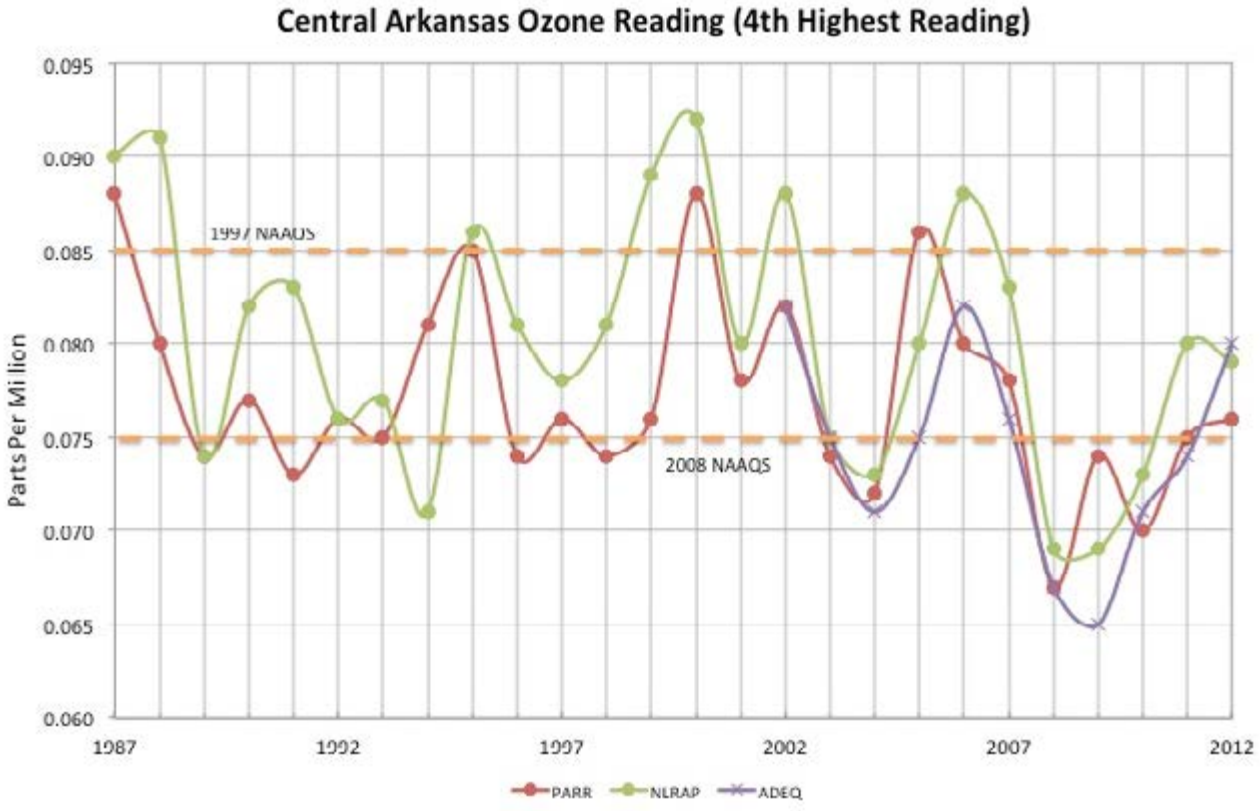
Central Arkansas has previously exceeded the standard only to be saved from non-attainment designation by the government's re-evaluation of the standard. Central Arkansas' current three-year average (2010-2012) of .076 ppm exceeds the existing standard of .075 ppm. Improvements in vehicle technology and point source emission reductions may be enough to bring the region back into current attainment standard.

If central Arkansas is designated as a "nonattainment area," leaders must consider the effects of transportation related projects on ground level ozone before funding is allocated.

Ozone Action Days

In central Arkansas, Ozone Action Days notifies residents of harmful days of ground-level ozone. In addition to Ozone Action Days, "Ditch the Keys," a week-long initiative that coincides with National Bike to Work Day, raises awareness about ground level ozone's relationship with transportation.

Figure 5-12. Ozone Graph



Local strategies to reduce ozone episodes should focus on reducing nitric oxide and nitrogen oxide emissions (a precursor to ozone) from automobiles, trucks, construction and farm equipment, boats, trains, planes, and lawn mowers, and also stationary, "area" and point," sources like factories, and power plants. Furthermore, less land consumption from new development can preserve natural resources that help to control emissions and limit the amount of air pollutants from long commuting trips. These strategies can help the region maintain "attainment" and its associated cost, and ensure that residents are breathing clean air.

5.8.3 Energy and Carbon Emissions

"I'd put my money on sun and solar energy. What a source of power! I hope we don't wait until oil and coal run out before we tackle that." – Thomas Edison, 1931

Central Arkansas residents overwhelmingly cited "rising energy costs" as a trend that could have a great impact on the future of the region in the coming decades. This is likely due to the fluctuating cost of gasoline and the high number of commuters who travel long distances between counties for work. Similarly, residents cited environmental factors such as dwindling natural resources, insecure energy sources, climate change and degrading air quality as also having a strong impact on the future of central Arkansas.

Air Quality and Minority Populations

The relationship between air pollution with children in the minority population is important. A recent study by the University of California at San Francisco revealed that exposure in infancy to nitrogen dioxide is strongly linked with development of childhood asthma. The study says that since minorities tend to live in highly concentrated, polluted areas near interstate corridors, which increases the risk of developing asthma.[10]

Energy Consumption and Renewable Energy

Improving energy efficiency was identified as essential in the Green Agenda and is a target of *Imagine Central Arkansas*. For a state of its size, Arkansas — ranked 17th — consumes a lot of energy which is reflected in residents' higher bills. The Plan realizes that central Arkansas must become energy efficient to be sustainable. Seventy percent of the total amount of energy consumed in the U.S. is by buildings that could be made much more efficient with simple techniques, and new products. One way to lower consumption is to identify and measure energy use in our buildings. Energy audits should be accessible to residents looking to save on their bills.

Communities can reduce energy consumption by updating energy codes for all new buildings and homes and making sure they meet standards during the permitting process. "Since air infiltration accounts for substantial heat loss, heat gain, and moisture migration in a building," code compliance of proper insulation would make huge strides in lowering energy consumption . In addition to proper building codes, energy labeling can help potential

homebuyers and renters know the true costs of living and exactly what utility costs to expect.

Renewable energy can not only lower energy consumption but also total costs. Renewable energy sources like captured methane, hydro, solar, biofuel and other sources are techniques that can drastically reduce the consumption of non-renewable energy. Likewise, updating existing policies to promote and enhance energy efficiency in buildings would advance energy sustainability.

Economic development tends to increase in areas with a path to sustainability and an improved quality of life for residents to follow. Lower energy bills can increase the amount of money available to be spent in the local economy, especially for impoverished families who could use additional money for food, healthcare and transportation. Furthermore, a diversification of energy sources can reduce the demand for fossil fuels, like coal, and improve regional air quality. Dollars spent due to energy inefficiency do not flow back into the local economy; growth may be missed as a result. Dollars saved, directly enhance quality of life, and livability in the region.

Energy Emissions

When examining greenhouse gas emissions (GHG) central Arkansans generated approximately 14.3 million tons of equivalent carbon dioxide units (CO_2) according to research done for *Imagine Central Arkansas*. Central Arkansas' per capita GHG emissions are higher than larger cities like Chicago and Portland. Sources of GHG emissions include both direct and indirect sources from residential energy use, industrial sources, and regional transportation.

Overwhelmingly, the transportation sector is the largest producer and consumer of energy, contributing over 32.4 percent of the region's GHG and consuming 36 percent of the region's energy. Therefore, the biggest area of opportunity in reducing GHG involves strategies related to reducing energy consumption in transportation, utilizing energy efficient automobiles, and promoting density of housing, workplaces and conveniences where fewer trips would occur. Reduction of GHG will also positively impact air quality, water quality and the health of residents.

Imagine Central Arkansas expands upon the Green Agenda by tackling energy consumption and promoting renewable energy. The ICAP, like the Green Task Force, came up with several energy efficiency goals and strategies to implement in central Arkansas. The regional vision embraces Corporate Average Fuel Economy (CAFE) standards to increase fuel efficiency, promote active transportation like walking and biking to reduce greenhouse gas emissions and advocate energy reduction plan for communities in central Arkansas.

LEED Certification

U.S. Green Building Council (USGBC), the authority in green building certification, uses a point system based on sustainability principles like green construction designs, water conservation and energy efficiency to determine a building's silver, gold or platinum certification status. According to USGBC, LEED-certified buildings reduce costs of energy and water use by as much as 40%. A reduction in these costs frees up valuable capital that can be used to create new jobs, attract and retain top talent, expand operations and invest in emerging technologies. (source: http://www.usgbc.org/sites/default/files/Why%20LEED%20Certification%20Matters.pdf)

Financing Help for Energy Efficient Upgrades

Property assessed clean energy legislation (PACE) helps finance energy efficient upgrades or renewable energy installations for buildings. PACE legislation was adopted in Arkansas in 2013, which allowed municipalities to form "energy improvement districts." Local governments offer specific bonds to investors and then loan money for consumers and businesses to perform an energy retrofit. Unlike traditional loans, PACE program loans are attached to the property rather than the individual; usually with a 15 – 20 year assigned term.

(Source: NREL http://www.nrel.gov/docs/fy10osti/47097.pdf)

5.8.4 Water Sources and Watersheds

How we develop our land directly impacts our water sources, their quality and flooding events. The goal of *Imagine Central Arkansas* is to protect water sources and watersheds from harmful pollution and runoff by developing our region with smarter techniques.

Watersheds

Arkansas has abundant water resources. A watershed is any geographic area where water, either on the land's surface or under it, drains or flows into the same place. Since all flowing water collects in these

watersheds, it is imperative to prevent contamination maintain and clean water sources.

Transportation byproducts and the design of streets significantly affect storm water and water quality. Water contaminated by transportation related pollutants can lead to serious health conditions like cancer. Good street design and materials can improve proper filtering of pollutants.

Metroplan has assisted the University of Arkansas Community Design Center in development of a management plan for the Lake Conway – Point Remove Watershed. Once the project is completed the watershed will have its own nine-element watershed management plan and an organized watershed advocacy group. Lake Conway's management plan is one example of what the region wishes to accomplish with other watersheds. *Imagine Central Arkansas'* goal is to expand these efforts to create a regional watershed system that contains minimal pollution.

Lake Maumelle Watershed Management Plan

Metroplan works with Central Arkansas Water to assist with protecting and planning the future of the Lake Maumelle watershed. This 137.4-square-mile area drains into the Lake Maumelle reservoir, which is the largest source of drinking water in Central Arkansas. The plan's aim is to preserve potable water for regional residents today, tomorrow, and far into the future.

Mid-Arkansas Water Alliance

MAWA is a not-for-profit membership corporation organized for the purpose of requesting water allocations from U.S. Army Corps of Engineers' lakes (Greers Ferry Lake and Lake Ouachita). Member entities are located in the counties of Cleburne, Conway, Faulkner, Garland, Lonoke, Pulaski and Saline. Assisting the cities and water user groups in this regional initiative are the Little Rock and Vicksburg district offices of the Corps of Engineers, the Arkansas Natural Resources Commission, and the Ouachita River Water District. The charge of the Alliance is to identify and secure the additional water needs for our customers for the next 50 years.[21]

Priority Watersheds

The Nonpoint Task Force in conjunction with Arkansas Natural Resources Commission identifies priority watersheds for the region. A priority watershed is any watershed that has been contaminated by an excess of nonpoint source pollution. Fortunately, priority watersheds are eligible to receive federal monies from EPA.

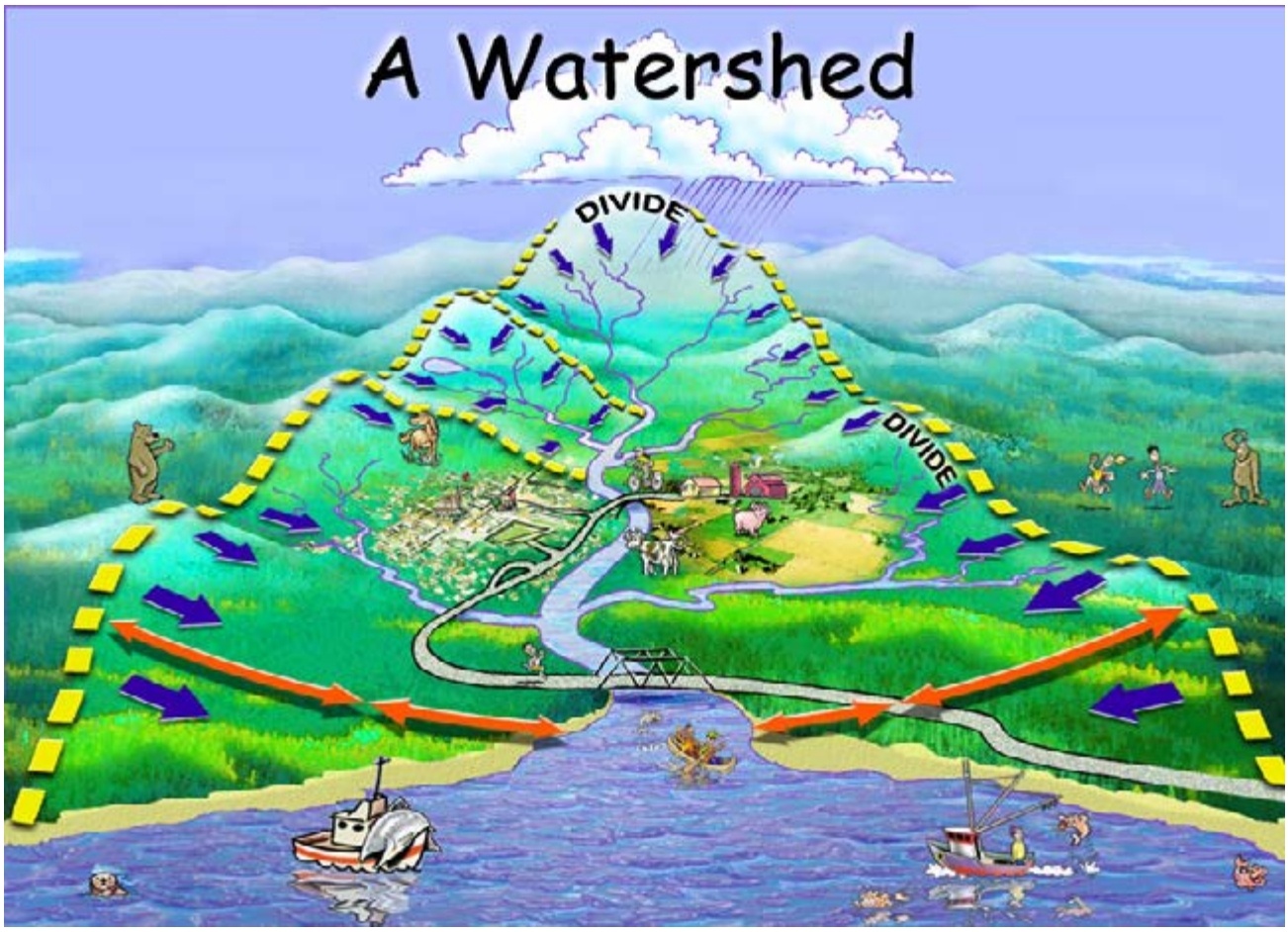
Priority watersheds for 2011 – 2016:

- Lake Conway - Point Remove
- Upper Saline

Storm Water Management

Storm water runoff is precipitation from rain or snowmelt that flows over the ground. As it flows, it can pick up contaminants like oil and grease, chemicals, pesticides, fertilizers, dirt, sediment from erosion and debris. These contaminants are deposited into the sewer system or a water body. This type of pollution is called non-point source pollution and is the biggest threat to Arkansas' water quality. Non-point source pollution is linked to adverse health conditions like cancer and chronic illnesses because contaminants end up in drinking water, seafood and the lakes we use for recreation. Sprawling urban areas create more impervious surfaces which allow storm water run-off to collect and then wash chemical pollutants untreated to local

Figure 5-13. What is a Watershed?



http://www.recycleworks.org/

Significant Watersheds in Central Arkansas

Pulaski County

- Fourche Creek
- Little Maumelle River
- Maumelle River
- Plum Bayou
- Pennington Bayou
- White Oak Bayou

Faulkner County

- Cadron Creek
- East Fork of the Cadron
- Palarm Creek

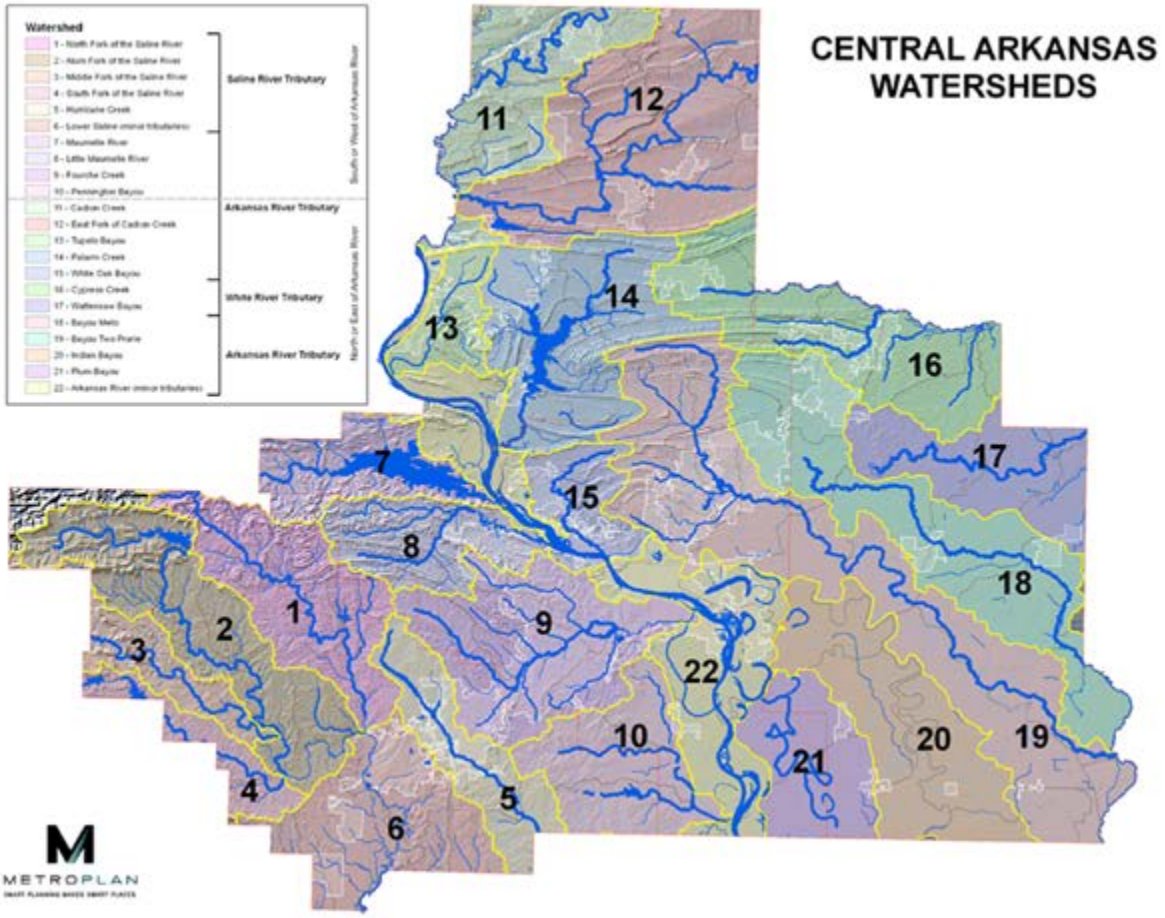
Saline County

- North Fork of the Saline River
- Alum Fork of the Saline River
- Middle Fork of the Saline River
- South Fork of the Saline River
- Hurricane Creek

Lonoke County

- Cypress Creek
- Bayou Meto
- Bayou Two Prairie
- Wattensaw Bayou

Figure 5-14. Central Arkansas Watersheds



streams, wetlands, lakes and groundwater during rain events.

Infrastructure and its design play a major role in managing storm water volume and flow. Impervious surfaces like concrete and asphalt accelerate storm water runoff, and often interfere with the natural process of storm water management and filtration. Transportation contributes to the amount of impervious surface in the region with roads, parking lots, and land development that follows transportation infrastructure. Studies show that runoff measured from suburban developments can be 1.5 to 4 times greater than from rural areas, resulting in flooding of downstream areas. According to CEOs for Cities, "the first hour of urban storm water runoff has a pollution index greater than raw sewage."

Increases in rainfall could have a profound impact on drainage infrastructure, some of which is barely adequate now. Moreover, studies like "Drainage and storm water management strategies for low-income urban communities" have shown that storm water management affects residents at or below the poverty level. In areas with poor storm water management, neighborhoods are susceptible to flooding. "The poor are not a homogenous group, and preparedness for environment-related hazards such as flooding, and the degree of vulnerability, will differ amongst community members. Groups that are at particular risk include children, the elderly and physically disabled people who experience particular difficulties in dealing with disasters who may be particularly vulnerable to adverse health effects from floods," stated Jonathan Parkinson in a study on storm water management strategies for low-income urban communities.

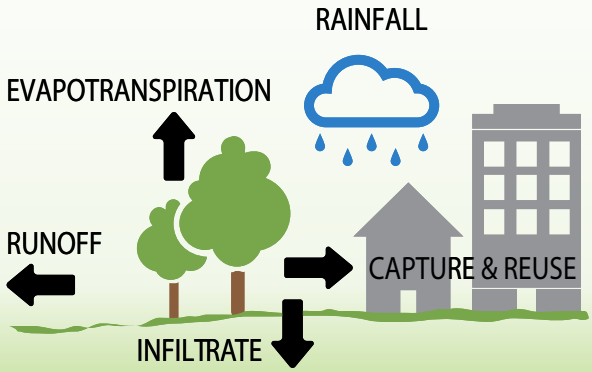
How do we fix these problems? Reducing the amount of impervious surface can help. There are a variety of alternatives to impervious surfaces. The

Rain Gardens & Bioretention

A Low Impact Development (LID) design on Main Street in Little Rock reduces rainwater runoff using a natural water filtration system.

Green Infrastructure

Evapotranspirate, infiltrate, capture and reuse. this is the essence of green infrastructure.



low impact development (LID) approach seeks to preserve open space and the natural water filtration systems through site design and features like rain gardens and bio-retention. The LID approach significantly increases retention of storm water and pollutants on site and generally does not threaten groundwater pollution. Porous pavements are extremely effective in filtering pollutants and reducing site runoff. Porous pavement has been reported to reduce runoff by up to 98 percent.

For sustainable solutions to storm water management, we should consider the Green Infrastructure Handbook for Local Governments. The handbook states three basic ways to handle storm water: "evapotranspirate, infiltrate and capture and reuse." Also, highway runoff control strategies are reported in the Evaluation of the Best Management Practices for Highway Runoff Control. These practices are designed to provide a means of avoiding or mitigating the negative impacts of various pollutants that can be carried by rainfall into the groundwater and receiving waters. The use of green infrastructure and new techniques for storm water management can prevent pollution in our water sources, directly and indirectly stimulate economic activity, and guide our community to improved recreational opportunities and health benefits.

Water Sources

Abundant, high-quality and affordable water is critical to the quality of life and future development of central Arkansas. Recent water shortages have affected other areas of the United States. These situations illustrate how important a secure water supply is. When reserves falter, utility rates climb; limits are placed on farms and production falls, the economy suffers. However, central Arkansas is proactively working to secure its water resources. The Mid-Arkansas Water Alliance (MAWA) is a cooperate effort among twenty-seven water utilities within the region that work to acquire new long-term drinking water sources.

The path to sustainable water sources is multi-faceted. Development of our communities can greatly impact natural water systems. Surfaces covered by asphalt and concrete cannot absorb rainwater back into the Earth. New developments should allow for breaks in pavement so that water can filter back into the system. Although finding water is beyond the power of your average everyday citizen, residents can help secure water resources. Central Arkansas Water offers water conversation tips for businesses and residents alike to identify efficient ways to use water.

Did You Know?

Did you know that only one percent of the world's water can be used for drinking? Nearly 97 percent of the world's water is salty or undrinkable, and the other two percent is frozen in ice caps and glaciers.

(source: http://www.freedrinkingwater.com/water_quality/common-daily-water-usage.htm)

Common Household Uses of Drinking Water

Bathing 20 gpcd*

Toilet Flushing 24 gpcd

Lawn Watering and Pools 25 gpcd

Laundry 8.5 gpcd

Dishwasher 5 gpcd

Car Washing 2.5 gpcd

Drinking and Cooking 2 gpcd

Garbage Disposal 1 gpcd

*Gallons per capita per day

(source: http://water.epa.gov/drink/guide/upload/book_waterontap_full.pdf)

5.8.5 Solid Waste

Everyday central Arkansans are faced with the decision of where to throw their trash. It has to go somewhere, but how do we sustain exponential solid waste growth? *Imagine Central Arkansas* advocates reducing the amount of trash in landfills by recycling or composting instead of overburdening our landfills.

Though the percentage of waste sent to landfills has decreased over time, much of what still goes to the landfill is recyclable. Recycling is easy, and is beneficial to the environment. Materials, like plastics that take several years to decompose, are diverted away from landfills; thus, extending the lifespan and limiting expansion of new landfills. Communities save costs of land acquisition for new landfills, and can generate revenue through the sale of recyclable materials. In the process, new jobs will be created to staff a materials-recycling-facility (MRF). Recycling also reduces the amount of new raw material that is consumed, which can preserve natural resources and protect delicate ecosystems.

In central Arkansas, only residents in single-family dwelling units located within city limits of Conway, Little Rock, North Little Rock, Sherwood, Jacksonville and Cabot have access to curbside recycling programs. By the end of 2014, five drop-off recycling locations in Pulaski County will be eliminated and Little Rock will have begun recycling for multi-family units. Central Arkansas must continue to expand recycling to prevent our landfills from becoming overburdened.

In addition to recycling, composting organic waste can cut down on the size of landfills and mitigate harmful greenhouse gases. According to the US Composting Council, when organic elements are left in the landfill, a different type of gas is released due to management of the landfill known as "dry tomb"; buried organic matter creates landfill gas (LFG) which is much more hazardous than when organic waste naturally decomposes outside of a landfill. Methane is only produced when organic waste is placed in an anaerobic environment such as a landfill.

As central Arkansans voiced the desire to preserve open spaces, it will be essential to maximize capacity of existing landfills. The region should invest in new techniques and technologies to expand materials that can be recycled. All cities in the region should be able to accept textiles, electronics, and other items in their recycling program. Curbside composting services, found in a few communities already, should be widespread in central Arkansas.

5.8.6 Preserving Central Arkansas' Natural Character

It is no surprise why central Arkansans value living, working, and playing in the Natural State. With over eighty miles of trail on the Arkansas River Trail, proximity to state parks, and sophisticated urban cores, central Arkansas has the best of both worlds – the conveniences of city living alongside the beauty of nature. In the decades to come, the region will need to preserve its drinking water sources, air quality, parks and natural areas, as well as look to diversify energy resources if it wants to maintain the uniqueness of what its residents call home.

5.8.7 Sustainable Connections: Environment, Energy and Natural Resources

Residents who are concerned with finite resources, cost-savings, and job growth realize that moving toward a sustainable future in the natural environment is the best course of action. Sustainability serves as more than just a good feeling and a pat on the back; it translates to tremendous cost savings, not only monetary but health-wise, and economic opportunity for individuals and businesses.

Affordability

Energy efficient homes and access to alternative forms of energy can lower energy bills, and leave greater disposable income that could stay in the local economy. Using sustainable designs is more cost effective from the start. Water drainage systems using "low impact development" principles usually have lower maintenance costs than traditional underground drainage and catch basins. In other cases, retrofitting structures to improve energy efficiency

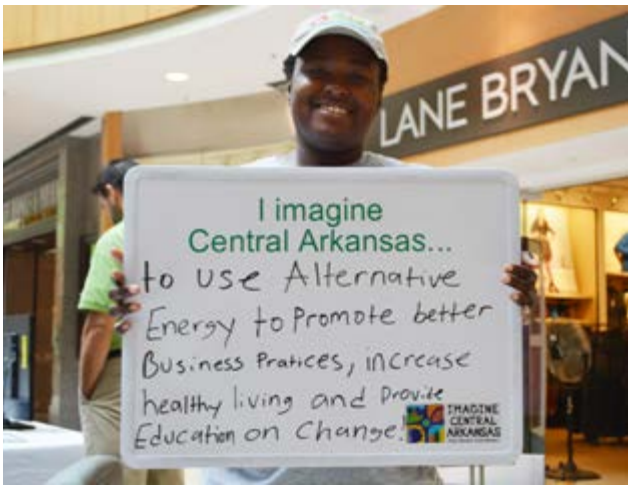
in HVAC systems and LED lighting will provide substantial cost savings in the long run. For example, LED lighting reportedly uses at least 75 percent less energy than incandescent lighting, produces very little heat, and lasts 35 to 50 times longer than incandescent lighting. (source: https://www.energystar.gov/index.cfm?c=ssl.pr_why_es_com)

Efficiency

Efficiency is key to sustainability with central Arkansas' environment and energy. As population grows, efficient use of water is essential to secure reserves for the future. In the past five years, efficiency has improved and average household water usage among Central Arkansas Water's customers has fallen by 748 gallons per month. This amounts to total annual savings of nearly one billion gallons. (source: "Does the Future Hold Water for Arkansas?" and Central Arkansas Green Agenda) Waste reduction will also impact the future. Wider use of recycling reduces waste in landfills which can lengthen their lifespans, reduction in cost of waste removal, and profits gained from the selling of recyclable materials like paper, tin, aluminum, and glass.

Opportunity

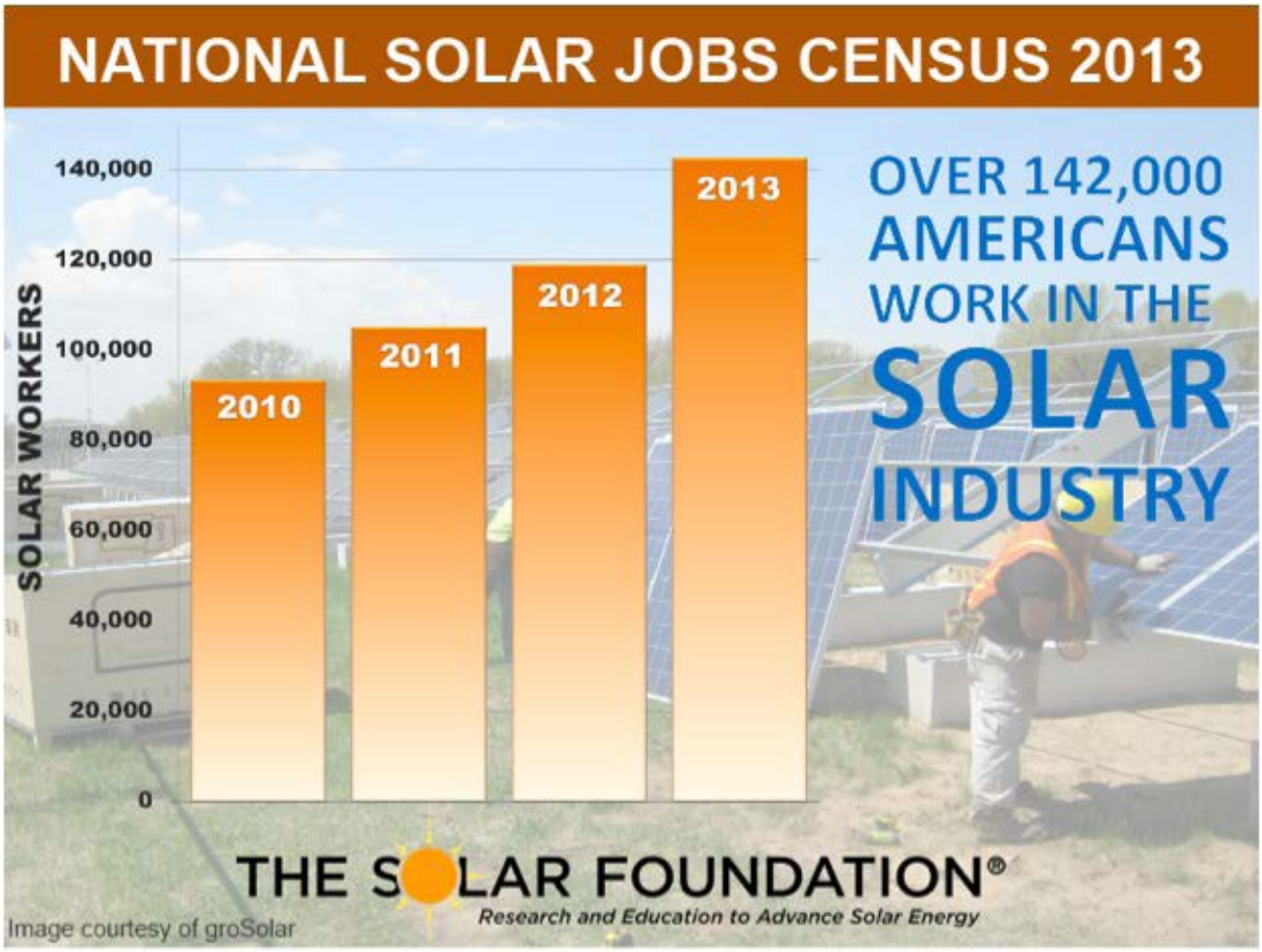
Opportunities abound when the region strives for environmental and energy sustainability. Educational opportunities for training students on how to conduct energy audits and weatherize buildings are available at local schools. These students can find many "green" jobs with the rising demand for alternative energy. According to The Solar Foundation, a research and education nonprofit dedicated to advancing solar energy, between 2012 and 2013 over 18,000 new jobs were created in the solar industry.



Additionally, solar jobs are expected to grow by 15.6 percent over the next year.

Careers are not the only benefit of moving toward a sustainable future. By incorporating green practices that enhance housing, economy, mobility, health, and the environment together — quality of life can improve which can attract new investments to the region. Alternative energies and less auto-dependent forms of transportation can improve air quality and reduce pollution. Residents can become healthier with a cleaner environment.

Figure 5-15. National Solar Jobs 2013



(source: http://thesolarfoundation.org/research/national-solar-jobs-census-2013)

5.9 Interaction in the Built Environment

"We shape our dwellings and afterwards our dwellings shape us." -Winston Churchill

It is a theme that has saturated *Imagine Central Arkansas*, and is well represented on the pages of this plan. How we build effects how we live, move, feel, and interact. The built environment is a cornerstone that provides the foundation for every facet of sustainability.

What is the built environment? Collins Dictionary defines the built environment as "consisting of buildings and all other things that have been constructed by human beings." It is an environment over which humans have complete dominion, but as we build this environment, it starts to have a great deal of influence over us.

5.9.1 Low Density versus Compact Development

To Sprawl or Not to Sprawl

The Environmental Law Institute (ELI) defines *sprawl* as "a pattern of land use that is characterized by dispersed, automobile-dependent development outside of compact urban and village centers, along highways and in the rural countryside." The following conditions characterize low density development.

- Low density development contributes to a loss of support for public facilities and amenities. Consider that a typical two-income family in central Arkansas may own or rent a house in one city, commute to work in another city (or maybe two cities), and their children may attend a school located in still another city. They shop in areas that are located far from their neighborhoods. Understandably, such families feel can less of a personal connection in the community in which they drive home to each evening. They are less likely to vote in favor of taxes to support local infrastructure.
- Low density develoment can create a burden on municipal governments' ability to effectively maintain existing infrastructure. The most readily observed examples of this are found in pot-hole pocked roads. Sprawl also places stress on providing emergency services such as ambulance, and police and fire protection. To meet those vital needs, jurisdictions often must resort to cutting budgets for other infrastructure, such as libraries, schools, parks and museums.
- Societal costs for low density development can be serious and varied. Loneliness is endemic in many metropolitan areas. The loss of a sense of community leads to a decline in social interaction and the isolation of vulnerable populations, such as elderly, disabled or very poor.
- Furthermore, the financial cost is felt by everyone. The Automobile Association of America (AAA) calculates that the average annual cost per automobile owned is just under $9,000. This figure includes gas and oil, insurance, routine maintenance, purchase price over time, finance charges, plus licenses, taxes, and tires. Further compounding the dent to the economy is that of that annual amount only about two percent stays in central Arkansas. The rest of the money goes out of state or overseas.
- Low density development degrades water and air quality, and can permanently alter or destroy natural habitats. Alluded to in the Transportation and Mobility and the Environment, Energy and Natural resources sections, this is discussed in greater detail in Chapter 6.
- Low density development limits choice. While promising more choice, sprawl actually delivers more of the same, erasing unique community character, limiting personal choice, and increasing transportation and maintenance costs for residents and governments alike.

Benefits of Creating Density

Compact development places value on long-range sustainability. Wise use of tangible resources — land, infrastructure, and money — allows people to appreciate and enhance elements that contribute to community cohesiveness, including unique community character and its natural and cultural resources. Compact design of buildings and neighborhoods can help communities use land more efficiently, which has several advantages.

- **Reducing the building footprint conserves rural and open spaces, which are valued by central Arkansans.** Compact development accommodates more uses on less land.
- **Compact communities can provide a wide range of housing choices, from single-family detached homes to apartments and townhouses, all within the same area.** This allows people of different incomes and at different stages of life to live in the same neighborhood.
- **Compact development leads to increased density, which reduces costs of maintaining existing infrastructure and providing new infrastructure.** This results in economic benefits for the entire community.
- **Increased density provides opportunities for public transportation, which in turn promotes more physical activity such as walking and bicycling.**

The Environmental Protection Agency (EPA) advocates compact development as a strategy of fostering better air and water quality, which affects the health of individuals. From an EPA report, "Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation and Environmental Quality":

. . . Separating land uses, spreading development out and providing little or no public transportation or safe walking and biking routes foster greater reliance on motor vehicles. As development grows more dispersed, people must drive further to reach their destinations, leading to more and longer trips. These increased trips create more air emissions and greenhouses gases that contribute to global climate change. Ultimately, air pollution and climate change can also harm water quality and wildlife habitat.

Table 5-5. Units in Structure

	Faulkner County	Lonoke County	Pulaski County	Saline County	Four-County Region
1-unit, detached	29,981	20,312	119,852	32,358	202,503
1-unit, attached	674	816	2,794	504	4,788
2 units	1,717	1,036	5,152	279	8,184
3 or 4 units	621	571	7,837	837	9,866
5 to 9 units	1,408	628	6,711	671	9,418
10 to 19 units	5,460	31	9,309	633	15,433
20 or more units	2,317	280	16,572	1,170	20,339
Mobile home	5,915	4,137	10,404	9,372	29,828
Boat, RV, van, etc.	0	0	75	142	217
Total Housing Units	48,093	27,811	178,706	45,966	300,576

Source: 2012 American Community Survey

5.9.2 Making the Neighborhood Connection

Communities are not composed of discrete components — they are a rich fabric, knit together by infrastructure and neighborhoods. This infrastructure includes the obvious — houses, streets, sidewalks — but also schools, libraries, parks and open spaces.

A multi-faceted approach to creating "safe, affordable, energy-efficient, geographically available and accessible" neighborhoods produces the results envisioned by central Arkansas residents. Policy makers can encourage the kind of development that creates a synergy of positive impacts. For example, keeping neighborhood infrastructure in good repair helps to stabilize the community, affect home values and even helps suppress criminal activity. Encouraging compact, mixed-use development facilitates the kind of density necessary for efficient public transit service. Adopting standards for energy-efficient new and renovated homes decreases utility costs for homeowners and overall energy consumption.

The integration of shared spaces within a variety of housing types creates a community simply from the proximity they provide to goods, services and recreation. Aspiring to this sense of community is critical to creating and nurturing the kind of safe, healthy and happy quality of life expressed by central Arkansans.

Investing in the existing bus system with expanded service times and area can provide mobility connections for the population. The transit plan is discussed in detail in Chapter 7 but in terms of strengthening existing communities, bus service could be easily improved by providing accessible, comfortable and sheltered stops. More significant investment is required for expanding bus service to include wider coverage and increased frequencies.

Imagine Central Arkansas recognizes that quality of life, economic vitality and the way we transport ourselves and our products are not discrete components to be considered, but are synergistically woven together. The H+T Index, mentioned in section 5.4.2 and 5.4.3, makes the transportation costs of a place transparent to people and policy makers so that they can make wise decisions about where they live and how they invest public dollars.

5.9.3 Consequences of the Built Environment

Active Transportation, Health and the Environment

Short trips, often a mile to a grocery store or other activity center, are made convenient with the automobile and the abundance of free parking. In many ways, this luxury has afforded individuals with flexibility and quick transportation. Bus such convenience has a dark side. We miss the opportunity to enjoy the abundant health benefits that active transportation can offer, as well as substantially cut down on carbon emissions.

The presumed convenience has evolved into an automobile-dependent urban structure dominated by dispersed development that discourages or renders it impossible to choose other travel modes. Fast moving cars on streets with no sidewalks or bike

lanes can make personal travel dangerous for those who choose more active modes. Instead of providing more choice, the effect of our built environment has reduced choices.

The result of this autoscape is evidenced by increased obesity, including among children, and a whole laundry list of ailments from diabetes and heart disease to depression. The lack of infrastructure for easy walkability or bike use has also influenced the way we interact in our communities. Social isolation, especially among vulnerable populations such as the elderly and disabled, has also led to increases in physical and emotional illnesses. Our built environment can shape the way feel and the way we think about moving around in Central Arkansas

The Effect of Abundant Parking

> "Parking spaces attract cars: so they generate car traffic. Parking needs space, which is not available for other street uses. Nothing else has changed the traditional streetscape as dramatically as parked cars have done during the last few decades"
> — Hartmut H Topp, PhD, German mobility expert

The balance of a parking-abundant infrastructure to pedestrian friendly environments may have a profound effect on land use, economic development, the development of a transit system and sustainable growth.

Unbalanced parking can create unintended consequences. With an overabundance of parking, traffic may increase as residents get in their cars for short trips to park directly in front of a building. These extra parking spots take up vast amounts of land that could house other commercial and residential developments. Furthermore, large abandoned lots attached to closed businesses can become unsightly or unsafe causing investors to hesitate when looking to develop in surrounding areas.

The ideal situation is to provide efficient use of existing parking resources without excessively expanding supply.

Economic Development and How We Build

When sustainable principles such as denser populations, more walkable neighborhoods, and mixed-price point housing are introduced to economically depressed neighborhoods, these areas are transformed. The introduction and improvement of sidewalks, lighting, and landscaping encourage residents to come outdoors. Increased foot traffic and the presence of residents on the streets, particularly in the evening hours, discourages crime. As crime diminishes, residential developers are willing to develop more housing and as new residents interact with the old, a new community identity is forged.

The return of the affluent and residents with higher disposable incomes to urban neighborhoods are critically important indicators for commercial development and social change. The introduction of these socio-economic classes raises the median income, the level of educational attainment, and increases the political recognition of the community. Commercial development responds to this concentration of disposable income by providing goods and services that are within walking distances of the homes. These businesses and restaurants provide jobs for many residents and help make the area a destination for those living outside of the community.

The social interaction, safety, aesthetics, and the convenience of having popular businesses walking distance from the homes bolster the popularity of the community. The demand to live in and be a part of sustainable communities also drives the desire of prospective residents and increases the property values within the neighborhood, while mixed price point housing ensures that the poorest residents of the community are not priced out of their homes.

5.10 Trending Perspectives

While the *Imagine Central Arkansas* plan attempts to explore future possibilities, it recognizes the limita-

tions of attempting to predict the interactions of technology and socioeconomic trends. Nonetheless, the following precepts may offer wisdom that will endure, and can provide guidance amid continuing technological and socioeconomic changes:

- **Pedestrian flows are the beginning and end of all trips.**
- **Non-pedestrian transportation systems must not be allowed to prevent pedestrian flows, either through blocking access directly, or by making vital destinations inaccessible for reasons of distance.**
- **Land use and transportation are closely linked.** The most successful land developments incorporate good accessibility, both in terms of interaction with powered transportation systems and also with pedestrians.
- **There must be equity in transportation.** The ease of mobility for some must never be allowed to stand in the way of mobility for all.
- **Health is a growing part of the socioeconomic picture.** Health concerns must be recognized as part of the overall planning process.
- **Environmental problems, like air pollution and excessive land consumption, will affect the region's future quality of life.**
- **Environmental problems impose real economic costs by affecting quality of life and requiring remediation.** This requires a careful balancing between short-term and long-term measures of cost.
- **Housing affordability is linked to transportation access.** Opportunities exist for redevelopment in selected areas, often inner-city neighborhoods with good transportation access. Such redevelopment can improve equity, overall urban quality of life, and affordability.

Will the future include people living to the age 150, high-speed rail lines connecting our region with other metropolitan areas, driverless cars, a fully renewable energy source, the decentralization of jobs and education, or environmental impacts to our air and water? Each of these and countless other scenarios are distinct possibilities that can shape our region at some point in the future. In planning for the future each needs to be considered.

Chapter 5 Source Material:

National Crime Prevention Council (NCPC)," Best Practices for Using Crime Prevention Through Environmental Design in Weed and Seed Sites", 2009

Nationwide Children's Hospital, "Safe and Accessible Neighborhoods", 2013

https://www.planning.org/pas/at60/report194.htm)

http://archives.huduser.org/scrc/sustainability/about.html

http://www.nlrpr.org/

http://thesolarfoundation.org/research/national-solar-jobs-census-2013)

"Make no little plans. They have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency. Think big."

– Daniel Burnham, Chicago Architect

Chapter 6. Charting the Course

6.1 Scenario Planning

Imagine Central Arkansas includes a scenario planning process to explore alternatives for growth, development and transportation investment, and thus to spur discussion of long range planning and the regional Vision by analyzing the impacts of two land use scenarios. These scenarios explain the outcomes of different growth and development patterns, and determine if the regional Vision optimally meets the intent of the *Imagine Central Arkansas* Vision statement, goals and objectives.

Questions that a scenario planning process might ask include:

- Can future development be built in ways to preserve natural areas by reducing land consumption and reducing impervious surface?
- In the future, would new homes be built in places with more access to walking, biking and transit opportunities as viable options to the car?
- How accessible are homes to public transit, major employment centers, retail areas and parks?
- Will workers in the future have good access to their jobs and choices about how they will get to work?

The scenario planning process begins with the identification of "placetypes," representations of different development types that could happen. The placetypes are organized into regional growth scenarios. Finally, scenarios are compared using indicators, which are quantitative and qualitative descriptions of key characteristics. The scenario planning process and results for *Imagine Central Arkansas* are described in the following sections.

6.2 Placetypes

When modeling land use, many places throughout the country are transitioning from conventional land use designations to "placetypes" when developing their growth scenarios. This change is driven by a renewed interest in the interrelationship between land use and urban design for creating unique places. Since the objective of scenario planning is not to map future land uses but rather to compare different patterns and forms of development, each placetype represents a "snapshot" example of a typical pattern of development. Thus, each placetype varies in mixture of land uses, development densities/intensities and open space allocation. Placetypes are not meant to be synonymous with zoning districts, nor are they intended to replace rules or requirements in locally-adopted comprehensive plans and zoning ordinances.

The Placetypes Summary table gives detailed descriptions and representative photos of each placetype used in the scenario planning process. Each placetype provides guidance on the elements of design that make them unique.

Figure 6-1. The Scenario Planning Process

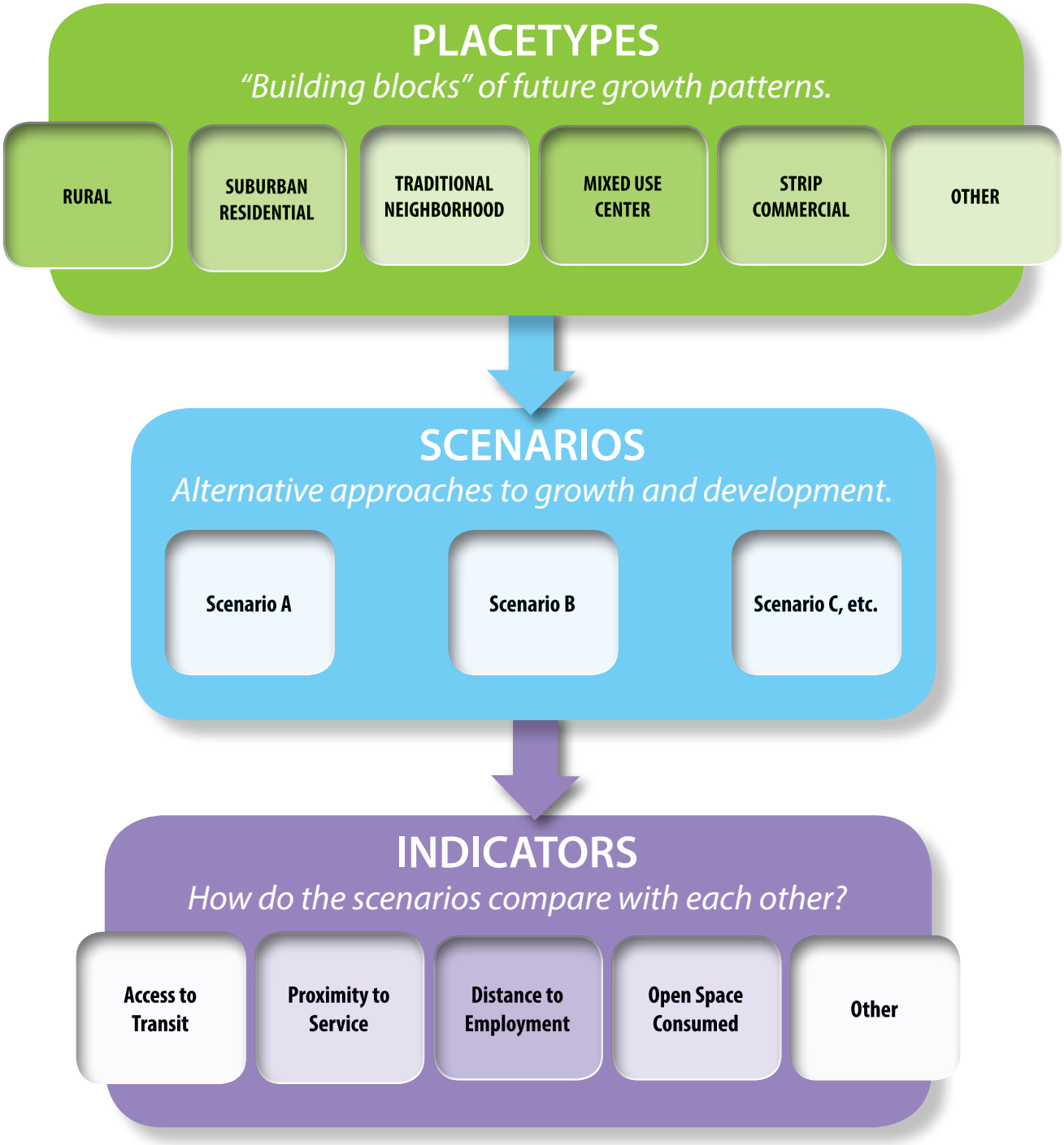


Table 6-1. Placetypes Summary

PLACETYPE	RURAL RESIDENTIAL	RURAL CLUSTER
Character/description	Large lot, single-family home sites within a rural setting. Each lot typically has direct access to the main arterial.	Single-family and two-family homes set in a semi-rural setting characterized by smaller lot sizes, clustered around a local street surrounded by large amounts of common open space.
Average scale	10 acres	10 acres
Primary Uses	Single-Family Detached	Single-Family Detached and Two-Family Homes
Secondary Uses	Farming/Agriculture	Farming/Agriculture
Residential Density	0.2 - 0.4 du/ac (single-family)	1 - 2 du/ac (single-family)
Non-residential Intensity	N/A	N/A
Building Heights	1-2 stories	1-2 stories
Open Space	10% Passive	70% Passive (open space, recreational park, farmland)
Parking Placement	Attached garages	Attached garages
Connectivity	Low	Medium
Street Pattern	Curvilinear	Curvilinear
Primary Modes	Automobile	Automobile
Secondary Modes	None	None
Representative Photos	 	 

Table 6-1. Placetypes Summary (continued)

PLACETYPE	SUBURBAN RESIDENTIAL	TRADITIONAL NEIGHBORHOOD RESIDENTIAL
Character/description	Low-density, suburban-style home sites on larger lots of 7,000 - 12,000 sq. ft., characterized by curvilinear cul-de-sac street networks with few access points.	Compact, village style setting pre-1960 neighborhoods, and a few new developments, characterized by a mix of uses, higher densities, gridded streets and pedestrian-scale network.
Average scale	60 acres	40 acres
Primary Uses	Single-Family Detached	Single-Family Detached
Secondary Uses	Townhomes	Townhomes / Condos / Apartments
Residential Density	3- 4 du/ac (single-family)	5 du/ac (single-family) 10 du/ac (multi-family)
Non-residential Intensity	N/A	N/A
Building Heights	1-2 stories	1-2 stories
Open Space	5% Active and Passive	10%, Active and Passive
Parking Placement	Attached garages	Detached garages behind homes/ buildings
Connectivity	Low	Medium
Street Pattern	Modified Grid	Grid
Primary Modes	Automobile	Automobile, Walking
Secondary Modes	Walking	Biking
Representative Photos	 	 

Table 6-1. Placetypes Summary (continued)

PLACETYPE	SUBURBAN APARTMENT	WALKABLE NEIGHBORHOOD
Character/description	Single use apartment communities, gated with an internal circulation system. Generally located in proximity to commercial areas.	Characterized by a pattern of small, walkable blocks and an interconnected street grid with a high level of connectivity. Predominantly single-family neighborhoods, with mixed-lot sizes, are clustered around a commercial and civic/institutional uses.
Average scale	10 acres	40 acres
Primary Uses	Multi-Family Residential (apartments)	Single-Family Detached Homes, Two-Family and Three-Family Residential Units, Townhomes
Secondary Uses	None	Multi-Family Res. (apartments, condos), Commercial, Civic/Inst.
Residential Density	12 du/ac (multi-family)	5 du/ac (single-family), 8 du/ac (multi-family)
Non-residential Intensity	N/A	0.20 - 0.30 Floor Area Ratio
Building Heights	2-4 stories	1-2 stories
Open Space	5% Passive	10% Active (pocket parks, neighborhood parks) and Passive (public squares)
Parking Placement	Structured parking or on-street	Detached garages behind homes/ buildings
Connectivity	Low	Medium / High
Street Pattern	Modified Grid	Grid
Primary Modes	Automobile	Automobile, Walking, Biking
Secondary Modes	Walking	Transit
Representative Photos	 	 

Table 6-1. Placetypes Summary (continued)

PLACETYPE	URBAN NEIGHBORHOOD	SUBURBAN COMMERCIAL
Character/description	Characterized as mix of primarily single-family homes and multi-family structures in an urban, walkable environment.	Big box and strip-style commercial development adjacent to arterials, characterized by single lot depth and large setbacks. Some office uses.
Average scale	40 acres	20 acres
Primary Uses	Single-Family Detached, Two-Family And Three-Family Residential Units, Townhomes; Multi-Family Residential (apartments, condos)	Commercial
Secondary Uses	Civic/Institutions	Office
Residential Density	6 du/ac (single-family) 24 du/ac (multi-family)	N/A
Non-residential Intensity	0.25 Floor Area Ratio	0.20 - 0.25 Floor Area Ratio
Building Heights	1-4 stories	1 story
Open Space	5% Active (pocket parks) and Passive (public squares)	0% Passive
Parking Placement	Detached garages behind homes/ buildings and on-street parking	Surface parking
Connectivity	High	Low
Street Pattern	Grid	
Primary Modes	Automobile, Walking, Biking	Automobile
Secondary Modes	Transit	None
Representative Photos	 	 

Table 6-1. Placetypes Summary (continued)

PLACETYPE	NEIGHBORHOOD MIXED-USE CENTER	MIXED-USE CENTER / CORRIDOR
Character/description	A mix of locally-oriented retail and office uses at the center, with connected single and multi-family residential uses at the edge. They integrate a civic use that establishes the identity of the center as a focal point in the community, typically located at busy arterial intersections.	Urban-style destination intended to serve as a center to live, shop, work and play in the community. Characterized by office, retail, mixed uses that have higher intensities intended to cater to an 'urban' lifestyle.
Average scale	15 acres	30 acres
Primary Uses	Single-Family Detached, Townhomes, Apartments, Condos, Office	Commercial/Retail, Multi-Family Residential (apartments, condos, senior housing)
Secondary Uses	Commercial, Retail, Civic/Inst.	Office
Residential Density	6 du/ac (single-family) 20 du/ac (multi-family)	20 du/ac (multi-family)
Non-residential Intensity	0.40 - 0.60 Floor Area Ratio	0.60 - 1.0 Floor Area Ratio
Building Heights	1-3 stories	1-4 stories
Open Space	5% Passive	5% Passive (public plaza)
Parking Placement	Screened surface parking in rear of buildings; on-street	Structured parking, surface lots behind buildings
Connectivity	Medium / High	Medium / High
Street Pattern	Modified Grid	Modified Grid / Grid
Primary Modes	Automobile	Automobile, Walking, Biking
Secondary Modes	Walking, Transit	Transit
Representative Photos	   	

Table 6-1. Placetypes Summary (continued)

PLACETYPE	URBAN CORE	INDUSTRIAL / BUSINESS PARK
Character/description	A hub for employment, shopping, civic, and entertainment activities, and provides a mix of housing types and quality of life amenities. It is intended to be a compact, walkable environment and with a mix of uses that support multiple modes of transportation.	Typically located near major roads, highways, and railways. These areas may include industrial and business parks, manufacturing centers, warehouse and distribution centers and assembly operations.
Average scale	10-40 acres (infill / redevelopment)	80 acres
Primary Uses	Office, Commercial/Retail and Multi-Family Residential (apartments, condos)	Light and Heavy Industrial, Warehousing and Manufacturing Activities
Secondary Uses	Civic/inst.	Office
Residential Density	40 du/ac (multi-family)	N/A
Non-residential Intensity	0.50 - 2.0 Floor Area Ratio	0.15 Floor Area Ratio
Building Heights	1-5 stories	1-2 stories
Open Space	10% Passive (public plaza)	None
Parking Placement	Structured parking and surface parking lots behind buildings	Surface parking
Connectivity	High	Low
Street Pattern	Grid	Curilinear/Cul-de-sac
Primary Modes	Automobile, Walking, Biking, Transit	Automobile
Secondary Modes	None	None
Representative Photos	 	 

Regional Growth Projections (2013-2040)

Both scenarios were developed using the same assumptions about regional growth in population, housing and employment between now and 2040. The projections, prepared by Metroplan, are based on historical growth, assumptions about birth and migration rates and key economic indicators. Population within the region is expected to increase by approximately 269,000 people to 936,500 people by 2040. Current growth forecasts estimate that roughly 380,000 new homes will be built in the central Arkansas region by 2040, a 43 percent increase compared to today. Over 125,000 jobs are expected to be added, which means more work trips that will have to be accommodated and that will have impacts on land use and transportation. The main difference between the scenarios is where new population and employment growth locate over the next 25 years.

6.3 Alternative Futures (or Growth Options)

Future growth is inevitable, and the choices we face are not about how much the region's population grows, but how can the region be developed to accommodate growth in a fiscally responsible way that maintains a desirable quality of life. The choices the region makes in terms of the type and character of development will have a profound influence for decades to come.

Two growth scenarios were developed that represent hypothetical growth for how the region could develop by the year 2040: Emerging Trend scenario and the Regional Vision scenario. While there are a limitless number of potential ways in which growth can occur, these scenarios represent distinctly different choices about growth policy and serve as a basis for drawing inferences about the impacts of those choices. Each scenario is composed of varying combinations of placetypes. The Emerging Trend scenario serves as a baseline for comparison against the Regional Vision scenario. The scenarios do not predict how future growth actually occurs, but how housing, employment and transportation growth could occur.

6.4 Emerging Trend Scenario

The Emerging Trend scenario shows how the region could develop if new growth were to continue under current development and growth patterns. Over the past several decades, development occurred in a dispersed pattern of low density, with detached homes on large lots located in the region's periphery, but now market trends have shifted to where new homes are being built on smaller lots and less suburban sprawl is occurring. Under the Emerging Trend scenario, growth is allocated in a pattern that continues the emerging suburban development pattern of moderate-density residential subdivisions, low density rural development and highway oriented commercial, but that also includes a limited amount of smaller scale mixed use centers surrounded by compact,

Emerging Trend Scenario

- *Moderate density residential subdivisions*
- *Low-density rural development*
- *Highway-oriented commercial*
- *A limited amount of mixed-use centers surrounded by compact, walkable traditional neighborhoods*
- *Redevelopment in downtown areas*

Figure 6-2. Emerging Trend Scenario

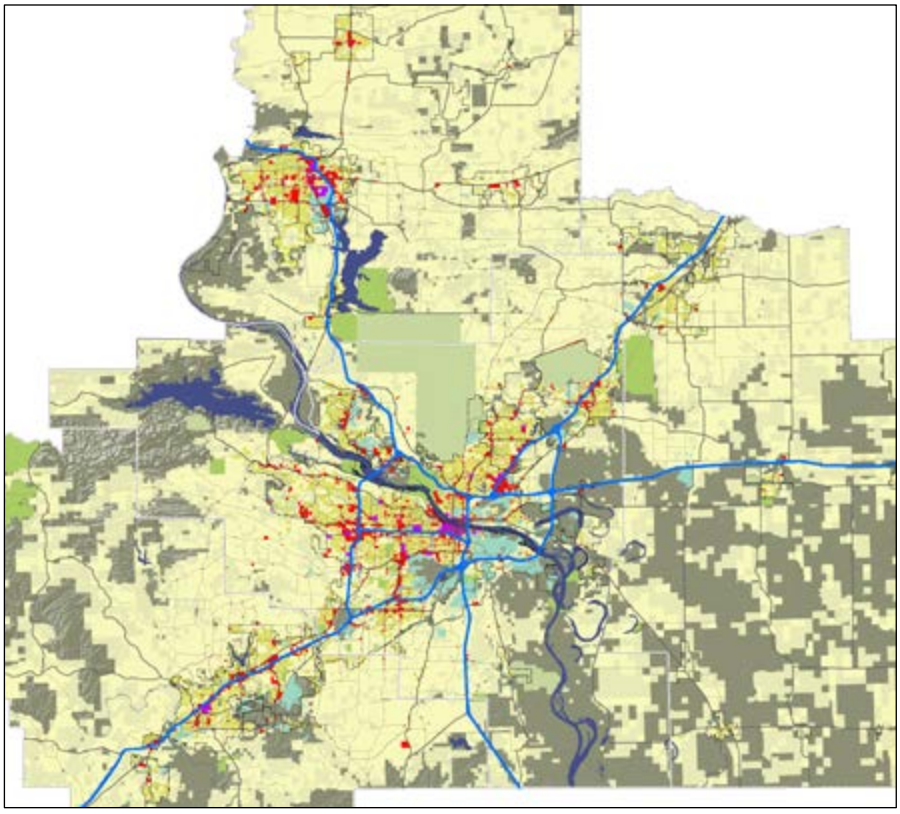
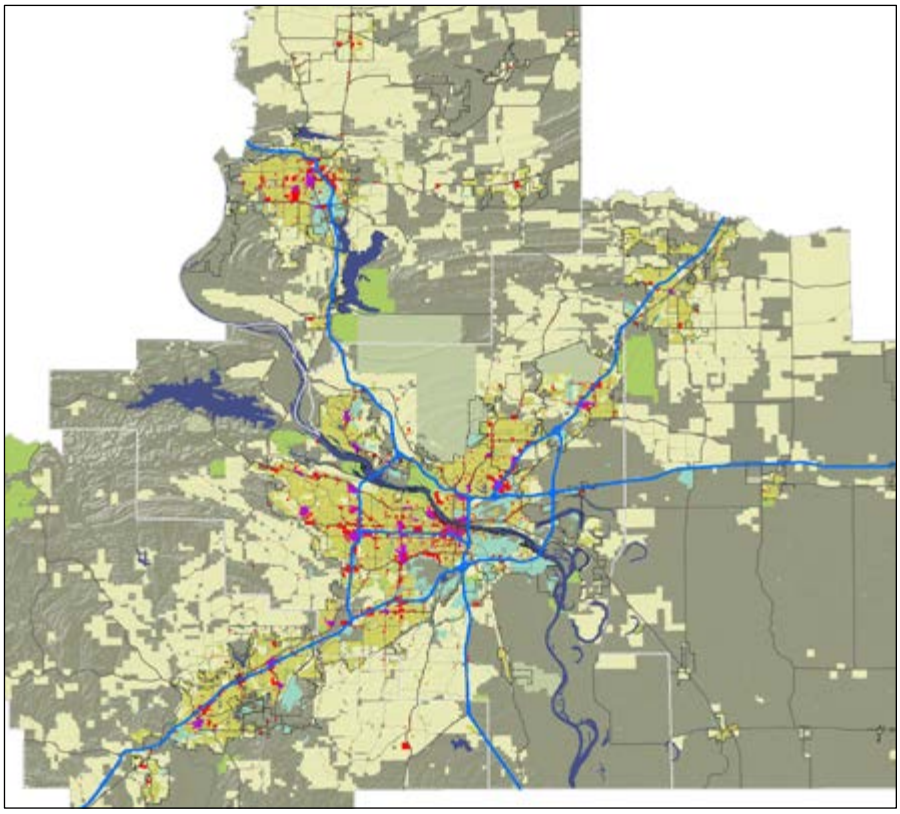


Figure 6-3. Regional Vision Scenario



walkable traditional neighborhoods. Redevelopment and some intensification in downtown core areas (such as in Little Rock and North Little Rock) is also depicted.

Overall, the Emerging Trend scenario lends itself toward more rural and suburban-scale development placetypes, although some walkable and mixed-use placetypes are incorporated. Under the Emerging Trend scenario, few acres are redeveloped and new areas of development compete with existing rural communities and require further expansion of water, roads and sewer systems.

Regional Vision Scenario

- *Focused on compact, mixed use growth*
- *Defined centers across the region that vary in scale and function*
- *Mix of compact, walkable neighborhoods and suburban/rural residential areas*
- *Shaped by regional transit network*

6.5 Regional Vision Scenario

Outreach conducted as part of *Imagine Central Arkansas* reaffirmed the Vision Plan originally cast in Metro 2020 and further refined by Metro 2030 and Metro 2030.2. The Regional Vision brings the vision, goals, and objectives of those plans and this 2040 Plan to fruition. It balances highway investments with a shift toward robust regional transit and bicycle and pedestrian networks that frame a more compact, mixed-use development pattern. The Regional Vision scenario articulates the regional Vision for *Imagine Central Arkansas* that is detailed in the Mobility Section of Chapter 5 of this document.

6.6 Alternative Futures

The construction of new homes, retail and employment centers and all that comes with it – families, commutes, etc. – undoubtedly has major impacts on everything from parks and schools to natural areas. The growth of the central Arkansas region could proceed in any number of directions. The purpose of the two hypothetical development scenarios is to depict distinct ways of thinking about growth patterns and subsequent policy and infrastructure issues. The eventual ultimate growth pattern could include elements from both scenarios.

The Emerging Trend Scenario and the Regional Vision Scenario were evaluated against a wide range of indicators that fall under different categories: Land Use, Transportation, Environment, Economy and Workforce, Housing and Neighborhoods and Infrastructure. The Scenario Indicators Summary table shows the comparison of indicators between existing conditions in 2013 to both the Emerging Trend Scenario and the Regional Vision for the horizon year 2040. The results of the evaluation of scenarios are intended to provide insight into the potential impacts of growth decisions on the central Arkansas region over the next 25 years. Key differences are addressed in this chapter, and the full explanation of each indicator is included in Appendix D (Scenario Evaluation Results).

Table 6-2. Scenario Indicators Summary

	Existing (2013)	Emerging Trend Scenario (2040 Horizon)	Regional Vision Scenario (2040 Horizon)	Change Between Scenarios
TRANSPORTATION				
Walk Potential				
Total homes 1/4 mile within walking distance of retail/service areas.	49,529 (18%)	68,269 (18%)	77,999 (20%)	9,730 (14%)
Total homes within 1/4 mile walking distance of existing and planned city/county parks.	68,767 (26%)	77,190 (20%)	83,615 (22%)	6,425 (8%)
Total homes within 1/4 mile walking distance of existing and planned regional parks.	1,466 (1%)	2,191 (1%)	2,238 (1%)	47 (2%)
Bike Potential				
Total homes within 1 mile biking distance of retail/service.	151,697 (57%)	209,882 (55%)	232,757 (61%)	22,875 (11%)
Total homes within 1 mile biking distance of existing and planned city/county parks.	182,062 (68%)	230,031 (60%)	258,318 (68%)	28,287 (12%)
Total homes within 1 mile biking distance of existing and planned regional parks.	10,492 (4%)	17,141 (4%)	16,329 (4%)	-812 (-5%)
Local Transit Potential				
Total homes within 1/4 mile walking distance of existing transit routes	70,320 (26%)	76,530 (20%)	88,042 (23%)	11,512 (15%)
Total homes within 1/4 mile walking distance of existing and expanded transit routes.	N/A	195,824 (51%)	218,096 (57%)	22,272 (11%)
Total employment within 1/4 mile walking distance of existing transit routes.	195,223 (59%)	227,153 (49%)	273,079 (59%)	45,926 (20%)
Total employment within 1/4 mile walking distance of existing and expanded transit routes.	N/A	350,799 (76%)	380,200 (83%)	29,401 (8%)
Regional Transit Potential				
Total homes within 1/2 mile walking distance of Regional Transit Vision stations.	N/A	8,948 (2%)	53,899 (14%)	44,951 (502%)
Total employment within 1/2 mile walking distance of Regional Transit Vision stations	N/A	97,151 (21%)	235,596 (51%)	138,445 (143%)

Table 6-2. Scenario Indicators Summary

	Existing (2013)	Emerging Trend Scenario (2040 Horizon)	Regional Vision Scenario (2040 Horizon)	Change Between Scenarios
ECONOMY & WORKFORCE				
Average distance between a home and the nearest major employment center (miles).	4.5	4.7	2.0	
Total homes within 2 miles driving distance of major employment centers.	126,152 (47%)	160,388 (42%)	264,342 (69%)	103,954 (65%)
Total employment within 2 miles driving distance of major employment centers.	242,523 (73%)	328,063 (71%)	426,015 (93%)	97,952 (30%)
ENVIRONMENT				
Acres of new impervious surface.	N/A	13,607	10,803	-2,804
HOUSING & NEIGHBORHOODS				
Added Homes within walkable placetypes.	N/A	680 (1%)	63,408 (56%)	62,728 (9,225%)
Added Employment within walkable placetypes.	N/A	7,290 (6%)	116,840 (93%)	109,550 (1,503%)
Total homes within existing service areas/city limits.	204,765 (76%)	279,732 (72%)	295,538 (78%)	15,806 (6%)
Total homes outside of existing service areas/city limits.	63,344 (24%)	102,694 (27%)	85,444 (22%)	-17,250 (-17%)
Total employment within existing service areas/city limits.	307,190 (92%)	421,117 (92%)	430,692 (94%)	9,575 (2%)
Total employment outside of existing service areas/city limits.	26,310 (8%)	38,512 (8%)	28,751 (6%)	-9,761 (-25%)
INFRASTRUCTURE				
New Infrastructure: Miles of new water line	N/A	266	101	-165
New Infrastructure: Miles of new sewer line	N/A	346	164	-182
New gallons of water consumed	N/A	38,938,452	29,097,206	-9,841,246
New tons of solid waste generated	N/A	2,738,874	2,025,161	-713,713
Homes within existing water service districts.	260,859 (97%)	349,085 (91%)	364,090 (96%)	15,005 (4%)

6.6.1 Compact Growth

A shift toward more compact growth types, such as those represented by the mixed-use center/ corridor and walkable neighborhood placetypes, has a fundamental impact on the amount of residential and non-residential land consumed. The scenarios represent a progressively intensive shift from less compact and more dispersed rural and suburban development patterns (Emerging Trend scenario) to more compact growth in the form of higher densities and smaller lot sizes (Regional Vision scenario). This shift results in a clear and measurable impact in the form of:

- Reduced infrastructure needs and costs in sanitary sewer and potable water supply infrastructure needs and costs, and less water consumed.
- 50,000 fewer acres developed, thereby preserving a greater amount of open space.
- Up to 20% less impervious surface, resulting in less stormwater impacts and a reduction in urban footprint.
- Shorter automobile trips and greater potential for walking, bicycling and riding transit.

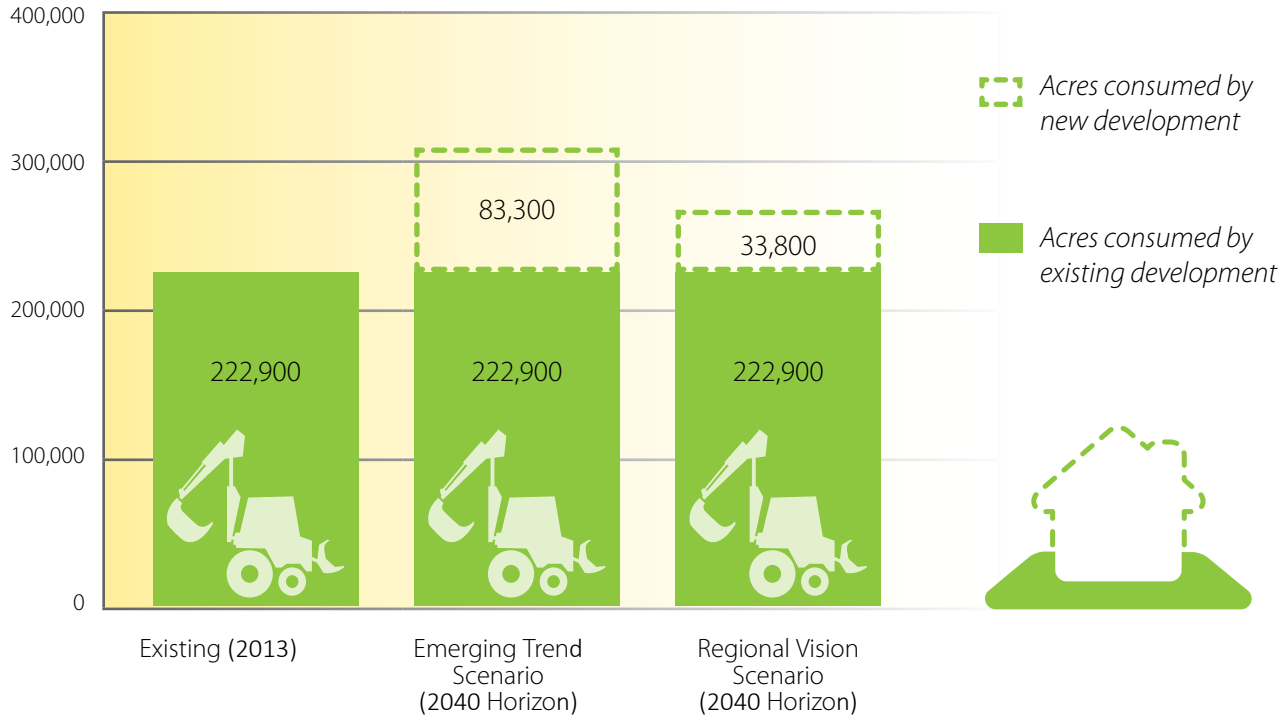
New development in the form of buildings, pavement, sidewalks, parking lots, and the like, all combine to form impervious surfaces, which reradiate solar energy , producing "heat islands," impacts on native habitats and, perhaps more importantly, adds to stormwater runoff.

Generally speaking, the greater the amount of impervious surface, the greater the potential for stormwater flooding and harmful runoff. Impervious surface can be minimized by:

- Smaller home sizes, consistent with smaller lot sizes;
- Smaller parking lots due to shared parking for mixed-use;
- Less pavement, hardscape, etc. due to more compact development and redevelopment, and
- A more vertically-oriented building style as evidenced by higher floor area ratios.

People value open space for the continuity it provides with natural systems, venues for public gatherings and recreational opportunities. Compact growth consumes far less land, but the result is essentially a trade-off between personal and shared

Table 6-3. Consumption of Land



PERSPECTIVE

To put things in perspective, the McCain Mall site has approximately **70 aces** of **impervious surface**.

Under the **Emerging Trend** scenario, about **13,600 acres** of new impervious surface are added to the region, or the equivalent of approximately **194 McCain Malls.**

By contrast, under the **Regional Vision** scenario, roughly **10,800 acres** of new impervious surface are added, or the equivalent of approximately **154 McCain Malls.**

open space. Compact development places more emphasis on shared, designated open space, resulting in significantly smaller residential yards and lot sizes, and shorter average travel distances.

6.6.2 Neighborhood Accessibility

For many central Arkansans, the personal automobile is the only option for travel. Currently, only one in four homes has access to local transit, only 15 percent of the streets have sidewalks and although bicycling is growing in popularity the region still lacks critical connections. For a number of reasons, including quality of life , cost of living, health and the environment, a growing number of central Arkansans are interested in having a variety of transportation options available to them whether it be walking, bicycling, riding transit or driving. In large part, the ability or potential to use one of these mobility options relies on proximity: the distance between origins (homes) and destinations (work, retail, parks, etc.). Clustering compact neighborhoods around mixed-use centers increases the potential for walking, cycling and transit, putting more homes in close proximity to retail and parks, and placing more homes in closer proximity to jobs.

One-quarter mile, which translates into a five-minute walk, is the average maximum distance that a healthy person will walk. But walk potential is also dependent on the availability of sidewalks as well as street connections and networks, which can vary from dense urban grids of highly interconnected, straight streets, to sparse suburban networks of curving streets forming loops and cul-de-sacs.

Bicycling can be a healthy, environmentally friendly and cost-effective alternative to driving under the right circumstances. Although a two-mile radius is an appropriate distance for experienced cyclists, less experienced and younger cyclists may not be willing or able to ride that far, in which case a smaller radius, such as a mile, is more appropriate measure of biking potential. Adequate facilities must be in place for the potential to be realized. This includes a robust, interconnected network of low-volume, low-speed streets, shoulders and bike lanes on higher-speed, higher volume facilities and off-road paths when possible (utility easements, greenways, and riparian corridors).

Good access to parks is an important part of quality life. The park proximity indicator took into account existing parks and planned parks in the region, at both the city/county and regional scale of parks. Planned parks include those that are identified in regional comprehensive land use plans.

In terms of walk and bike potential to retail and service areas and to parks, incremental differences are shown between the scenarios. The number of homes within walking distance of destinations represents a fraction of the overall number of homes

in the region. The findings could be a result of two factors: it is more difficult to change land use patterns around parks that have already been built and a fundamental change in density would be required to have a significant impact on walk and bike potential. Co-locating parks and schools is a more efficient siting process that creates walking and biking benefits for both places.

6.6.3 Transit Accessibility

Existing fixed-route transit service is provided by Central Arkansas Transit Authority (CATA) and is limited to linking neighborhoods and activity centers in Pulaski County only. Today, 26 percent of homes and 59 percent of jobs are located within walking distance to CATA routes. Less compact, dispersed development patterns make it difficult to serve efficient fixed-route service.

In addition to the fixed-route and streetcar service, CATA also provides Links paratransit services to customers who have been certified as paratransit eligible (unable to physically access the fixed-route system) under the Americans with Disabilities Act. The Links door to door paratransit service utilizes 22 vans and travels during the same hours and within the same areas of Pulaski County that are served by the fixed-route buses. Demand response transit service is provided to portions of Saline County by the South Central Arkansas Transit (SCAT) and human service agencies.

There are currently no funds programmed for expansion of CATA beyond its existing service areas.

Table 6-4. Total Homes with Walk Potential to Retail and Service Areas

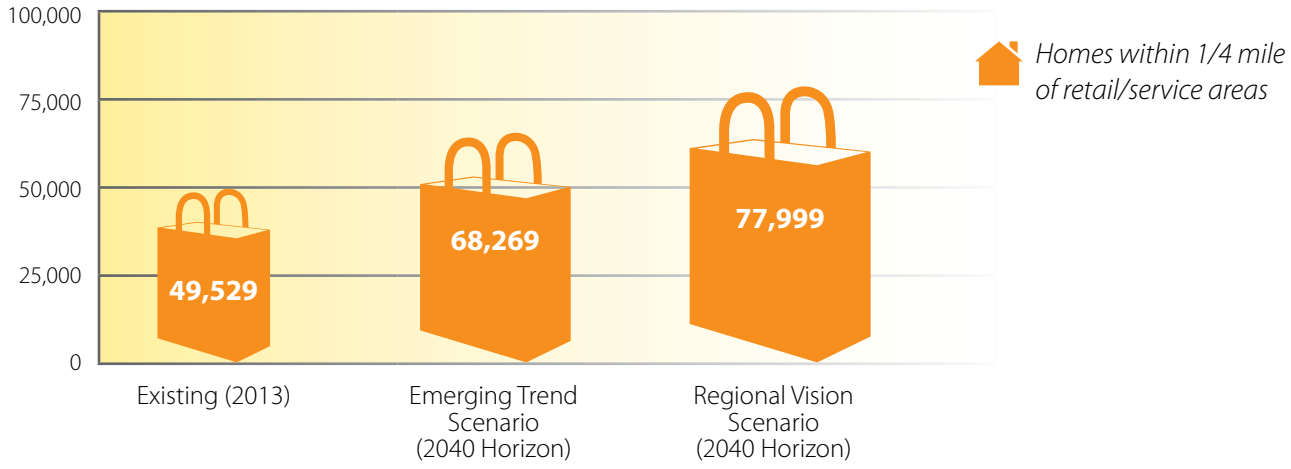


Table 6-5. Total Homes with Walking Potential to Parks

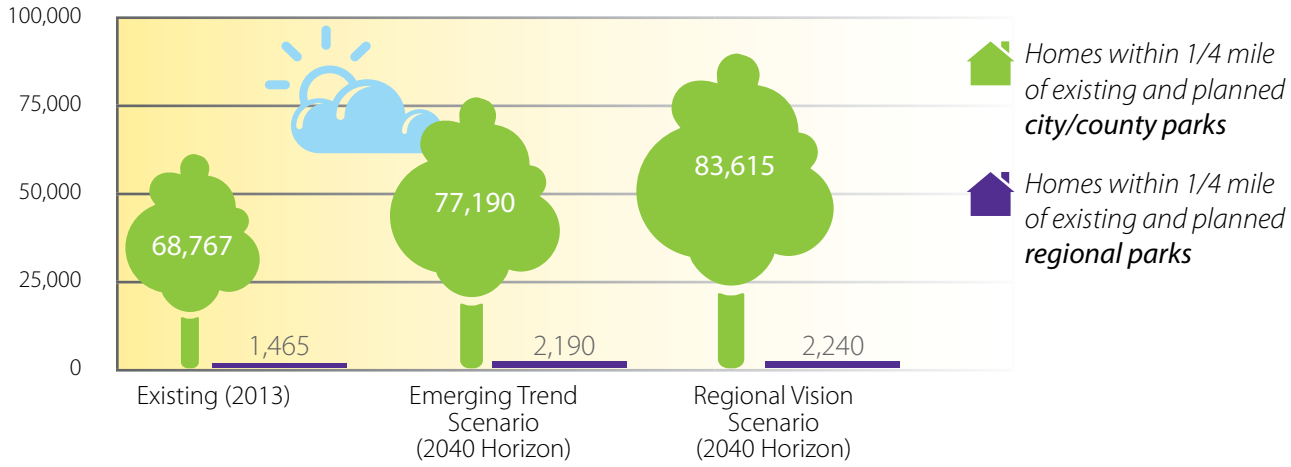


Table 6-6. Total Homes with Bike Potential to Retail and Service Areas

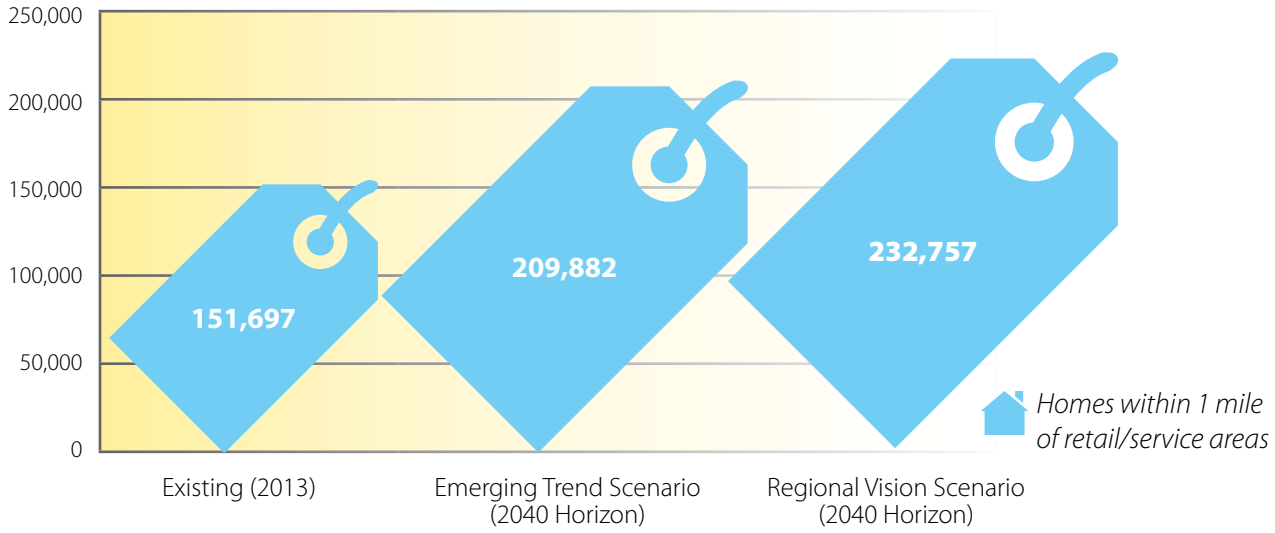
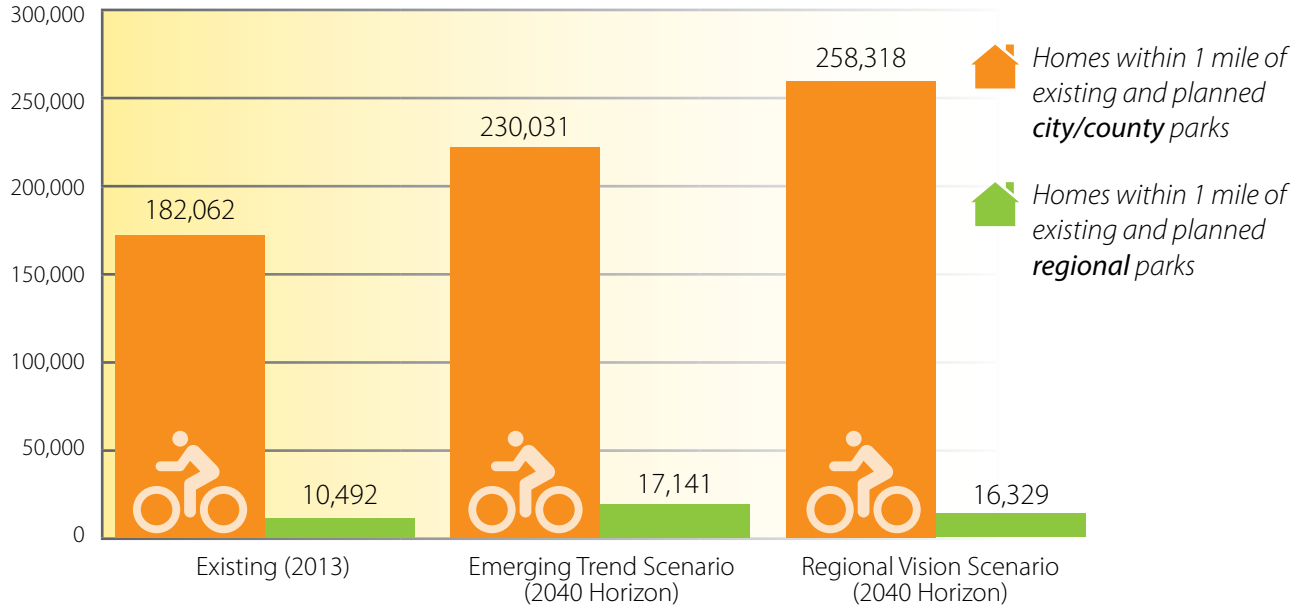


Table 6-7. Total Homes with Bike Potential to Parks



Although the percentage of homes and jobs located within walking distance to existing local transit service routes goes down under the Emerging Trend scenario, the total number of homes and jobs in the region would increase. The percentage of households with transit access is less under the Emerging Trend Scenario compared to existing conditions because most new residential growth occurs in areas where there is not existing CATA service. In contrast, the Regional Vision scenario shows more homes and jobs in areas within one-quarter mile of existing CATA service areas.

If agencies pursue a balanced transportation investment strategy and people begin to seek out options for local and regional travel as the region becomes more urbanized, then local transit service areas will be able to expand. Assuming that local transit service were to be expanded into Faulkner County, northern Lonoke County and southeast

Saline County, then approximately 57 percent of the homes and 83 percent of the jobs in the region would be within one-quarter mile of the existing and expanded local transit service routes, a vast improvement from existing transit accessibility.

As described in the previous chapter on mobility, the creation of a regional transit system is envisioned. It could include: bus rapid transit, light rail transit and commuter rail lines that would link places within each county to regional destinations, such as downtown Little Rock, the Little Rock Airport,

Table 6-8. Total Homes within Walking Distance of Local Transit Service

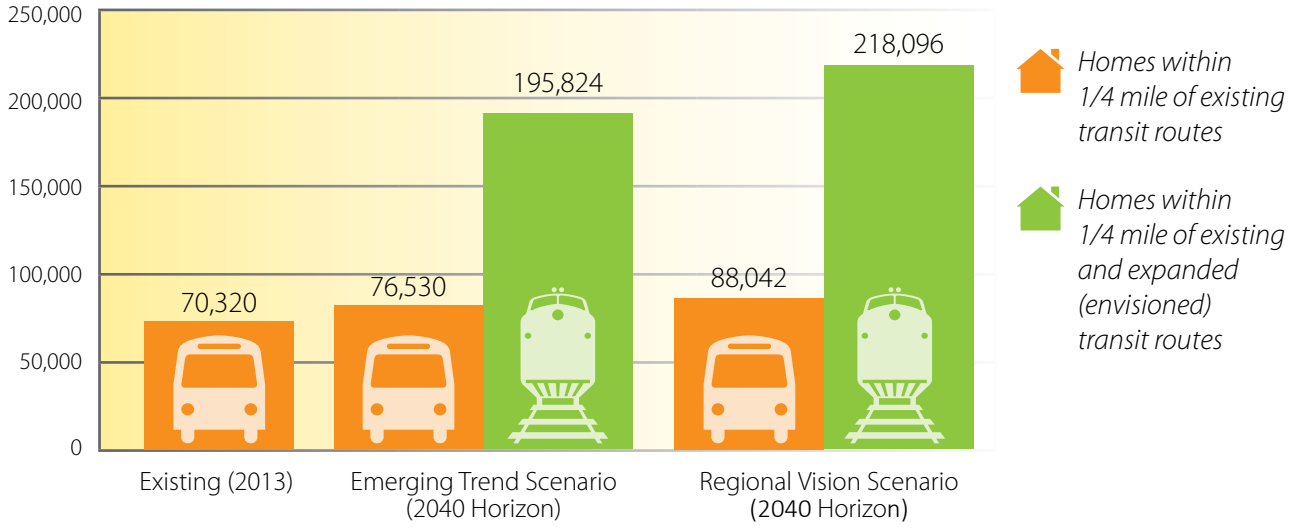
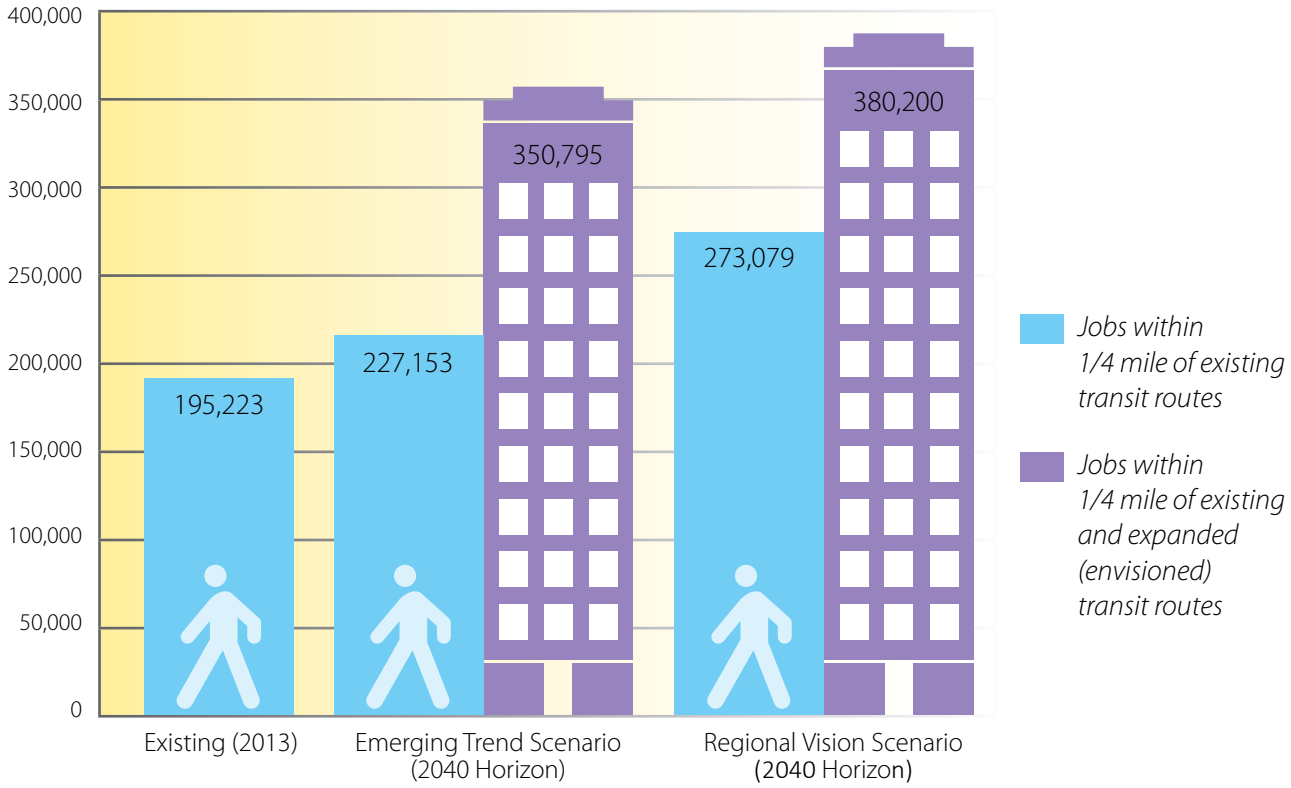


Table 6-9. Total Employment within Walking Distance of Local Transit Service



Conway, Cabot, and Benton. A limited number of stops/stations would be accessed via car (park and ride), walking, cycling or local transit. The greater potential for regional transit service under the Regional Vision scenario (14 percent of the homes and 51 percent of the jobs within a half-mile radius of proposed stations) is a direct result of compact development in mixed-use centers (areas where regional transit stops would be located).

6.6.4 Job Accessibility

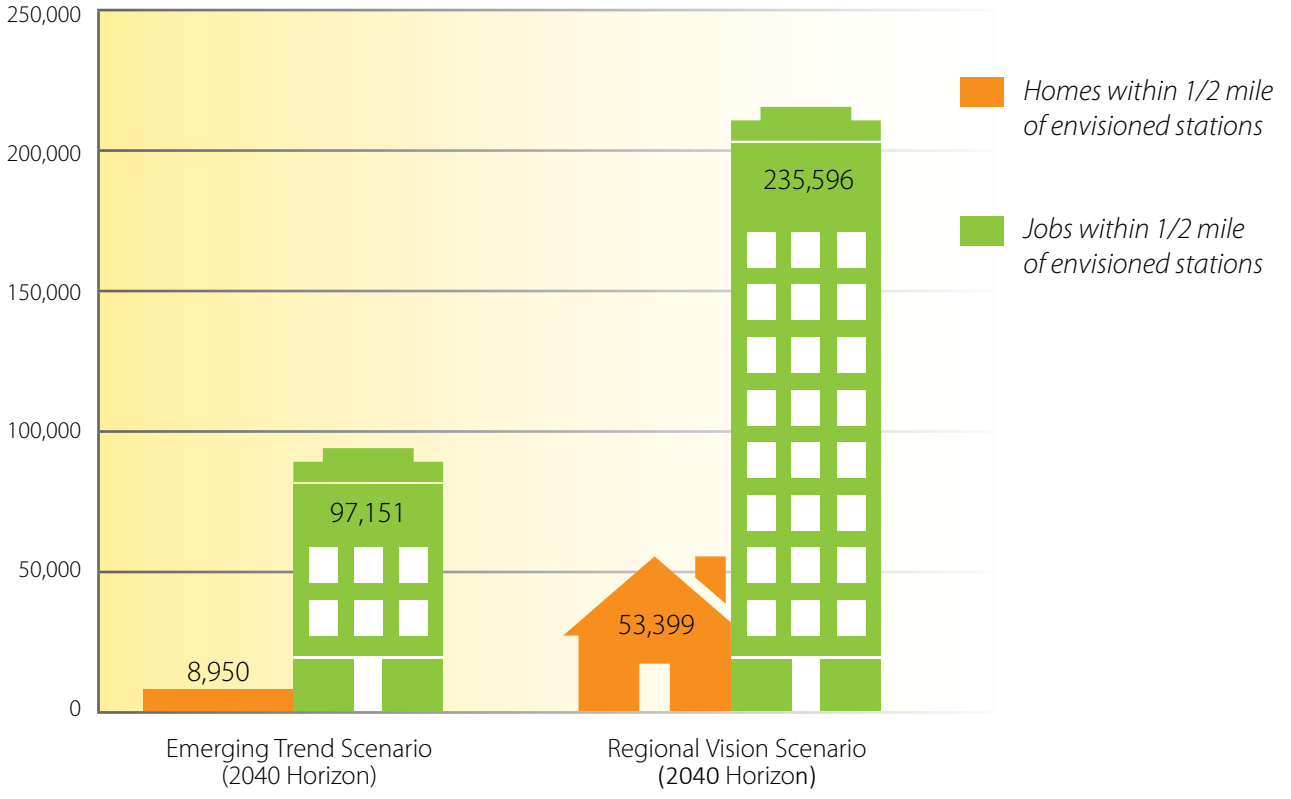
During the *Imagine Central Arkansas* outreach phases, people expressed a desire to ensure that the region remains a globally competitive hub for economic activity. One way to make central Arkansas stronger and more economically competitive is to tie the region's employers more closely to the workforce.

Currently, housing tends to be dispersed relative to employment. The average home in central Arkansas is roughly 4.5 miles from the nearest employment center (downtown Little Rock, UAMS/Medical District, Conway or Little Rock Air Force Base), and that increases slightly to 4.7 miles under the Emerging Trend scenario since homes become more spread out. Under the Regional Vision scenario, the average home in central Arkansas is roughly 2.0 miles from the nearest employment center. This distance shortens due to compact development in the form of more mixed-use centers around the potential transit stations. Under the Regional Vision scenario, 69 percent of homes and 93 percent of the total employment would be located within two miles of major employment centers, compared to 42 percent of the homes and 71 percent of the employment under the Emerging Trend scenario.

6.6.5 Neighborhood Walkability

Connected street networks can have a powerful influence on the ability to walk. A rich street network diffuses traffic, creates a highly walkable block system and results in smaller streets that are more suitable for walking and bicycling. A recent analysis of more than 50 studies of travel and the

Table 6-10. Total Homes and Employment within Walking Distance of Regional Transit Vision Stations



built environment found that intersection density – the number of four-way intersections per square mile – had the greatest impact on walking among a range of variables studied, including population density, distance to a store, distance to transit or distance to jobs (*Cervero and Ewing, Travel and the Built Environment: A Meta-Analysis*).

Across central Arkansas today, the quality of street networks (as measured by four-way intersection density) varies. Downtown Little Rock, built on a grid street system, has the greatest density at about 200 four-way intersections per square mile. Most other areas in central Arkansas have few closely spaced intersections that result in any degree of network quality.

The walkable places indicator addresses potential for walking based on a street intersection density of more than 160 four-way intersections per square mile. The percentage of homes and employment added within walkable places is highest under the Regional Vision scenario (63,000 new homes and 117,000 new jobs) than the Emerging Trend scenario (680 homes and 7,300 new jobs).

More compact developments have street networks that are dense, urban grids of highly interconnected streets. In comparison, rural and suburban places have sparse suburban street networks, of curving streets forming loops and cul-de-sacs. For example, mixed use centers are intended to concentrate retail, office, service and high residential uses at busy intersections, and are intended to provide a walk-friendly environment because of their emphasis on a robust, interconnected local street network. Keep in mind that other characteristics, such as connectivity, safety and adequate facilities also factor into the ability to walk.

6.6.6 Efficient Infrastructure

As the region grows and expands, keeping up with the demand on infrastructure and community services will be paramount. Expanding development footprints place a strain on service coverage, such as the amount of land that must be covered by police

Table 6-11. Total Homes and Jobs within 2 miles of Major Employment Centers

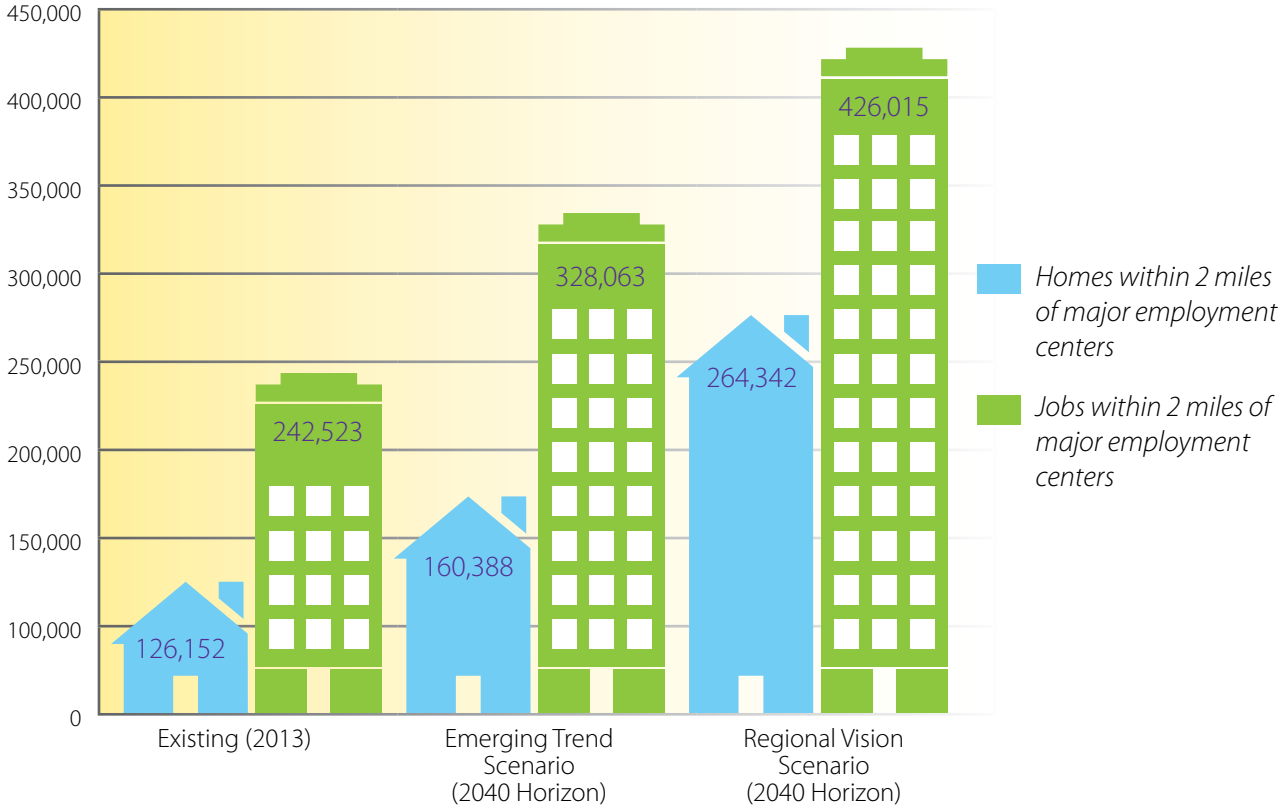
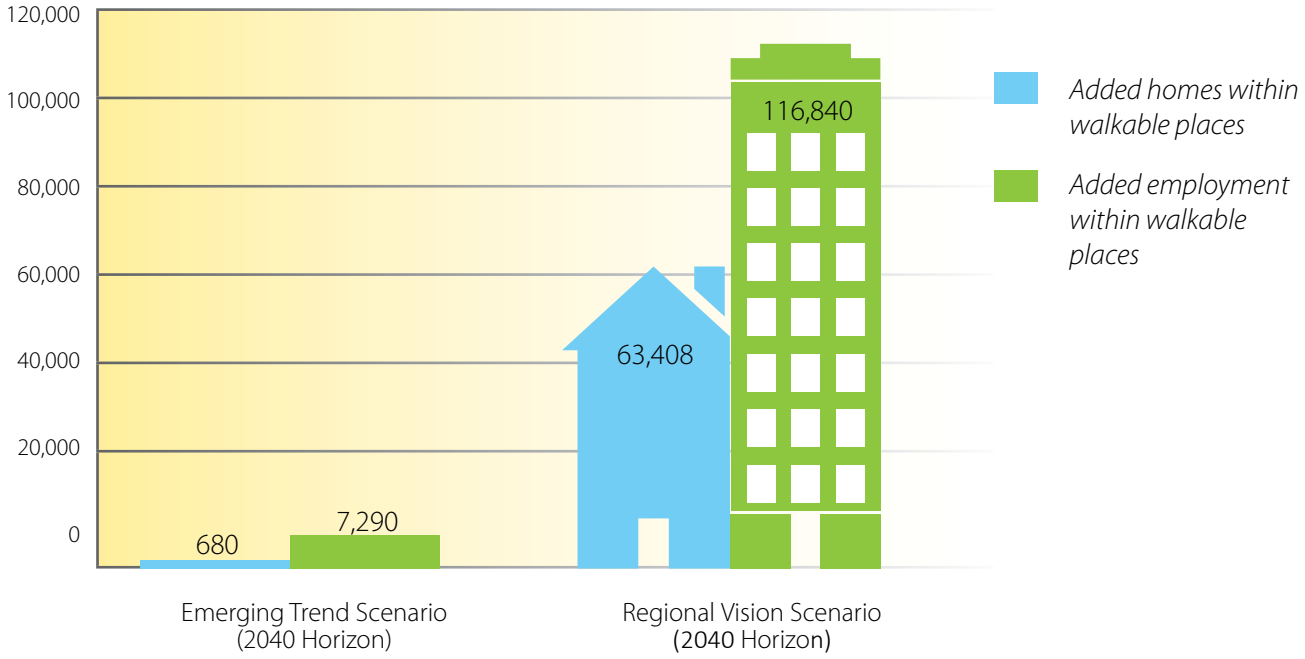


Table 6-12. Total Homes and Employment Added within Walkable Places



patrols and fire/EMS facilities, and additional roads. It can become difficult to maintain adequate response times and levels of service. The existing incorporated areas or city limits in the region are already expansive. The Regional Vision scenario reduces the number of homes and employment that are located outside existing incorporated areas. Although there is not a large difference between the scenarios, homes under the Emerging Trend scenario place stress on existing infrastructure because they are more spread out.

The availability of central water and sanitary sewer service is an essential infrastructure component for any large-scale residential, commercial or industrial development. There is a direct relationship between the amount and location of growth and the cost to provide infrastructure. New growth in the region under the Emerging Trend scenario is anticipated to generate 38.9 million gallons per day of demand for water, but that amount decreases under the Regional Vision scenario to 28.1 million gallons per day. The discrepancy between scenarios is largely attributed to larger yard sizes for irrigation under the Emerging Trend Scenario.

More compact development requires fewer miles of new infrastructure to serve growth, and thus, the cost to provide new water and sewer service to accommodate additional growth is estimated to be higher under the Emerging Trend scenario. This higher cost is attributed to the additional miles of water service infrastructure required to serve new areas, as well as the cost to augment existing water treatment plants. Also factored into this estimate are the additional sewer lines, lift stations and other infrastructure necessary to transport waste over longer distances, and to the construction of localized treatment plants where line extensions are unfeasible.

6.6.7 2040 CARTS Model Results

The Central Arkansas Regional Transportation Study Travel Demand Model (CARTS TDM) is a conventional trip based 4-step model (Generation, Distribution, Mode Choice and Assignment) with feedback loop from traffic assignment to trip distribution and transit components. This model uses the land use scenarios, but adds a transportation network in order to evaluate the impacts on vehicle miles of travel (congestion), transit ridership and vehicle emissions. A full report of the CARTS TDM outputs is included in Appendix C.

Table 6-13. Homes Within and Outside of Existing Service Areas/City Limits

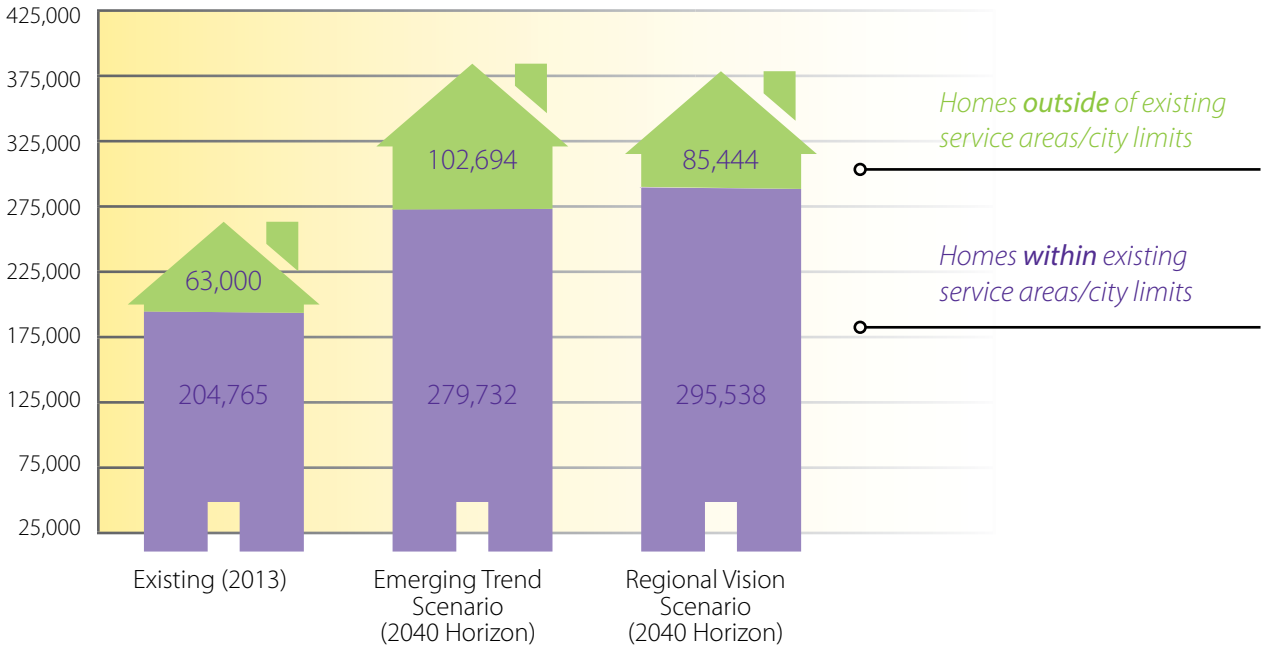
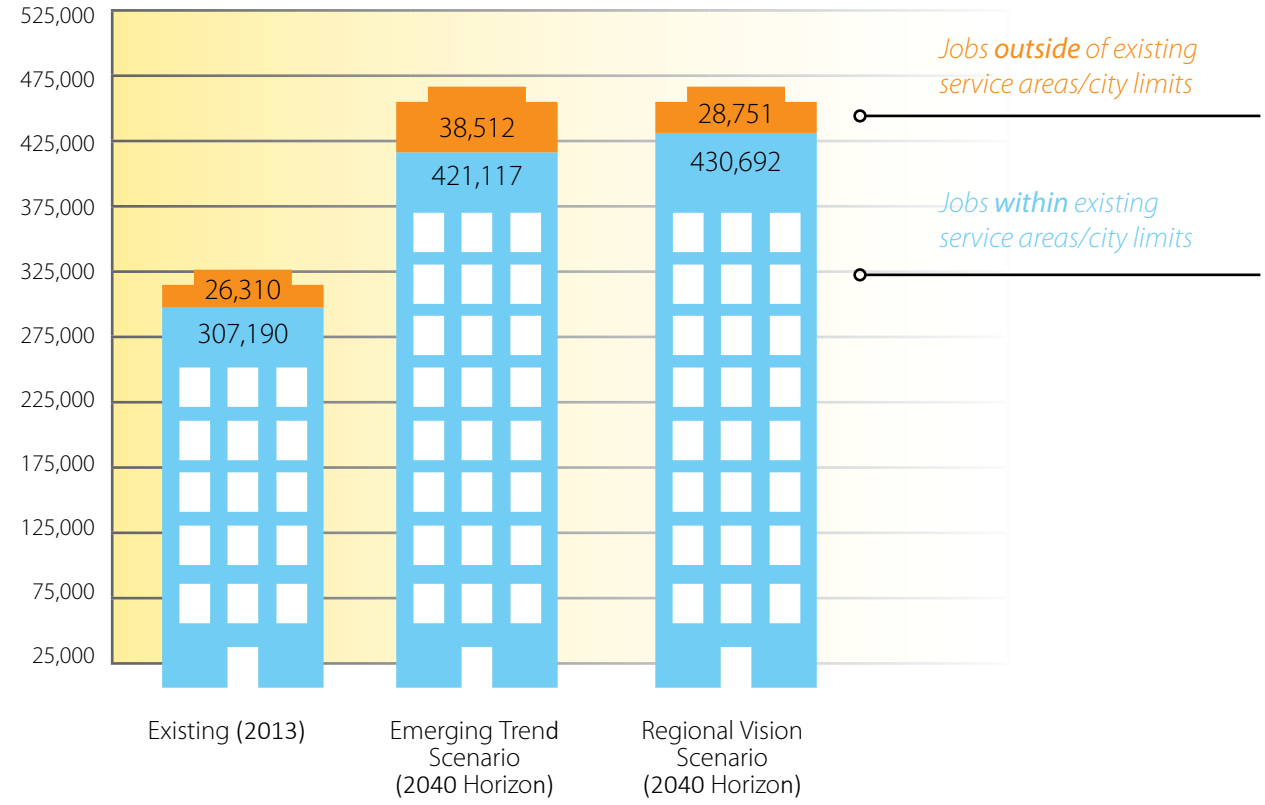


Table 6-14. Employment Within and Outside of Existing Service Areas/City Limits



2040 Transit Scenarios

To complement the Emerging Trend and Vision land use scenarios, three transit systems were developed: A continuation of the existing transit network; the MediLink–I-630 corridor; and the Full Transit Vision. The MediLink can be considered as an "in-between" scenario. It uses the alignment described in the I-630 Fixed Guideway Alignment Study (February 2010) as the primary transit corridor to connect the medical institutions along I-630 to the Airport through Downtown Little Rock, via Bus Rapid Transit (BRT) or Light Rail Transit (LRT). The Full Transit Vision assumes a full build-out of the transit system as discussed in the Mobility Section. Included is a regional train system that connects Benton/Bryant to Jacksonville/Cabot through Downtown Little Rock (using the MediLink I-630 alignment) and a second alignment that connects Conway to Little Rock through Maumelle. New park–and-ride facilities and an expanded and enhanced feeder bus system connect to the main stations of the Benton to Cabot alignments and the Conway to Little Rock alignments in order to increase accessibility and provide a multi-modal approach for the full system.

Summary of Findings

Five variables are used to compare the results of each travel demand model scenario. Vehicle miles of travel (VMT) is an indicator for the highway component of the scenarios. Indicators for the transit component of the scenarios include: daily ridership, peak hour ridership, passenger miles and passenger hours. The following tables and charts compare the results of the travel demand model between the existing transit network (in 2010), the 2040 Emerging Trend scenario (based on the existing transit network) and the 2040 Regional Vision scenario (based on the build-out of the Full Transit Vision).

By 2040, daily VMT in the metropolitan region is expected to grow by 35 percent, resulting in more traffic, congestion and road maintenance needs. Without an expansion of the transit system, little change in transit ridership is expected. Implementing the Regional Vision scenario could reduce VMT by 3 percent (or one million miles), and could increase transit ridership by 450 percent.

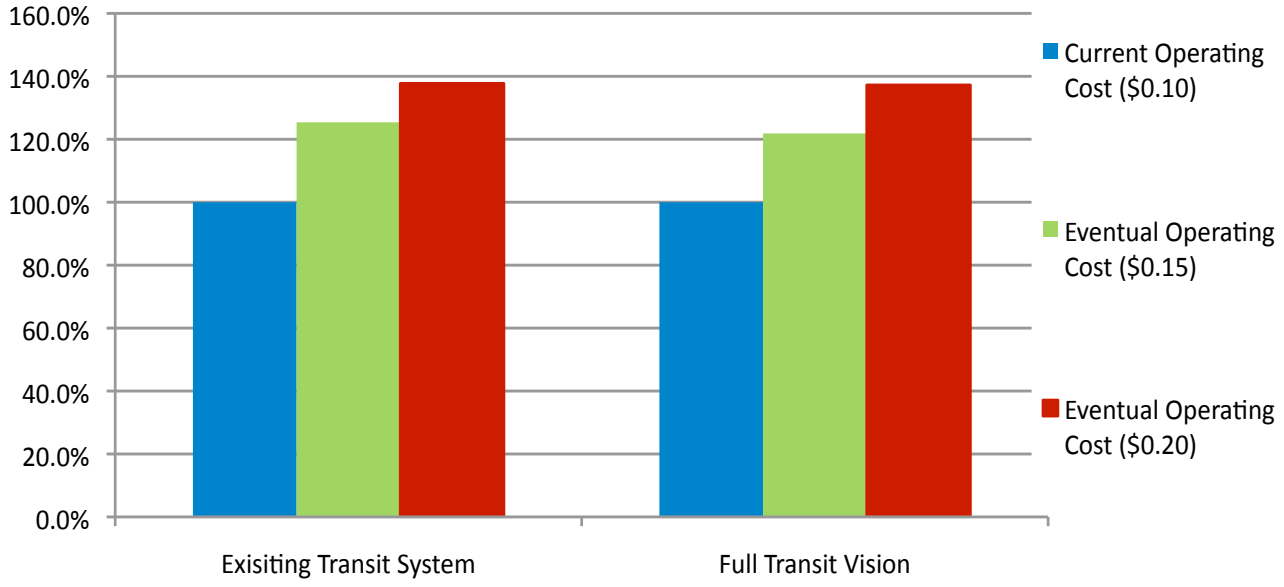
Further analysis of the travel demand model shows that transit ridership could be increased by another 20+ percent if more interconnected and walkable areas are developed. Changes in vehicle operating or parking cost could also dramatically impact transit ridership, with increases ranging from 50-100 percent under some scenarios. Parking availability affects transit use as found in a study by Bianco, et al. As indicated in Table 6-15, as operating costs for automobiles increase, daily ridership of transit also increases.

Successful implementation of the regional transit vision requires serious attention to many regional and local policy issues regarding land use, built environment and parking.

Table 6-15. Summary of Travel Demand Model Scenario Analysis

		Vehicle Miles Traveled (VMT)	Daily Ridership	Peak Ridership	Passenger Miles	Passenger Hours
Existing Transit Network (in 2010)	2010	22,203,416	9,348	4,706	33,581	1,921
Emerging Trend Scenario (based on the existing transit network)	2040	30,127,678	10,133	5,181	35,982	2,133
Regional Vision Scenario (based on the Full-Transit Vision)	2040	29,072,168	46,264	28,500	265,333	7,841

Table 6-16. Operating Cost Per Mile and Daily Ridership



6.7 The Preferred Vision

In order to more rapidly achieve the vision of a truly integrated transportation network, as confirmed in this long range planning process, the elements of the Regional Vision scenario must be pursued.

The Regional Vision scenario accommodates most new growth in mixed use centers and walkable neighborhoods, as well as in infill development located in the region's existing centers. These types of development patterns enhance quality of life for residents by offering more mobility choices, preserving open space, and reducing the proximity of households to jobs, retail, transit and parks. Mixed use and compact land use developments can shorten distances between origins and destinations, which means that transit and alternative modes of transportation are crucial to fulfilling future travel needs.

The Regional Vision scenario provides for housing options closer to public transit, jobs, retail and parks. In addition, the Regional Vision scenario supports the concept of a robust transit network for the region by concentrating development along existing transportation corridors, which are likely candidates for future bus rapid transit, light rail transit and commuter rail, and by minimizing outer-suburban growth. This scenario also concentrates new jobs not only in existing centers but in new mixed-use centers and corridors, creating additional economic development opportunities in the future.

In contrast, the Emerging Trend scenario envisions impacts that likely happen if outward movement from the existing centers accelerates. Residents in these growing suburbs and rural areas are less likely to have nearby access to transit, leading to higher household rates of vehicle ownership, higher household transportation costs and more vehicle miles traveled. The Emerging Trend scenario would result in increased growth in the number of households without easy transit access because it continues the pattern of locating new residential growth in suburban and rural communities farther away from existing centers and corridors, which lack the requisite density needed to support transit.

Chapter 6 Source Material

Bianco, Martha J., Kenneth J. Deuker, and James Strathman. (1997) "Parking Strategies to Attract Auto Users to Public Transportation." Center for Urban Studies College of Urban and Public Affairs, Portland State University, Portland, Oregon.

Table 6-17. Scenario Comparison

Indicator	Regional Vision Scenario Compared to the Emerging Trend Scenario	
Consumption of land	⇧	50,000 less acres developed, thereby preserving more open space.
Impervious surface	⇧	20 percent reduction in urban footprint, with less impact on the natural environment.
Neighborhood accessibility via walking and biking	⇔	Central Arkansas already has good proximity to a park system. A marginal improvement of accessibility of homes to retail and service areas under the Regional Vision Scenario.
Neighborhood walkability	⇧	63,000 new homes and 117,000 new jobs in walkable places.
Transit accessibility	⇧	Vast improvement. 140,000+ more homes and 157,000+ more jobs with local transit access. One in seven homes and one in two jobs with regional transit access.
Job accessibility	⇧	Over 137,000 more homes within two miles of employment centers than Trend.
Efficient infrastructure	⇧	Municipal service boundaries are already expansive. Regional Vision Scenario does reduce the amount of far flung developments to be served.

"A goal without a plan is just a wish."
– Antoine de Saint-Exupéry

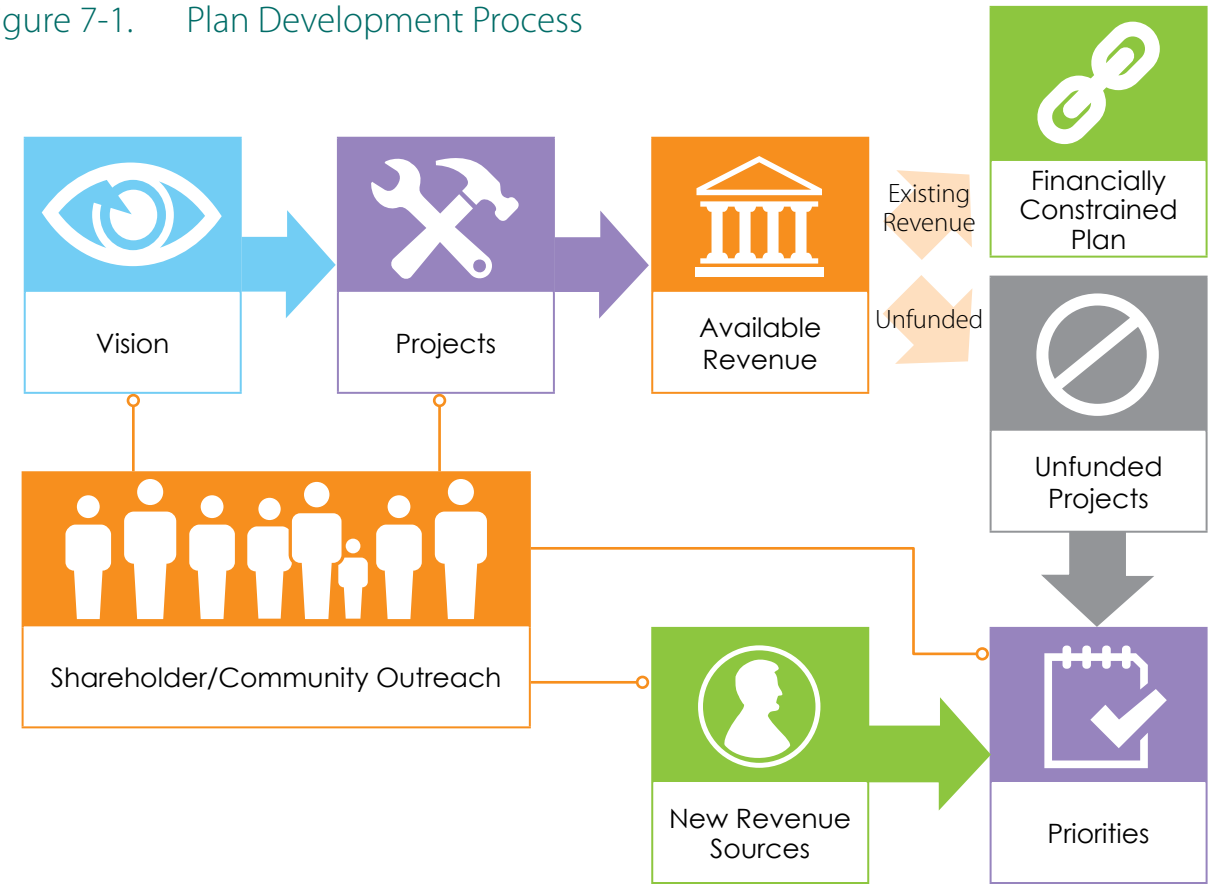
Chapter 7. Long Range Metropolitan Transportation Plan

Imagine Central Arkansas is the culmination of conversations with residents, community and business leaders and other stakeholders, as well as the work of the *Imagine Central Arkansas* Partners and the Regional Planning Advisory Council to craft a long-range vision for the future of central Arkansas (see Chapter 5). That Vision was then subjected to technical analyses and performance measure evaluations to gauge the impact of its implementation upon the region (see Chapter 6). In order to make the Vision a reality it must be given life through the development of a plan that is equal parts practical and aspirational.

The 2040 Long Range Metropolitan Transportation Plan (LRMTP) serves that purpose for *Imagine Central Arkansas*. In addition to meeting federal requirements, the LRMTP serves as the launch point for implementation of *Imagine Central Arkansas* including specific projects, policies, actions and other recommendations.

Perhaps the biggest issue surrounding the LRMTP is that the cost to maintain the current transportation system and to build infrastructure necessary to implement the Vision far exceeds projected revenue from conventional sources. Tough choices must be made to arrive at a financially feasible plan. The LRMTP identifies sources of additional revenue to be pursued, and prioritizes projects for new funding should it become available during the planning horizon. In policy, the region must focus additional resources on maintaining our existing infrastructure in a good state of repair.

Figure 7-1. Plan Development Process



7.1 Transportation Infrastructure: Project Development

Chapter 5 describes the Vision for central Arkansas in which the freeway system is built-out at six through-lanes of capacity. Future demand is met through a balanced strategic transportation approach, which includes: a robust regional arterial network, development of an extensive regional transit system, expanded local transit and more walking and cycling options. Of course, this big picture Vision will not be be a reality overnight; it will be realized incrementally over the course of several decades.

Inherent to this incremental approach is the need to implement individual projects. These stand-alone projects represent smaller, "bite-size" pieces that can be programmed, designed and built, but when taken together enable the Vision for *Imagine Central Arkansas*.

Project Development Sources

Many of the projects identified in the 2040 LRMTP are derived from a number of existing plans, programs and studies, including:

- *2013-2016 Transportation Improvement Program*
- *AHTD's Interstate Rehabilitation Program*
- *AHTD's Connecting Arkansas Program*
- *METRO 2030 and Metro 2030.2*
- *CARTS Areawide Freeway Study*
- *2012 CARTS Regional Arterial Network Study*
- *Conway Transit Study*
- *River Rail Phase 2*
- *CARTS ITS Conceptual Plan*

7.1.1 Roadways

Travel across central Arkansas occurs primarily on the freeway system and the Regional Arterial Network. Generally speaking, projects on freeways and arterials are broken down into four categories: maintenance (See Section 7.1.5.), operational improvement, widening and new facilities.

Operational Improvements

Projects that improve the operation of existing facilities and do not entail the addition of capacity through new lanes are considered operational improvements.

Corridor Operational Improvements: Projects on existing facilities to make them operate more safely and efficiently, including the addition of turn lanes, signals and/or other minor intersection improvements, or deployment of intelligent transportation systems.

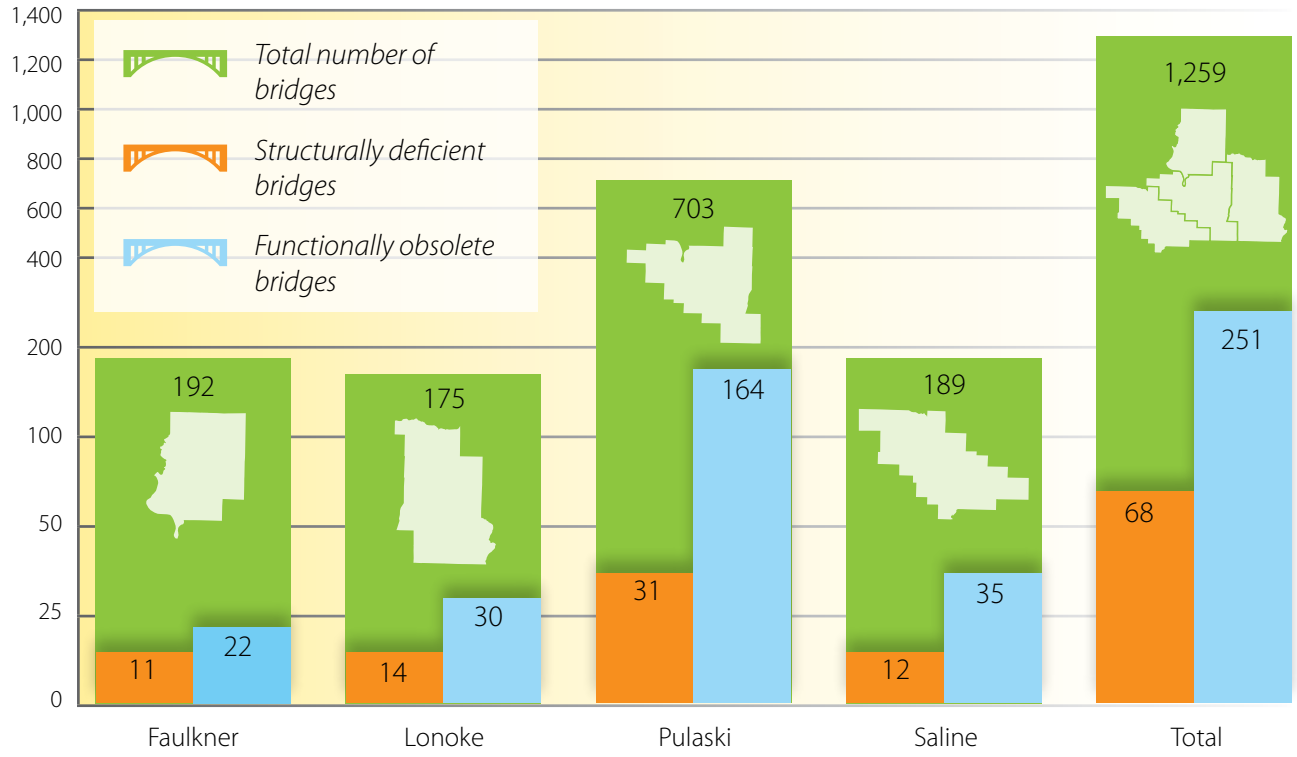
Intersection Improvements: Either minor or major projects at intersections that increase vehicle capacity, efficiency and/or address safety issues.

Interchanges: Improvements to existing freeway interchanges or the construction of new ones to address problems similar to those of intersections.

Bridge Replacement: Projects to replace bridges that are functionally obsolete or structurally deficient to ensure operational safety and efficiency. Recent analysis shows that as many as 20 percent of the region's more than 1,200 bridges are functionally obsolete and over five percent are structurally deficient (see Table 7.1).

Rail Grade Separation: Projects intended to separate and minimize vehicular/rail conflicts and delay, increase overall safety and help rebuild community ties severed by rail traffic within the region. Twelve projects were identified and committed to as part of METRO 2020 adopted in 1995. Only five rail grade separation projects remain to be built. Three are scheduled for construction.

Table 7-1. CARTS Area Bridge Evaluation



Source: Arkansas Highway and Transportation Department and National Bridge Database.

Widening

Projects on freeways and arterials where additional travel lane capacity may be necessary to address recurring congestion or elimination of bottlenecks.

New Facilities

Projects identified at new locations that can serve several purposes: relieve congestion on an existing facility, strength the road network or provide better connection between destinations.

Figure 5-6 in Chapter 5 identifies regional freeway projects while Figure 5-7 identifies projects on the Regional Arterial Network.

7.1.2 Transit

Transit is a major component of the *Imagine Central Arkansas* Vision and was prominent in all phases of public and stakeholder feedback. Implementation of transit includes projects at a regional and local scale.

Regional Transit

The Vision for transit includes "premium" transit (light rail or BRT) connections to major destinations across the region, including:

Light rail along the West Corridor: The West Corridor along I-630 connects west Little Rock to the Baptist, St. Vincent and UAMS campuses, downtown Little Rock and Bill and Hillary Clinton National Airport.

Light rail along the Northeast Corridor: The Northeast Corridor connects Cabot, Jacksonville, Sherwood and North Little Rock to downtown Little Rock along the US 67/167 corridor. An alternative alignment runs along SH 107/JFK Boulevard/Main Street in Sherwood and North Little Rock.

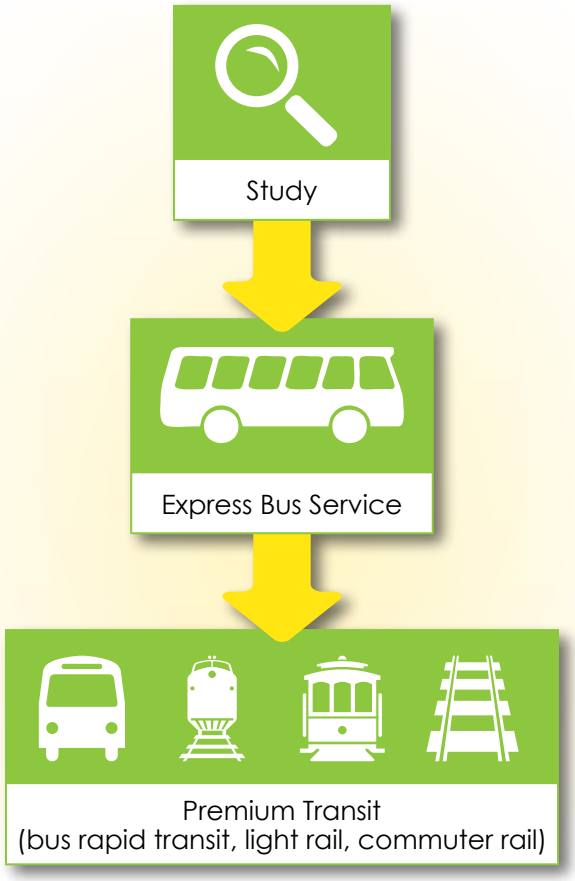
Light rail/Commuter rail along the Northwest Corridor: The Northwest Corridor connects Conway, Mayflower and Maumelle to downtown Little Rock via an alignment following I-40, Maumelle Boulevard, I-430 and I-630. An alternative alignment runs down the existing railroad right-of-way into North Little Rock and downtown Little Rock.

Light rail/Bus rapid transit along the Southwest Corridor: The Southwest Corridor connects Benton and Bryant to the West Corridor in west Little Rock along I-30 via either I-430 or University Avenue.

The regional transit corridors are shown on Figure 5-10 in Chapter 5. For cost estimation purposes specific modes were assumed as identified above. However, the ultimate transit mode will be determined through additional study.

Whatever mode is chosen, a ridership base must first be established. Within existing cities and transit service area, routes with high ridership and/or ridership potential can be enhanced by providing buses that are more frequent and increased user amenities (dedicated bus stop shelters, real time bus information, pedestrian facilities). For suburban area, express bus service (bus operating limited-stop service on freeways and arterials) is typically a precursor to more dedicated premium service such as bus rapid transit, light rail or commuter rail that connects these cities with employment centers.

Figure 7-2.
Regional Transit Corridor Development



Local Transit

The Regional Vision also calls for expansion of local bus service so that a majority of our residents live within walking distance of safe, affordable transit service that operates frequently throughout the day. In addition, local transit routes that feed into stations, or surface park and ride lots are an important supporting element of the regional transit system.

Figure 5-11 in Chapter 5 shows areas where local bus service expansion is likely. In many cases it is premature to identify specific routes and other improvements to make this happen. The LRMTP identifies subareas of the region for transit investment where specific projects can be identified through further study.

7.1.3 Bicycles

The Vision for bicycles includes a regionally-connected, contiguous system of on-street or off-road facilities on new and retrofitted streets. This includes completion of the Arkansas River Trail and the Southwest Trail. To the extent possible, bicycle improvements should include dedicated lanes, shoulders and/or parallel paths on RAN road projects, rather than as separate, stand-alone projects. Regional bicycle connectors and through routes are depicted in Figure 5-12 in Chapter 5. Routes on city and county bike plans are also part of the Vision. For cost purposes, these bicycle routes have been pooled into distinct subareas for additional investment in bicycle facilities. This investment could occur in the form of additional street retrofits, new off-road facilities and/or facilities linking future transit stations with surrounding destinations.

7.1.4 Pedestrians

Provision of pedestrian facilities is essential to an intermodal transportation network. Pedestrian facilities must be incorporated on all new and retro-fitted streets. Pedestrian facilities include sidewalks, parallel paths and/or crossing treatments (both at intersections and at mid-block locations). The only

stand-alone pedestrian projects completed with federal funds are those with safety issues.

7.1.5 Maintenance of Facilities

Imagine Central Arkansas includes a host of new roadway, transit, bicycle and pedestrian improvements. However, the Vision also acknowledges the need for adequate maintenance to ensure that existing facilities are in good repair and facilitate safe and efficient travel. Given the aging transportation infrastructure within central Arkansas, the region must dedicate additional funding for its maintenance. Adequate maintenance includes the following:

Routine Maintenance

Routine maintenance includes actions that must be done on a regular basis to keep facilities in good working order, such as: mowing, spot fixes and resurfacing. There are approximately 955 lane miles of interstate/freeway facilities and 6,180 lane miles of arterial/collectors facilities that must be maintained. The Vision includes another 125 lane miles of new freeways and 940 lane miles of new arterials that also require maintenance.

Major Rehabilitation and Repair

Many freeway and arterial facilities are or will soon be in a state of critical disrepair to the degree that a major reconstruction or rehabilitation effort is necessary. Figure 5-9 in Chapter 5 shows the current state of paved facilities in the region.

The current Interstate Rehabilitation Program (IRP), financed by AHTD through a bond issue to be repaid with federal funds, addresses many of the more critical needs on interstates. Beyond that, it is estimated that roughly half of the existing and proposed freeway facilities (about 540 lane miles) and one-fourth of new and proposed arterials (about 1,780 lane miles) will require major reconstruction during the course of the 2040 plan period. The balance of new and proposed arterial facilities and freeways, about 5,340 lane miles, will require a less intensive system overlay procedure during that same time period. The maintenance cost for roadways is estimated at $8.2 billion through 2040.

Table 7-2. Mileage of Roadway Facilities

	CARTS Lane Miles		
Facility Type	Existing	New[1]	Total
Interstate/Freeway	955	125	1,080
Arterial /Collector	6,180	940	7,120
Total	**7,135**	**1,065**	**8,200**
Local[2]	12,244	1,863	14,107

Notes:

[1] New road lane miles for interstates and arterials are based on LRMTP projects. Local road lane miles are assumed to be added at the proportion as arterial roads (15.2% of existing lane miles).

[2] Data for local roads is presented for informational purposes only.

Transit Maintenance and Operations

CATA, which operates transit service in Pulaski County, and SCAT, which operates demand response service for seniors and persons with disabilities in portions of Saline and Lonoke counties, must provide adequate maintenance and operations to keep existing services between now and 2040. This includes regular maintenance and repair of vehicles, vehicle replacement and operation (drivers, fuel, etc.). In FY 2013, CATA budgeted $16.7 million to maintain existing transit service. Extrapolated over the course of the LRMTP planning horizon and factoring in real cost increase, the total cost to maintain existing CATA service is $800 million through 2040.

Bicycle and Facility Maintenance

As central Arkansas adds bicycle and pedestrian facilities to its networks, funds must be set aside for their maintenance. For on-road facilities, these costs are typically included as part of roadway maintenance. For stand-alone facilities, routine resurfacing and general maintenance is typically budgeted by the local jurisdictions. Bridges over the Arkansas River require greater resources to maintain, with jurisdictions entering into local agreements regarding annual funding.

7.2 Vision and Project Evaluation

Imagine Central Arkansas represents a significant undertaking, one that cannot be fully implemented with existing revenue sources. The LRMTP imparts a sense of order, or priority, in which to implement Vision projects. To that end, a project evaluation process was created to provide a consistent, objective process for evaluating each individual project.

How it works: Projects are scored against 11 criteria, ranging from ten to thirty points, for a maximum possible score of 200. The project evaluation criteria, shown in Table 7-4, are intended as one measure of how well a given project serves to implement *Imagine Central Arkansas* Vision, Goals and Objectives.

Note that the score ranking does not represent ordinal project priorities. The ranking score only measures how well each project aligns with the Vision, Goals and Objectives. The result of the project evaluation process is but one of the factors considered as projects are prioritized. Project scoring methodology and project evaluation results are shown in Appendix E.

Table 7-3. Roadway Facilities Requiring Major Reconstruction and Rehabilitation

	CARTS Lane Miles			Requiring Major Reconstruction/ Rehabilitation between 2015 and 2040	
Facility Type	Existing	New	Total	% of Total	Lane Miles
Interstate	955	125	1,080	50%	540
Arterial/ Collector (Reconstruction)	6,180	940	7,120	25%	1,780
Arterial/ Collector (System Overlay)				75%	5,340
TOTAL	7,135	1,065	8,200	---	7,660

7.3 Financial Resources

Inherent to a fiscally sound plan is the need to carefully consider available revenue. This section presents a forecast of revenue expected during the course of the plan, considering conventional federal, state and local sources and long term trends.

Given that the resources required to achieve the Vision far exceed available revenue, additional revenue sources are necessary for the Vision to become reality. This section includes a comprehensive look at revenue potential of various sources. Additional detail can be found in Appendix F: Financial Resources.

7.3.1 Putting It In Context: Available Revenue

Where Does The Money Come From?

Building, maintaining and operating our roads, providing a first-rate transit system, expanding cycling options and other basic mobility elements requires significant financial resources. Funding transportation projects in the CARTS area comes from a mix of federal, state and local sources. Although funding fluctuates from year to year, the region receives on average $197 million annually. As shown in Figure 7-4, federal funds make up a little under half this amount (46 percent), local funds 39 percent and state funds about 15 percent. The bulk (about 91 percent) is spent on roads, and most of the remainder on transit. Less than one percent is spent on stand-alone bicycle and pedestrian projects, although facilities such as sidewalks and bicycle lanes can be included in road projects.

The largest share of revenue comes from fuel taxes collected by state and federal governments. Federal, state and local governments also provide revenue through transfers from their general funds. In 2012, Arkansas voters approved a new half-cent sales tax that provides revenue over the next ten years (not reflected in the historical averages).

Figure 7-4.
Historic Funding (FY 2006-2011) for Transportation in Central Arkansas

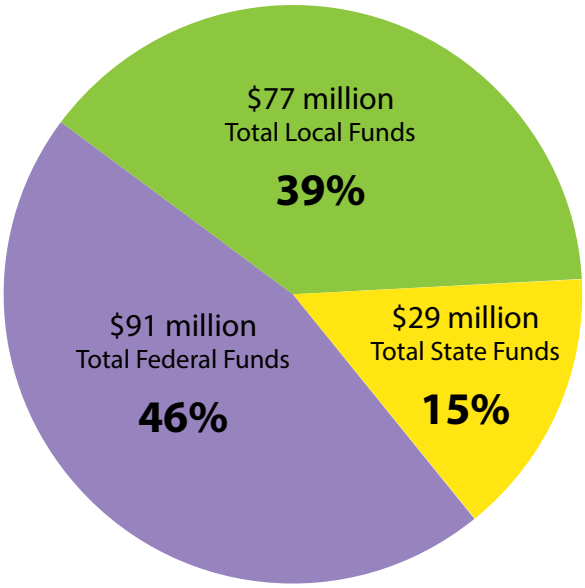


Table 7-4. Project Evaluation Criteria

Criteria	Description	Goal 1. Economic Growth and Vitality	Goal 2. Quality Corridors and Transportation Choice	Goal 3. Environment Quality and Sustainable Energy	Goal 4. Land Development and Housing
Route Significance and Scale	To what extent does the project impact central Arkansas?	●			
Freight and/or Passenger Intermodal Connectivity	Does the project enhance connectivity of two or more modes?	●	●		
Safety	Does the project address a high crash location (motorized or non-motorized)?	●			
Efficiency - Congestion and Reliability	What is the congestion level at the project location (or parallel facility)?	●			
System Preservation	Does the project address a maintenance or operations need?	●			
Choice in Transportation & Complete Streets	Does the project enhance access to or quality of transit, walking and/or cycling opportunities which can contribute to complete streets, lower household transportation cost and increased physical activity?		●		
Connectivity	Does the project enhance connectivity to a major activity center (downtown, town center, campus, hospital/wellness center, sports complex, etc.) via alternative modes?		●		●
Compact, Mixed-Use Development and Reduced Impacts on Environmentally Sensitive Lands	Does the project complement compact, mixed-use development consistent with the development framework in the Vision and/or reduces land consumption and impervious surface??			●	●
Air Quality & Energy Efficiency	Is the project likely to improve air quality and/or reduce energy consumption (through improved efficiency or reduced demand)?			●	
Complementary Land Use	Does the corresponding local government have complementary plans and development practices in place?				●
Existing Neighborhoods	Does the project support an existing neighborhood through improved local infrastructure (i.e. sidewalks) or improved access?				●

● *Represents goal impacted by criteria*

[1]*See Appendix E for Project Scoring Methodology and Project Evaluation Results*

Goal 6. Funding Adequacy	Goal 5: Healthy and Safe Communities	Lower <<<<<<<<<<<<<< Score >>>>>>>>>>>>>> Higher[1]			
		Local 0	Regional 10		
		No	Two 6	Three 4	Four 20
	●	No 0	Indirectly 10	Directly 20	
		NA 0	Moderate (0.7 to 0.8) 3	Significant (0.8 to 1.2) 7	Severe (Greater than 1.2) 10
		No 0	Future Need 5	Existing Need 10	
	●	No 0	Some Elements 10	Local Scale 20	Full Implementation/ Regional Scale 30
		No 0	Yes 20		
	●	No 0	Somewhat 20	Yes 30	
	●	No 0	Somewhat/ Indirectly 10	Significantly/ Directly 20	
		No/Don't Know 5	Yes 10		
		No/ Unknown 0	Indirectly 10	Directly 20	

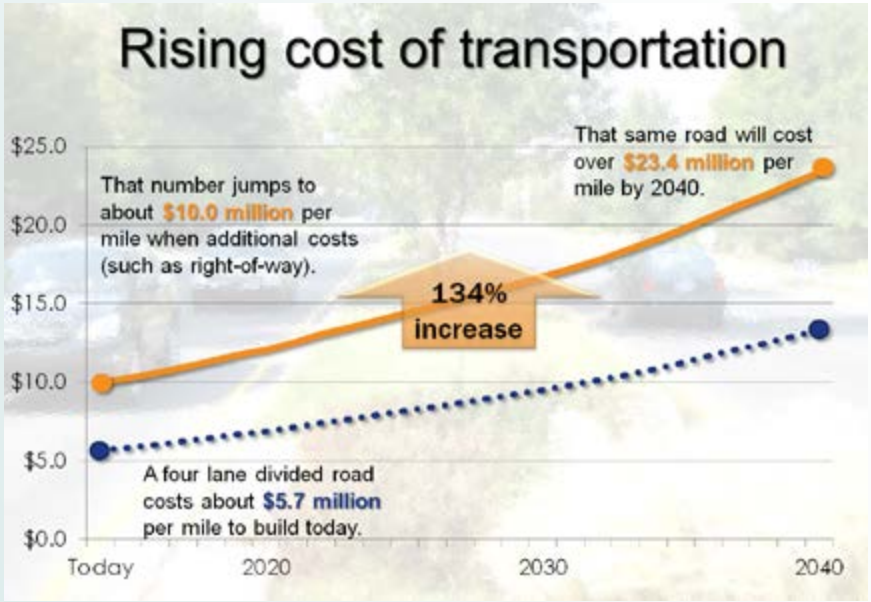
Long Term Revenue Trends That Impact Central Arkansas

A reasonable projection of existing revenue sources requires an understanding of three long term trends.

Fuel efficiency standards: Federally mandated Corporate Average Fuel Economy (CAFÉ) standards govern fuel efficiency rates on all vehicles sold in the United States. They are expected to increase from 24.1 to 54.5 miles per gallon by 2025. While this is beneficial for energy conservation and the environment, it presents dire circumstances for transportation revenue. Fuel taxes, which make up the majority of existing transportation revenue, are collected on a per-gallon basis. Increased fuel efficiency means fewer gallons consumed, and therefore less revenue. Also impacting tax receipts is the slowing growth in vehicle miles travelled (VMT). Historically, VMT growth has outpaced popualtion growth by 2-3%, but recent VMT growth has been equal to or less than the population growth.

Declining share of federal revenue: Recent budget issues at the federal level are well-documented. The portion of federal transportation revenue attributed to transfers from the general fund (intended to keep dedicated highway funds solvent) declined steadily in recent years. As our nation continues to struggle with large deficits and other budget issues, it is reasonable to assume that general fund transfers will likely disappear. Without these transfers, reliance on state and local revenue sources will increase.

Figure 7-5. Rising Cost of Transportation



Energy costs, competition from developing nations and other national and international trends have all contributed to significant increases in the cost to build, operate and maintain transportation facilities and will continue to do so in the future. It is difficult to predict the exact long term impact of these trends on transportation, but the forecast price of diesel fuel prepared by the US Energy Information Agency for the Annual Energy Outlook (AEO) is a good proxy. Using the AEO's forecast as a basis, transportation costs could grow by over 130 percent between now and 2040.

Stated another way, a one-mile, four lane divided road costs about $10.0 million to build today. By 2040, that same road will cost $23.4 million.

Increases in cost do not directly affect the amount of revenue the CARTS Area receives; however, it does impact the region's purchasing power, which has the same net effect as a reduction in revenue.

Rising Transportation Construction Costs

National and international trends are contributing to the ever increasing cost of transportation (see Figure 7-5). Transportation construction costs are expected to rise as much as 130 percent between now and 2040.

30-Year Revenue Projections

The CARTS area is projected to receive six billion dollars in transportation revenue between now and 2040. Money from traditional sources is expected to experience a steady decline, from just above $300 million in 2014 to just under $200 million by 2040, a decline of over 50 percent. On a per capita basis, the reduction in revenue is even more pronounced: from about $450 per capita in 2014 to $205 per capita in 2040. Considering the trend in waning revenue streams, the region must contemplate a solution to combat rising costs associated with maintaining its transportation system.

The loss in revenue is attributed to three main factors:

Reduction in fuel tax revenue: The implementation of CAFÉ standards is expected to reduce fuel tax revenue in central Arkansas by approximately $700 million between 2014 and 2040.

Elimination of general fund transfers at the federal level: About 18 percent of federal transportation revenues are derived from general fund transfers. Revenue projections assume that these transfers are eventually eliminated, resulting in a cumulative loss of about $500 million.

Expiration of the half-cent sales tax: The statewide half-cent sales tax for transportation projects, Connecting Arkansas Program (CAP), was passed by referendum in 2012 and enacted in 2013. Central Arkansas is expected to receive about $584 million in state projects (averaged to $58 million annually) with another $13 million distributed to local governments annually. The tax is authorized for ten years, meaning that it will expire in 2023, resulting in a significant drop in revenue.

Funding Deficit

While transportation revenue is on the decline, the cost to provide transportation facilities and services continues to rise significantly. *Imagine Central Arkansas* includes a number of roadway, transit, bicycle and pedestrian projects to meet the growing mobility needs of central Arkansas and to ensure an economically competitive, livable place.

In addition to new infrastructure, maintaining existing transportation infrastructure to ensure it remains in good, safe working order is imperative. Finally, recent and projected trends indicate that construction costs will see a steady increase over the next several decades.

When all factors listed above are taken into account, the region's transportation needs are estimated to cost as much as $19.5 billion by 2040. By contrast, expected revenues are anticipated to be only $6.0 billion over the same time period, a deficit of over $13 billion (see Figure 7-7).

Figure 7-6. Projection of Existing Revenue 2014 to 2040 (in millions)

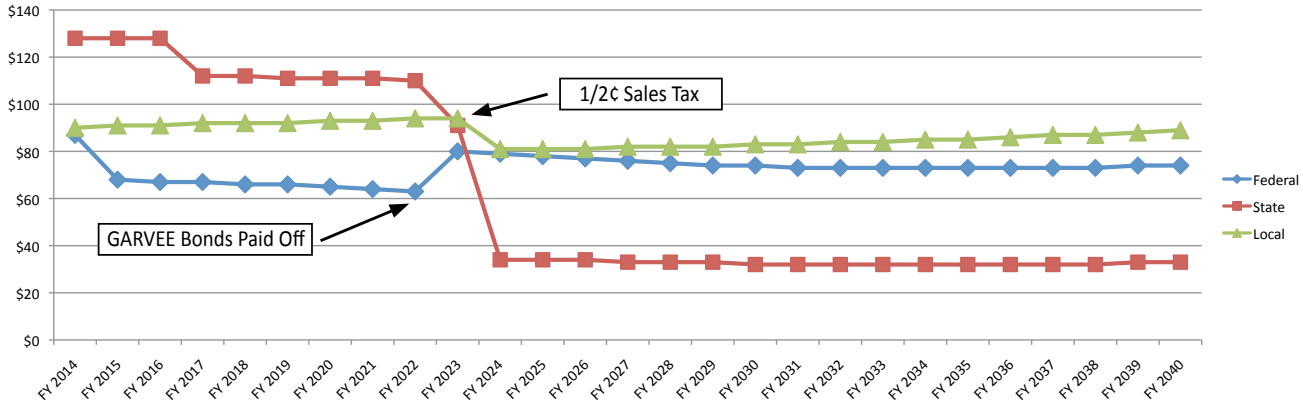
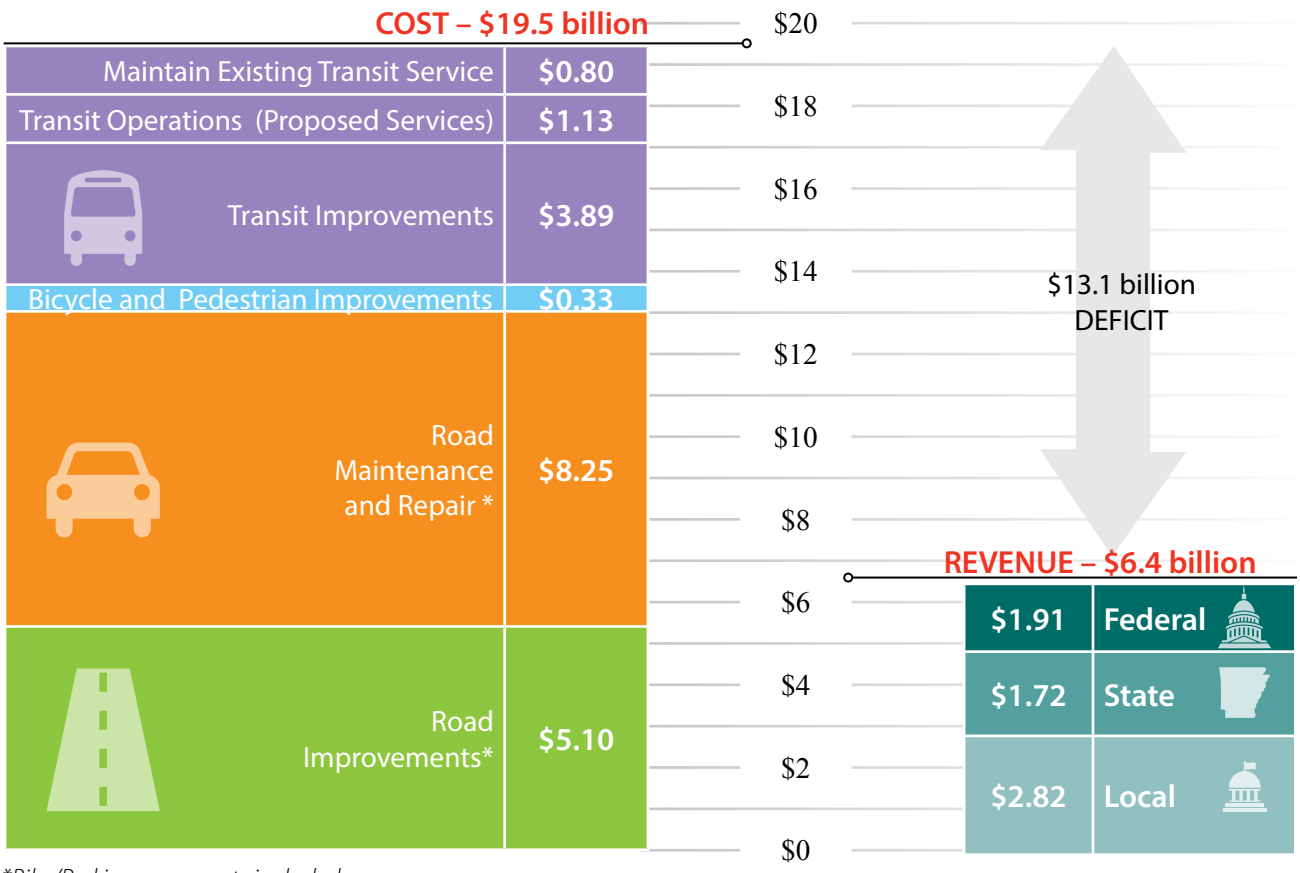


Figure 7-7. Cost versus Revenue 2014 to 2040 (billions)



*Bike/Ped improvements included

7.3.2 Where to Raise New Revenue

To meet central Arkansas' growing transportation needs and achieve the Vision, the significant gap between cost and available revenue must be closed. The Regional Planning Advisory Council (RPAC) considered a number of different strategies for generating more revenue. Potential sources range from sales taxes to fuel taxes to property taxes. For more detail on how new revenue sources were calculated, including the key assumptions, see Appendix E.

New Sales Taxes

Taxes collected at the point of sale, expressed as cents per dollars spent, can be dedicated to transportation projects. This tax is currently being used to fund AHTD road projects through the half-cent sales tax (CAP). Two different types of sales taxes are worth consideration:

A half-cent sales tax implemented county-wide: Each of the four CARTS counties (Faulkner, Lonoke, Pulaski, Saline) could implement a half-cent sales tax for regional transportation projects, generating an additional $1.8 billion in local dollars by 2040. If the tax were levied after the current statewide half-cent sales tax expires in 2023, it would generate approximately $1.2 billion. These are dollars that are generated locally and spent locally. The formation of a Regional Mobility Authority could incorporate this method of fund-raising into its strategy to implement regionally significant transportation projects.

Renewal of the current statewide half-cent sales tax: As mentioned above, the current statewide half-cent sales tax is set to expire in 2023. Extending this tax is estimated to bring an additional $226 million in local turn back to central Arkansas by 2040. Additional state funding is unknown since no project comitments have been made.

Transfer of Sales Tax on Auto-Related Goods

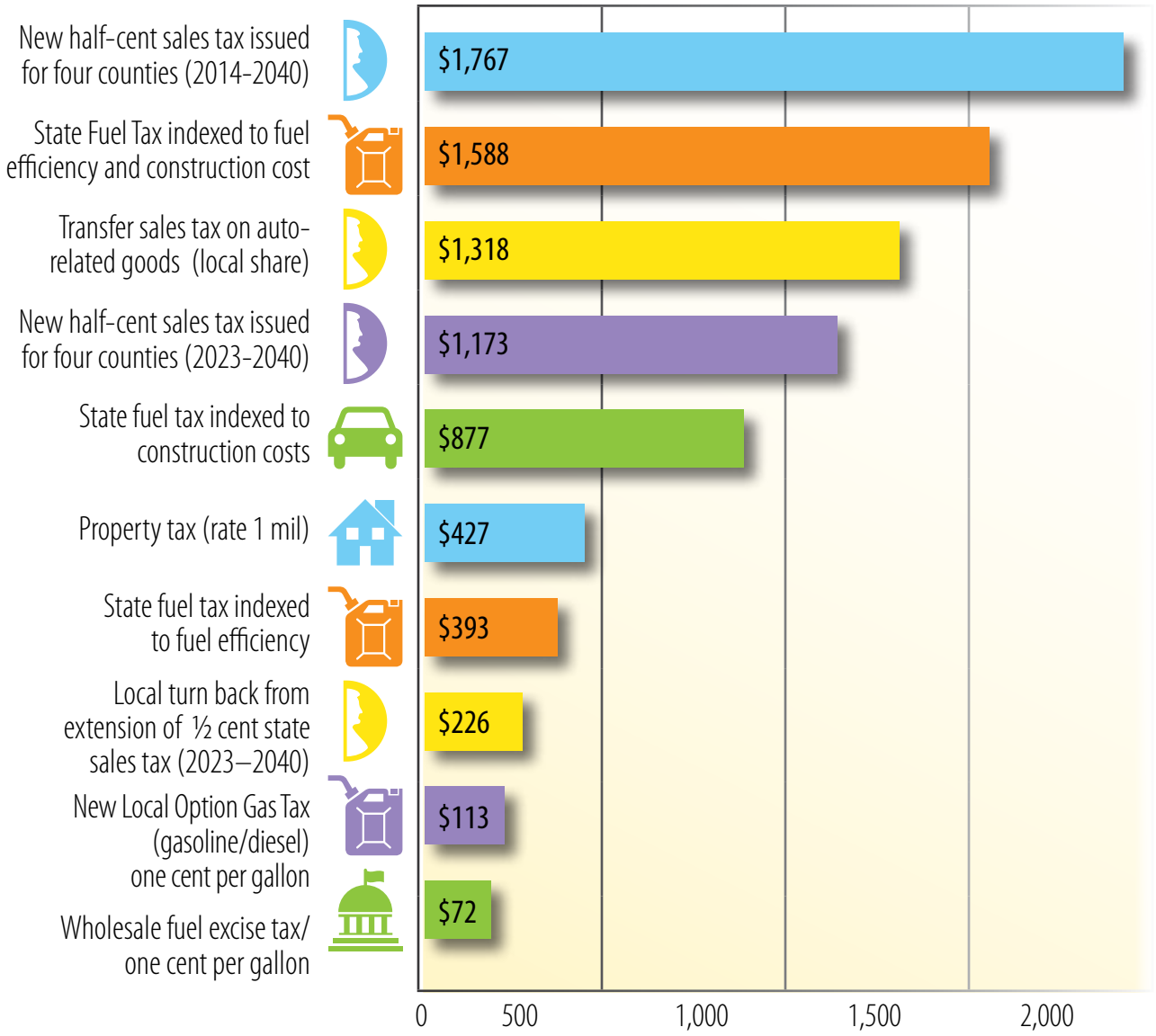
Currently, sales taxes collected on auto-related goods, such as new and used vehicle purchases and auto parts, go to the state general fund. A transfer of the sales tax on these auto-related goods could

Table 7-5. New Revenue Sources

Type of Tax / Jurisdiction	New Local Sales Tax	Extension of 1/2-cent Sales Tax	Transfer of Auto-Related Goods Tax	Property Tax	New Fuel Tax/ Wholesale Excise Tax	Fuel Tax Index	Tolling
	Regional or Local	State	State	Local	Federal, State or Local	Federal or State	State or Regional
Freeways		•	•		•	•	•
RAN/Arterial	•		•	•	•	•	
Regional Transit	•			•	•	•	
Local Transit	•			•	•	•	
Bicycle/Pedestrian	•			•	•	•	

• *Funding source applicable*

Figure 7-8. 2014-2040 Revenue Potential of Various Sources (millions)



generate an additional $1.3 billion (in estimated local share) for transportation by 2040. This does not constitute a "new" tax, but a diversion of existing tax revenue. To mitigate loss of revenue from existing recipients, this tax could be phased in over a number of years, so that natural growth in tax revenue could smooth out the transfer.

New Tax on Motor Vehicle Fuel

For each gallon of fuel purchased, central Arkansans pay 40.2 cents for gasoline and 47.2 cents for diesel in federal and state taxes. A single cent of additional local option gas tax on gasoline and diesel fuel would generate $113 million in additional revenue by 2040. The total includes cities, counties and estimated state share. The tax must be implemented in multiple-cent increments to have a major impact. For example, a new five-cent fuel tax would generate $565 million by 2040.

Wholesale Fuel Excise Tax

A tax levied on the wholesale price of motor fuels would generate about $72 million per cent per gallon purchased. This total includes the cities, counties and estimated state share.

Fuel Tax Index

Rather than increase the number of cents levied per gallon of fuel purchased, another strategy for fuel tax revenue is to index fuel taxes. A fuel tax index adjusts the tax rate based on established criteria (i.e. construction cost/fuel economy). The index is intended to mitigate the flat nature of fuel tax rates to maintain buying power. Three specific indices were considered, each implemented at the state level, but may also be executed at the federal level:

1. Index fuel efficiency: This would offset loss in revenue from CAFE standards. Could generate an additional $390 million in revenue by 2040 for cities, counties and estimated state share.
2. Index to construction cost: Offsets decrease in purchasing power from real increases in construction costs, generating an additional $880 million in revenue by 2040 for cities, counties and estimated state share.
3. Index to fuel efficiency and construction cost (combined), creating a synergistic effect, generating an additional $1.6 billion in revenue by 2040 for cities, counties and estimated state share.

Facility Tolling

Tolling has been successfully used in other metropolitan areas to construct new capacity on controlled-access facilities. A recently study by AHTD found that widening of I-40 between North Little Rock and Memphis could be accomplished with tolls collected on the same stretch of freeway. A similar study found that less than 20% of the construction cost of Northbelt Freeway could be paid for with tolls.

Property Tax

Arkansas counties are currently permitted to issue three mills property tax for the County Road and Bridge Fund. Each new mill of property tax levied in each of the four CARTS counties could generate up to $430 million total by 2040.

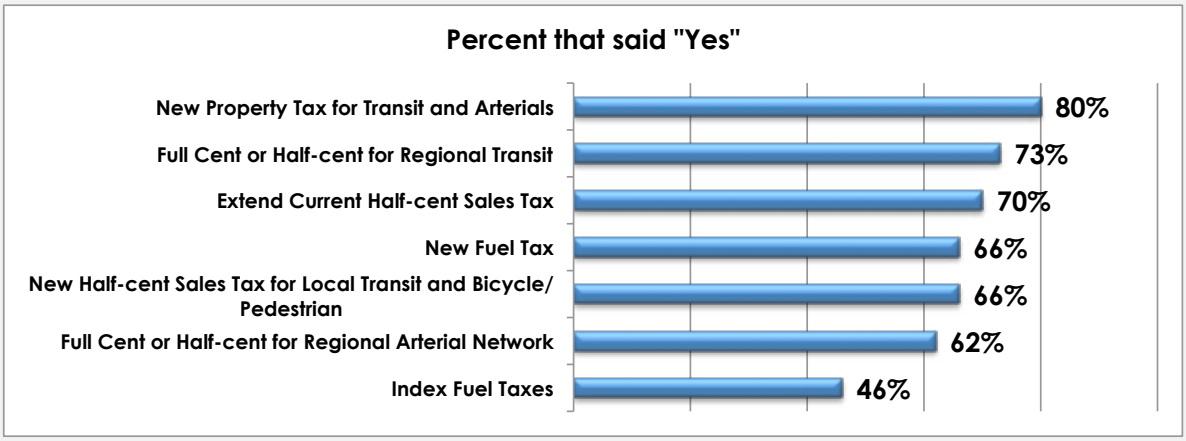
Electric Vehicle Fee

Motor vehicle users generate revenue for transportation through taxes paid on gasoline and diesel fuel purchases. Because electric vehicles do not consume gasoline or diesel fuel, they do not pay taxes. One strategy to generate revenue from the use of electric vehicles is a flat annual fee. Each $100 of fee collected on electric vehicles annually is estimated to generate about $253,000 by 2040 in local turnback to the four CARTS counties.

Figure 7-9. Public Receptivity to New Revenue Sources

How Receptive Are Central Arkansans to New Revenue Sources?

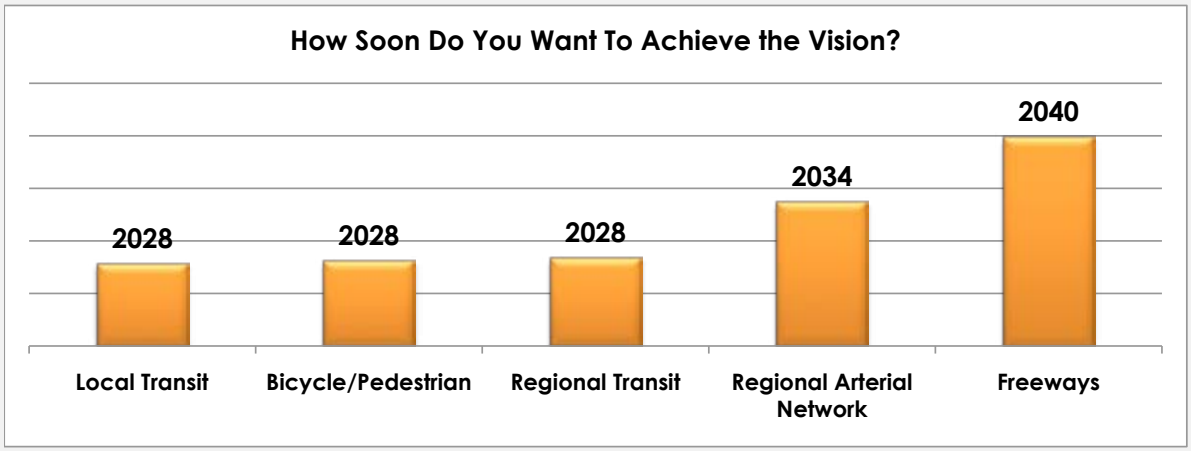
Imagine Central Arkansas gave central Arkansans an opportunity to weigh in on how to implement the Vision for our freeway, arterial, transit and bicycle and pedestrian networks. *Are We There Yet?*, an online "InfoGame," let residents set goals for the region's future then make decisions about major trends, policy options, and funding sources to try and meet their goals. Over 500 people completed *Are We There Yet?* by the end of Summer 2013.



For most revenue sources, including sales taxes, property taxes and fuel taxes, a majority of those who responded indicated they would be willing to accept new taxes in order to achieve elements of the Regional Vision.

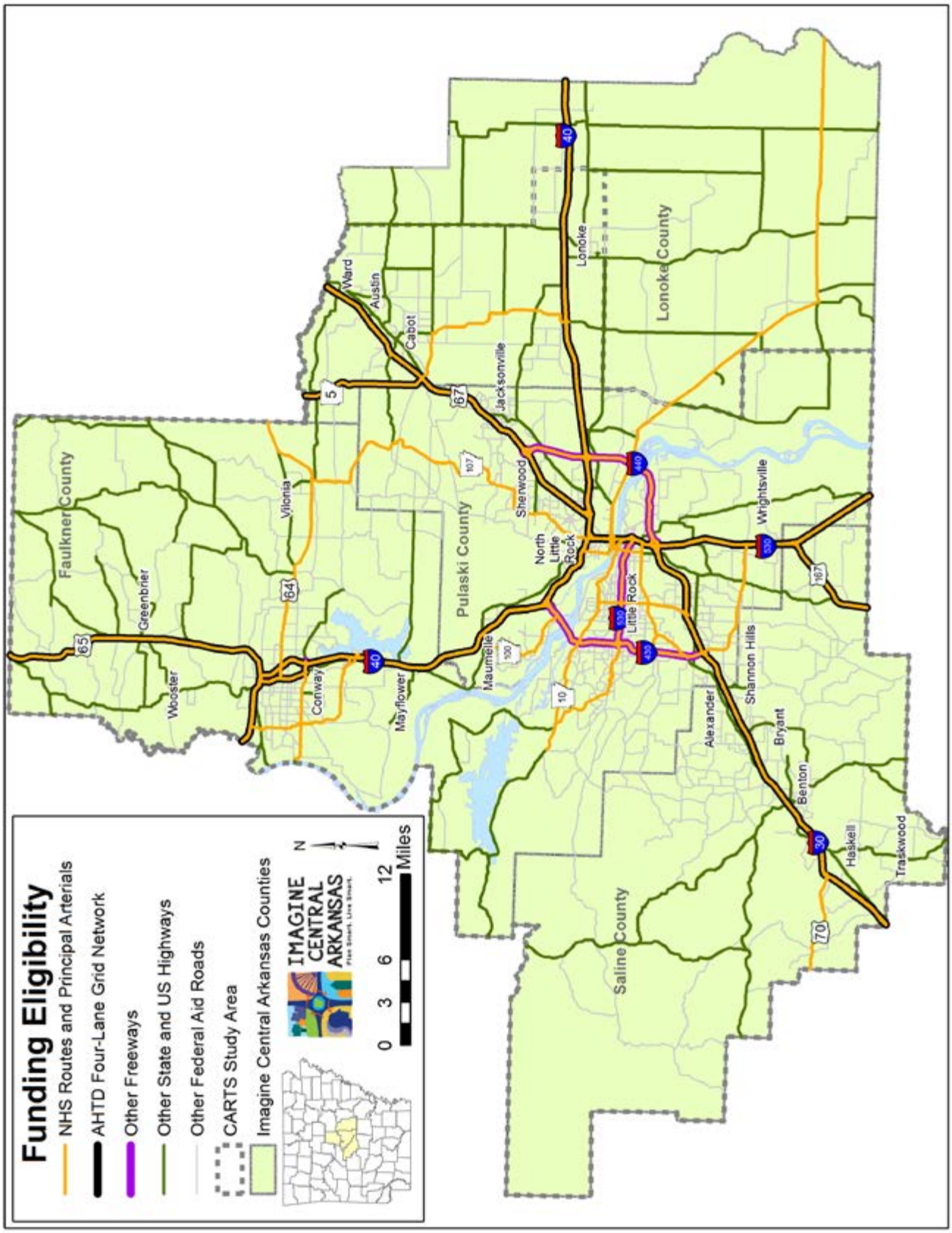
New property taxes emerges as the most favorable option, with about eight out of ten respondents indicating they would be willing to pay from one to five additional mills. A new sales tax for regional transit was the next most favorable option, with 38 percent indicating they'd be willing to pay an additional half-cent and another 35 percent indicating they would be willing to pay a full cent in new sales tax.

Participants were given the opportunity to decide how soon to achieve the individual vision elements for freeways, arterials, regional transit, local transit, bicycles and pedestrians. The type of revenue source chosen impacts the implementation year for a given element. For example, extending the current half-cent sales tax beyond its expiration date makes the freeway and arterial vision elements happen sooner, while a dedicated property tax could make regional transit happen sooner. The regional transit, local transit and bicycle/pedestrian elements all have an average implementation year of 2028, indicating more participants were willing to accept new revenue sources to make these things happen sooner. The average implementation year for arterials is 2034 and for freeways is 2040.



It is important to note that the results presented here are based on unscientific, self-selected responses and are likely not representative of the region as a whole. More detail for *Are We There Yet?* and other elements of public outreach can be found in Appendix B.

Figure 7-10. Funding Eligibility



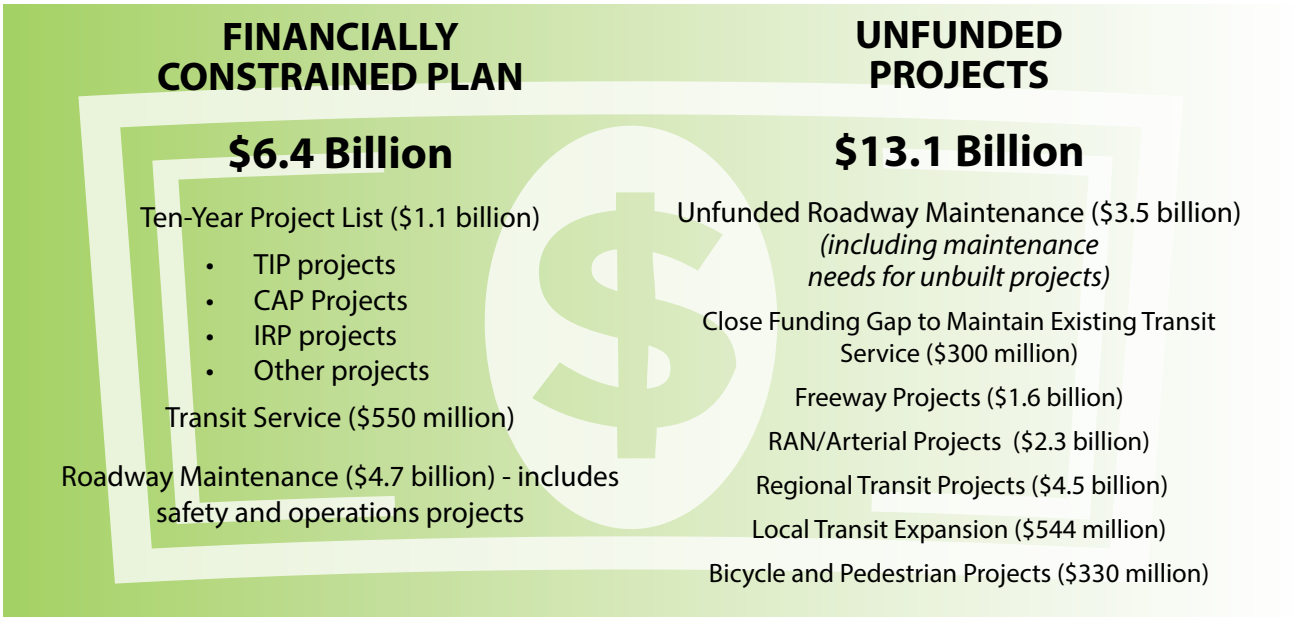
7.4 Financially Constrained Plan

The results of the financial analysis clearly demonstrate a significant gap between what is needed to achieve the Vision and the financial resources available to the CARTS area between now and 2040. Integral to this resource gap is the need to prioritize investments to the limited resources that are currently available and those that may become available during the course of the Plan. Table 7-6 and Figure 7-10 identify the funding eligibility of different transportation networks for existing revenue sources.

The prioritization strategy endorsed by the Regional Planning Advisory Council is a relatively simple one: (1) cover our existing obligations, (2) maintain what we have already built, (3) optimize our existing networks, and (4) identify new revenue sources for major new projects. The following sections describe this strategy in more detail.

Figure 7-11.
Overview of Prioritization Strategy

Figure 7-13. LRMTP Funding Allocation Summary



7.4.1 First Priority: Cover Our Commitments (10- Year Project List)

A number of project commitments were generated prior to the development of the LRMTP. These are projects that are already "in the pipeline" and should be followed through to completion. These include:

- The 2013-2016 Transportation Improvement Program (TIP): Federal rules require that Metroplan adopt a TIP, which dedicates available resources to specific projects over a four year period. Projects identified in the 2013-2016 TIP are considered part of this first priority. About $296 million is programmed for TIP projects.
- Connecting Arkansas Program (CAP) Projects: The CAP program identifies specific projects for the CARTS area to be funded with anticipated revenues generated by the state-wide half-cent sales tax. Approximately $584 million is programmed to CAP projects.
- Interstate Rehabilitation Program: AHTD issued bonds to finance rehabilitation of several interstate sections in the CARTS Area. Approximately $214 million is programmed to debt service on IRP projects.
- Other Projects: A small number of projects are included because of prior commitments or agreements, including rail-grade separations and interchanges. About $27 million is programmed to these projects.

Table 7-9. Cost to Maintain Existing Infrastructure

Project	Cost (millions)
Regular Maintenance	
Interstates	$182
Arterials	$1,181
Local[1]	$1,170
Total	$1,363
Major Rehabilitation	
Interstates	$838
Arterial Collector (Reconstruction)	$3,697
Arterial Collector (System Overlay)	$1,479
Total	$6,014
Transit	
Maintain Existing Service	$796
TOTAL COST	$8,173

[1] Presented for information purposes only and does not count toward totals.

In sum, project comitments total just under $1.1 billion. The projects are anticipated to be completed within the next decade and thus represent the 10-Year Project List. The list of specific projects, along with all funds allocated as part of the Financially Constrained Plan, can be found in Table 7-7, which allocates funding by year of expenditure. Table 7-8 summarizes the Financially Constrained Plan by funding source. **Project limits identified in the table are provided by AHTD and are subject to change based upon final construction cost and TIP amendment.**

Table 7-6. Summary of 2014-2040 Revenue Projections and Project Eligibility

Source	Interstates	Four Lane Grid System	National Highway System	Other Federal Aid Roads	Local Roads	"Off-system" Bridges	
Federal Funds:							
National Highway Performance Program			●				
Surface Transportation Program	●	●	●	●		●	
Highway Safety Improvement Program (HSIP)	●	●	●	●			
Transportation Alternatives Program (TAP)							
FTA 5307 - Urbanized Areas Formula Grants							
FTA 5310 - Enhanced Mobility fof Seniors/ Disabilities							
FTA 5337 - State of Good Repair-Fixed Guideway							
FTA 5339 - Bus and Bus facilities							
TOTAL FEDERAL FUNDS							
State Funds: (State hhighways only)							
State Highway Fund	●	●	●	●		●	
State Maintenance	●	●	●	●		●	
Interstate Rehabilitation Program	●						
Connect Arkansas Program (1/2-cent Sales Tax)		●					
Public Transportation Trust Fund							
TOTAL STATE FUNDS							
Local Funds:							
CAP Turnback	●	●	●	●	●	●	
State Motor Fuel Tax Turnback	●	●	●	●	●	●	
Taxes (Property, Sales, Municipal)	●	●	●	●	●	●	
Other Sources	●	●	●	●		●	
Local Contributions (General Fund)	●	●	●	●		●	
Farebox Revenues							
TOTAL LOCAL FUNDS							

[1]*Fund Marks were provided by Arkansas State Highway and Transportation Department (AHTD). See Appendix E for more information on how the sources of revenue were estimated.*

	Construction	Maintenance	Transit Capital	Transit Operating	Non-motorized Transportation		
	●	●				$1,169.8	18.2%
	●	●	●		●	$452.8	7.0%
	●					$123.5	1.9%
					●	$29.6	0.5%
			●	●		$110.0	1.7%
			●	●		$7.3	0.1%
			●			$4.7	0.1%
			●			$9.5	0.2%
						$1,907.2	**29.6%**
	●					$467.7	7.3%
		●				$413.8	6.4%
	●					$214.4	3.3%
	●					$583.8	9.1%
			●	●		$36.9	0.6%
						$1,716.7	**26.6%**
	●	●				$132.6	2.1%
	●	●				$708.6	11.0%
	●	●				$1,272.9	19.8%
	●	●	●	●	●	$258.6	4.0%
	●	●	●	●	●	$378.2	5.9%
			●	●		$68.4	1.1%
						$2,819.4	**43.8%**
					TOTAL FUNDS	$6,443.2	100.0%

Table 7-7 10-Year LRMTP Project List by Year of Expenditure (cost in millions of dollars)

LRMTP Detail	Facility	From	To	Improvements	Cost
2013-2016 TIP Projects - Roadway[1]					
24	Hwy 70	Broadway Bridge Replacement (Arkansas River)		Bridge Replacement	$58.0
25	McCain	McCain Rail Grade Separation		Railgrade Separation	$11.2
26	Maryland Avenue	Maryland Avenue Impvts. & Extension (Sherwood)		Widening	$0.4
14	Hwy 67	Redmond Rd & Main St Strs. & Apprs. (Jacksonville) (F)		Bridge Replacement	$17.3
4	Hwy 10	Mississippi	Perryvillle	Major Widening	$3.0
6	Interstate 40	Palarm Creek-West (Widening) (F)		Major Widening	$25.8
7	Interstate 40	Palarm Creek-Hwy. 365 (Widening) (F)		Major Widening	$18.2
33	Conway Loop	Hwy. 365-Sturgis Rd (Gr. & Strs.) (S)		New Location	$6.1
8	Conway Loop	Conway South Interchange-Hwy. 365 (Grading & Strs.) (F)		New Location	$17.0
11	Interstate 40	I-40/Hwy 89 Interchange (Lonoke)		Interchange	$7.1
35	RAN	CARTS Regional Strategic Network		Optimization Improvements	$0.3
29	Alcoa Road	I-30-Sidell Rd (Alcoa Rd) (Saline Co.)		Major Widening	$24.8
21	Hwy 367	Arch Street Pike Viaduct (Union Pacific RR Overpass)		Bridge Replacement	$6.4
5	Hwy 25	Hwy 25 Relocation (I-40 North)		New Location	$6.0
16	Hwy 70	Roosevelt Road Viaduct (Union Pacific RR Str. & Apprs.)		Bridge Replacement	$7.4
34	Conway Loop	Hwy. 365-Sturgis Rd (Bs. & Surf.) (S)		New Location	$3.3
10	Interstate 40	I-40/I-430 Interchange		Interchange (Phase I)	$23.0
22	Interstate 430	I-30/I-430 Interchange		Interchange	$12.0
23	Interstate 430	I-430/Hwy 10 Interchange		Interchange	$11.0
9	Conway Loop	Conway South Interchange-Hwy. 365 (Base & Surf.) (F)		New Location	$4.4
19	Hwy 285	Bono	Hwy 124	Rehabilitation	$4.0
20	Hwy 365	MacArthur Viaduct (UPRR/Parkway Dr. Str & Apprs. (S))		Bridge Replacement	$6.0
2	Hwy 5	Alcoa Rd.	Hwy 183	Major Widening	$13.2
1	Hwy 5	Hurricane Creek Str. & Apprs. (S)		Bridge Replacement	
18	Hwy 183	Bauxite & Northern RR Spur Str. & Apprs. (S)		Bridge Replacement	$1.6
15	Hwy 70	Hot Springs	I-30	Major Widening (Phase I)	$20.0
12	Hwy 64	Vilonia Bypass-East (S)		Major Widening	$25.0
36	RAN	CARTS Regional Strategic Network		Optimization Improvements	$8.1
37	RAN	CARTS Regional Strategic Network		Optimization Improvements	$0.4
38	RAN	CARTS Regional Strategic Network		Optimization Improvements	$3.9
17	Hwy 89	Hwy 89 Interchange/Railgrade Seperation/Relocation (Maylfower)		Bridge Replacement	$15.0
13	Hwy 67	Jacksonville	Cabot	Capacity Impvts. (Phase I)	$15.0

Year of Expenditure												Total 2014-2040
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2030	2031-2040	
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
												$0.0
$24.8												$24.8
$6.4												$6.4
$6.0												$6.0
$7.4												$7.4
$3.3												$3.3
$23.0												$23.0
$12.0												$12.0
$11.0												$11.0
$4.4												$4.4
$4.0												$4.0
	$6.0											$6.0
	$13.2											$12.0
	Combined with Project 2											$1.2
	$1.6											$1.6
	$20.0											$20.0
	$25.0											$25.0
												$0.0
												$0.0
		$12.4										$12.4
		$15.0										$15.0
		$15.0										$15.0

Table 7-7. 10-Year LRMTP Project List by Year of Expenditure *(continued)*

LRMTP Detail	Facility	From	To	Improvements	Cost
3	Hwy 10	Taylor Loop	Pleasant Valley	Major Widening (Phase I)	$15.0
32	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (Railgrade Separation)	$7.5
31	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (ROW/Utilities)	$2.5
30	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (PE)	$0.7
TOTALS					**$236.2**
2013-2016 TIP Projects - Bicycle and Pedestrian					
39	CARTS RSN	Transportation Alternatives		Ped/Bike	$0.82
40	CARTS RSB	Transportation Alternatives		Ped/Bike	$0.83
TOTALS					**$1.65**
2013-2016 TIP Projects - Transit Capital and Operating Assistance for the CARTS Area[2]					
	Systemwide			CATA capital and operating assistance	
TOTALS					
Rail Grades And Local Projects					
63	JP Wright Loop	UPRR	JP Wright Loop	New rail grade overpass	$4.2
65	North Cabot Interchange - Hwy 38	State Hwy 367 and State Hwy 38	US Hwy 67 / 167	New Roadway and Interchange (city portion)	$10.1
66	Maumelle Interchange - Country Club Drive	I-40	Country Club Parkway	New Interchange and new 2 lane facility (city portion)	$7.2
TOTALS					**$21.5**
CAP Projects					
41*	Interstate 30	Central Corridor		Operational Improvements	$300.0
42	Interstate 30	Hwy 70 (Hot Sprnings)	Sevier Street (Benton)	Major Widening	$75.0
43	Interstate 40	Hwy 365	I-430	Major Widening	$20.0
45	Hwy 67	Jacksonville	Cabot	Major Widening	$120.0
47	Interstate 630	Baptist Hospital	University	Major Widening	$50.0
46	Hwy 70	Hot Springs	I-30 (Benton)	Major Widening	$14.8
44	Hwy 64	Vilonia Bypass	Beebe	Major Widening	$4.0
TOTALS					**$583.8**
IRP Projects					
50	Interstate 530	Bingham Rd	Grant Co Line	Rehabilitation	$9.1
52	Interstate 530	I-30	Bingham	Rehabilitation	$38.0
48	Interstate 30	Hwy 70 West		Rehabilitation	$8.9
51	Interstate 440	I-30	Arkansas River Bridge	Rehabilitation	$25.0
49	Interstate 40	I-30/I-40 Interchange	Hwy 67	Rehabilitation	$22.7

*An amendment may be required upon completion of Planning and Environmental Linkage (PEL) Study and once the number of through lanes have been determined.

Year of Expenditure												Total 2014-2040
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2030	2031-2040	
		$15.0										$15.0
												$0.0
												$0.0
		$10.7										$10.7
$102.3	**$65.9**	**$68.1**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$236.2**
	$0.82											$0.8
		$0.83										$0.8
$0.0	**$0.82**	**$0.83**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$1.6**
$17.9	$17.0	$17.1										$52.0
$17.9	**$17.0**	**$17.1**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$52.0**
			$4.2									$4.2
			$10.1									$10.1
			$7.2									$7.2
$0.0	**$0.0**	**$0.0**	**$27.4**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$27.4**
				$25.0	$25.0	$50.0	$75.0	$50.0	$75.0			$300.0
		$25.0	$25.0	$25.0								$75.0
$2.0	$9.0	$9.0										$20.0
		$20.0	$40.0	$40.0	$20.0							$120.0
			$12.5	$25.0	$12.5							$50.0
		$2.0	$8.0	$4.8								$14.8
	$4.0											$4.0
$2.0	**$13.0**	**$56.0**	**$85.5**	**$119.8**	**$57.5**	**$50.0**	**$75.0**	**$50.0**	**$75.0**	**$0.0**	**$0.0**	**$583.8**
$9.1												$9.1
$20.0	$18.0											$38.0
	$8.9											$8.9
		$25.0										$25.0
			$22.7									$22.7

Table 7-7. 10-Year LRMTP Project List by Year of Expenditure *(continued)*

LRMTP Detail	Facility	From	To	Improvements	Cost
53	Interstate 30	Geyer Springs Rd.	65th	Rehabilitation	$18.2
54	Interstate 40	Hwy 67	Hwy 161	Rehabilitation	$2.7
55	Interstate 40	Hwy 161	Lonoke/Pulaski Co. Line	Rehabilitation	$6.8
56	Interstate 40	Pulaski/Lonoke Co. Line	Hwy 31	Rehabilitation	$9.9
57	Interstate 40	Hwy 31	Prairie/Lonoke Co. Line	Rehabilitation	$9.1
58	Interstate 40	Hwy 65	West	Rehabilitation	$5.3
59	Interstate 440	Ark. River Bridge	I-40	Rehabilitation	$29.3
60	Interstate 630	I-30	Cross St	Rehabilitation	$3.5
61	Interstate 630	Cross St	Dennison	Rehabilitation	$1.9
62	Interstate 630	Dennison St	Cedar St	Rehabilitation	$24.0
TOTALS					$214.5
2013-2016 TIP Projects - Amended					
#080491	Hwy 65B/286	I-40	E. German	Widening (Phase 1)	$2.8
#080--	Hwy 64	@ I-40 (Cantrell Field)		Interchange	$2.8
#060--	Rodney Parham	@ I-430 (DDI)		Interchange	$2.0
TOTALS					$7.6
Maintenance[3]					
Highway Maintenance - Federal And State					TBD
Highway Maintenance - Local					TBD
TOTALS					
Bicycle and Pedestrian Projects					
Bicycle and Pedestrian Projects					TBD
TOTALS					
Transit Capital and Operating (Maintain Existing Level of Service)					
Transit Capital and Operating - Federal and State					TBD
Transit Capital and Operating - Local					TBD
TOTALS					
GRAND TOTAL					

[1] *Projects with a 2013 let year are included for information purposes only and are not reflected in the FY 2014-16 funding allocations.*
[2] *Includes only funds specifically identified for the CARTS area. Does not include AHTD, FTA or local funds identified for all MPOs statewide.*
[3] *Includes safety and operational projects.*

Year of Expenditure												Total 2014-2040
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2030	2031-2040	
			$18.2									$18.2
				$2.7								$2.7
				$6.8								$6.8
					$9.9							$9.9
					$9.1							$9.1
					$5.3							$5.3
						$29.3						$29.3
						$3.5						$3.5
						$1.9						$1.9
						$24.0						$24.0
$29.1	$26.9	$25.0	$40.9	$9.5	$24.3	$58.7	$0.0	$0.0	$0.0	$0.0	$0.0	$214.5
	$2.8											$2.8
	$2.8											$2.8
	$2.0											$2.0
												$7.6
$22.6	$24.5	$31.3	$74.9	$93.3	$92.5	$91.5	$90.3	$89.1	$105.5	$702.4	$966.6	$2,389.4
$66.5	$76.6	$75.1	$67.2	$82.1	$83.3	$84.6	$85.8	$87.1	$88.4	$566.4	$976.1	$2,341.9
$89.0	$101.1	$106.4	$142.1	$175.4	$175.8	$176.0	$176.1	$176.2	$193.8	$1,268.8	$1,942.7	$4,731.3
$1.5	$0.40	$0.39	$1.19	$1.18	$1.17	$1.16	$1.15	$1.13	$1.12	$7.5	$10.3	$28.0
$1.5	$0.4	$0.4	$1.2	$1.2	$1.2	$1.2	$1.1	$1.1	$1.1	$7.5	$10.3	$28.0
$7.9	$6.2	$6.2	$5.77	$5.76	$5.74	$5.71	$5.68	$5.65	$5.61	$38.2	$54.3	$132.2
$11.8	$12.5	$12.7	$11.69	$12.07	$12.47	$12.89	$13.31	$13.75	$14.19	$113.0	$209.6	$419.2
$19.1	$18.7	$18.8	$17.5	$17.8	$18.2	$18.6	$19.0	$19.4	$19.8	$151.2	$263.9	$551.3
$243.8	**$234.7**	**$275.8**	**$314.5**	**$323.7**	**$277.0**	**$304.5**	**$271.2**	**$246.7**	**$289.8**	**$1,427.5**	**$2,216.9**	**$6,426.1**

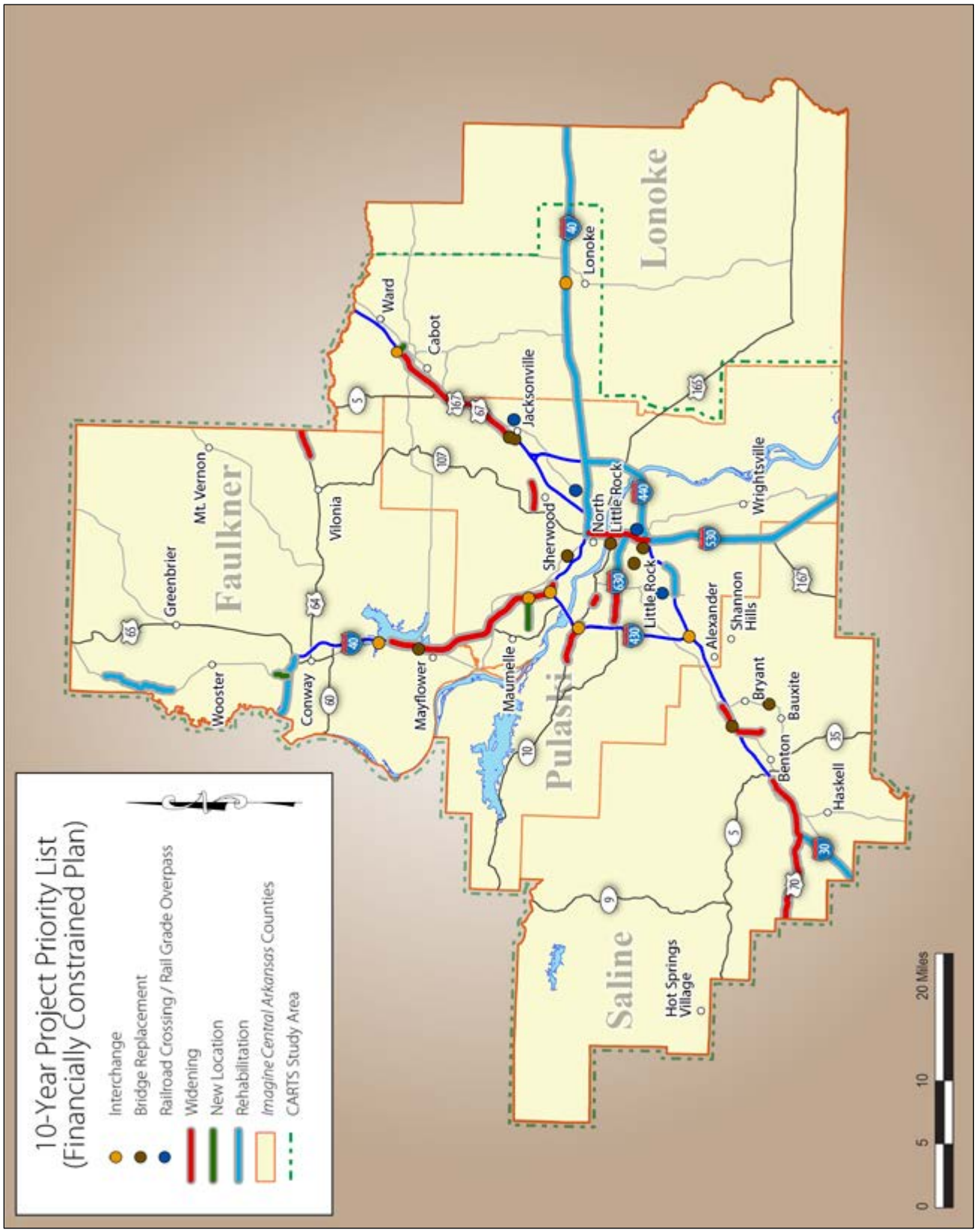
Table 7-8. LRMTP Project List Funding Allocation

Improvements	Cost	Funding Allocated	Federal Highway				Federal Transit				
			NHPP	STP	HSIP	TAP	FTA 5307 - Urbanized Areas Formula Grants	FTA 5307 (operating Max)	FTA 5310	FTA 5337	FTA 5339 - Bus and Bus Facilities
2013-2016 TIP Projects - Highway	$236.2	$236.2	$110.2	$74.4							
2013-2016 TIP Projects - Bicycle and Pedestrian	$1.65	$1.65				$1.65					
2013-2016 TIP Projects - Transit Capital and Operating Assistance	$52.3	$52.3					$12.3		$0.9	$0.6	$1.2
Rail Grades and Local Projects	$27.4	$27.4		$13.7							
CAP Projects	$583.8	$583.8									
IRP Projects	$214.4	$214.4									
Maintenance - Federal and State	TBD	$2,389.4	$1,059.6	$364.7	$123.5						
Maintenance - Local	TBD	$2,347.3									
Bicycle and Pedestrian Projects	TBD	$28.0				$28.0					
Transit Capital and Operating (Maintain Existing Level of Service)	TBD	$545.1					$80.1		$6.3	$4.1	$8.2
TOTAL			$1,169.8	$452.8	$123.5	$29.6	$92.4	$0.0	$7.3	$4.7	$9.5

AHTD Highway				AHTD Transit		Local Highway					Local Transit	
State Highway Funds	State Maintenance	IRP(a)	CAP (1/2 Sales Tax)(b)	PTTF (Public Transit)	PTTF (Human Service)	Total Amount Eligible for Local Match	1/2-cent Sales Tax Turnback(C)	State Motor Fuel Tax Turnback	Taxes	Other Sources	Local Contributions (General Fund)	Farebox Revenues
$34.4						$17.2						
				$3.4	$0.2						$27.6	$6.0
$5.5						$8.2						
			$583.8									
		$214.4										
$427.8	$413.8											
						$2,347.3	$132.6	$708.6	$1,272.9	$258.6		
				$31.4	$2.0						$350.6	$62.4
$467.7	$413.8	$214.4	$583.8	$34.7	$2.2	$2,372.8	$132.6	$708.6	$1,272.9	$258.6	$378.2	$68.4

Figure 7-12. 10-Year Project List

(Project limits subject to change based on final construction cost)



7.4.2 Second Priority: Maintain What We've Already Built

Central Arkansas has a significant amount of transportation infrastructure that must be maintained to be kept in good, working order. This includes routine maintenance and major rehabilitation needs of our interstates, arterials, and collectors, plus maintaining existing transit service that will occur between the adoption of this plan and 2040. Combined, these needs come to just under $8.2 billion.

After projects on the 10-Year Project List are taken into consideration (about $1.1 billion), only about $5.3 billion of existing revenue remains for maintenance. This means there is still $2.9 billion in unfunded maintenance needs over the course of the LRMTP (see Table 7-10).

7.4.3 Third Priority: Optimization Projects

Given the significant gap that exists between maintenance needs and available revenue, new project commitments should focus on projects that optimize the existing transportation network (see Section 7.1.1).

7.4.4 Fourth Priority: New Project Commitments

In the event that new revenue sources become available, Metroplan is in a position to identify the unfunded projects that are the highest priority for funding. Unfunded projects that comprise the Regional Vision are prioritized.

The results of the project evaluation process played a large role in determining project priority. However, other factors were taken into consideration, including whether the project represents an imminent or longer term need, relative project cost and whether local funding partners have been identified. Separate project priority lists for freeways, arterials, regional transit, local transit and bicycle and pedestrian project are included in Appendix G.

7.5 Implementation and Next Steps

As demonstrated by the results of *Imagine Central Arkansas*' public outreach, central Arkansas has collectively expressed its desire to pursue a balanced, seamless multimodal transportation system that supports a wide range of users. This balanced system is in contrast to a transportation system that is improved in selected segments without due consideration of the impact of said improvements on the system's overall functioning.

While having a clear vision for mobility is important, there are a number of other challenges to implementing this balanced system. This section describes the actions necessary to implement the Vision, beginning with each of the plan's mobility elements: freeways, the RAN, regional transit, local transit and bicycle and pedestrian facilities. Other key actions, including integrating complementary systems, a strategy for selecting projects, policy changes, and tracking progress and performance are also addressed.

7.5.1 Freeways

The Financially Constrained Plan includes a number of projects that will improve the capacity and operation of central Arkansas' freeway system. Major widening on capacity-constrained segments of I-30, I-40, I-430 and I-630 as well as rehabilitation to I-30, I-40, I-440, I-530 and I-630 are all projects earmarked as part of the Connecting Arkansas Program (CAP) and Interstate Rehabilitation Program (IRP).

Even with the considerable progress that has been made toward achieving the freeway vision, a number of projects remain. All told, just under $1.0 billion in project needs remain.

Likely Revenue Sources

One of the greatest challenges of *Imagine Central Arkansas* is the degree to which resources will be available for implementing the vision. The region's mobility needs far outstrip the revenue sources reasonably expected to be in place in the future. Without new sources of funding, central Arkansas will continue to make very tough trade-offs on where,

Table 7-10. LRMTP Maintenance Cost vs Available Revenue (cost in millions of dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2030	2031-2040	Total
Routine Maintenance													
Interstate	$4.3	$4.4	$4.5	$4.7	$4.9	$5.0	$5.2	$5.4	$5.6	$5.8	$46.0	$86.7	$182.5
Arterial /Collector	$27.8	$28.4	$29.4	$30.4	$31.5	$32.6	$33.6	$34.8	$36.3	$37.4	$297.8	$561.1	$1,181.2
Total	$32.1	$32.8	$33.9	$35.1	$36.4	$37.7	$38.8	$40.2	$41.9	$43.2	$343.8	$647.8	$1,363.7
Major Reconstruction and Rehabilitation													
Interstate	$0.0	$20.7	$21.3	$22.1	$22.9	$23.7	$24.4	$25.3	$26.4	$27.2	$216.3	$407.5	$837.7
Arterial /Collector (Reconstruction)	$0.0	$8.1	$94.1	$97.6	$101.0	$104.5	$107.6	$111.7	$116.3	$120.0	$954.4	$1,798.4	$3,613.6
Arterial/Collector (System Overlay)	$0.0	$1.1	$37.6	$39.0	$40.4	$41.8	$43.0	$44.7	$46.5	$48.0	$381.7	$719.4	$1,443.3
Total	$0.0	$29.8	$153.1	$158.7	$164.2	$170.0	$175.0	$181.7	$189.2	$195.2	$1,552.4	$2,925.3	$5,894.6
Available Revenue	$22.6	$29.4	$31.3	$74.9	$93.3	$92.5	$91.5	$90.3	$89.1	$105.5	$702.4	$966.6	$2,389.4
Deficit	**-$9.5**	**-$33.2**	**-$155.7**	**-$118.9**	**-$107.2**	**-$115.2**	**-$122.3**	**-$131.6**	**-$142.0**	**-$133.0**	**-$1,193.7**	**-$2,606.5**	**-$4,868.9**

when, and how its transportation investments are made.

A number of potential revenue sources were identified for unfunded projects in the freeway vision. Given their revenue potential and likelihood of successful implementation, a handful of these sources were identified as most probable over the next several years. Most of these sources build on recommendations of the *Blue Ribbon Committee on Highway Finance Report*, published in 2011.

- Extension of the half-cent sales tax: The CAP program, approved by voters in 2012, is set to expire in 2023. Many believe the initiative was successful because specific projects were clearly defined so that voters knew exactly for what they were voting. If AHTD can successfully implement the program, an extension of the sales tax is plausible. The CAP is intended for Arkansas' Four Lane Grid System, of which many freeway vision projects are a part.
- Fuel Tax Index: Outside the CAP, a majority of funding for central Arkansas' freeways comes from fuel taxes. The inadequacy of the current fuel tax structure to keep pace with transportation costs has been well documented in this LRMTP and elsewhere. An index on fuel tax is an equitable solution to this gap and is gaining popularity on a national scale. A fuel tax index could be implemented on a local, state or national basis.
- Transfer of Auto-related Goods Tax: The transfer of taxes generated by auto-related sales is popular because it generates revenue for transportation without levying a new tax. To mitigate loss of revenue from existing recipients, this tax could be phased in over a number of years such that the natural growth in tax revenue could smooth out the transfer. Funds raised from the transfer would go to a new state highway trust fund.

Top Projects

The freeway vision projects will take many years to plan, program, design and build, and will continue to compete for limited resources. While each project carries its own significance to the overall vision, the following are recommended for pursuit first, based on cost, imminent need and consistency with goals and objectives.

- Close the Funding Gap for Maintenance: If central Arkansas' roadways are to continue to function adequately, they must remain in good repair and working order. For this to happen, the sizable gap between funding needs and available revenue must be closed. The routine and major maintenance needs gap is estimated to be almost $5 billion over the life of the LRMTP when both freeway and arterial needs are taken into account. Clearly, one of the first targets of any new revenue sources should be closing this gap.

Table 7-11-A. Freeway Maintenance Project Priorities

Facility	From	To	Improvement
I-630	UPRR Viaduct		Bridge Replacement
I-430	I-30	I-40	Pavement Rehabilitation
I-30	65th	I-530	Pavement Rehabilitation
Hwy 67	Hwy 38/North Cabot Interchange	White County	Pavement Rehabilitation

Table 7-11-B. Freeway Interchanges Project Priorities

Facility	Cross Street	Improvement
Hwy 67	Hwy 5	Interchange Modification in conjunction with CAP Project
Hwy 67	Vandenberg	Interchange Modification in conjunction with CAP Project
Hwy 67	Coffelt	New Interchange in conjunction with CAP Project
I-30	Hwy 67/Hwy 229 (Haskell)	Interchange Modification in conjunction with CAP Project
Hwy 67	Hwy 38/North Cabot Interchange	New Road and Interchange
I-40	3rd Maumelle Interchange/ Counts Massie Rd	New Road and Interchange
I-40	Hwy 65	Interchange Modification
I-40	Hwy 67	Interchange Modification in conjunction with improvements to Hwy 64
I-30	Raymar Road	New Interchange
I-430	I-30	Phase II Improvements

Table 7-11-C. Freeway Operational Improvements Project Priorities

Facility	From	To	Improvement
I-30	I-40	I-530/I-440	Supplemental CAP Funding
Hwy 67	Hwy 5/CAP Job	North Cabot Interchange	Widening
I-630	University	I-30	Operational Improvements
I-40	I-440	Hwy 31/Lonoke	Widening
I-40	Hwy 67	I-440	Widening

- Systemwide Operational Improvements (ITS): The efficiency and function of the freeway system is enhanced through improvements to the way it operates. This emphasis on systems operations management continues to be stressed at the federal level. To that end, the deployment of a systemwide Intelligent Transportation System (ITS) for central Arkansas' freeways should be pursued in the coming years. The Areawide Freeway Study recommends roughly $47 million (in 2014 dollars) to deploy ITS systemwide, including remote cameras, variable message signs and a regional traffic management center or network of centers to quickly detect and clear non-recurring incidents and congestion. The system will be integrated with a corresponding arterial ITS system.
- Interchange Improvements: In many cases, freeway operations and capacity can be improved by eliminating bottlenecks that preclude the need for large-scale widening via additional general lanes. Several interchange improvements are recommended to address existing capacity issues, including Highway 67/167 at Highway 5 in Cabot and at Vandenberg Boulevard in Jacksonville, and I-40 at Highway 65 in Conway. Also, the cities of Cabot and Maumelle have agreed to provide partial funding for new interchanges in their respective cities.

7.5.2 Regional Arterial Network

The Regional Arterial Network (RAN) is intended to absorb much of the travel demand as an alternative to interstate travel. A host of capacity, intersection, access management, systems operations and bridge projects were identified as part of the RAN vision, totaling almost $1.5 billion.

Likely Revenue Sources

There is a considerable overlap in funding eligibility between freeways and arterials. The following are new revenue sources identified for RAN improvements.

- New Sales Tax: A new sales tax could be enacted locally (at the county level) or through the creation of a multi-county regional mobility authority with authority to collect taxes and dedicate funds, in part, toward RAN projects. Similar to the state's 1/2 cent sales tax, specific projects would need to be included in this proposal.
- Transfer of Auto-related Goods Tax: Similar to freeway vision projects, revenue transferred to a new state highway trust fund could be used to fund RAN vision projects.
- Property Tax: Counties in Arkansas are constitutionally authorized to levy up to 3 mills for roads by vote of the county quorum court. A constitutional amendment would further authorize them to levy a tax beyond 3 mills by public referendum. This additional tax could be used to fund arterial projects.
- Fuel Tax Index: Similar to freeways, the majority of funding for the RAN comes from comes from fuel taxes. Thus, a fuel tax index, whether implemented on a local, state or national basis, is a likely source for mitigating the growing revenue gap.

Top Projects

Improvements to the RAN are necessary for it to function as a viable alternative to the freeway network. Top unfunded projects to implement the RAN Vision focus on strategies to keep existing facilities in good repair and to make RAN corridors operate more safely and efficiently.

- Close the Funding Gap for Maintenance: Similar to freeways, closing the sizable gap between funding needs and available revenue to keep the region's arterials in good working order is a top priority. Additional revenue is necessary to close the nearly $5 billion funding gap for freeway and arterials.
- Intersection and Operational Improvements: In keeping with an emphasis on transportation operations, many of the recommended projects are focused on improving how RAN corridors operate. This includes intersection improvements, turn lanes and correction of geometric deficiencies.
- Access Management: RAN Corridors, by design, play a prominent role in regional mobility. As such, the corridors should include access management measures commensurate with

Table 7-12. Regional Arterial Network Project Priorities

Facility	From	To	Improvement
System Wide	System Wide		Close Maintenance Gap
RAN Corridor 1: Hwy 107, N. Main, Scott St.	Main Street at	UPRR	Bridge Replacement
	Kellogg Acres	Arkansas River	Operational (Intersection, Signals, Access Mgt)
	UPRR	North Hills	Pedestrians
RAN Corridor 2: University, Chicot	I-30	Hwy 10	Adaptive Signal Control System
	University at Asher/ Colonel Glenn		Intersection
	Mabelvale Cutoff	Hogue Road	Minor Widening
RAN Corridor 3: Hwy 65, Hwy 65B, Hwy 365, Hwy 100	Greenbrier/Hwy 25 Hwy 65 at I-40	I-40	Operational Study Interchange Modification
	Harkrider at	Hwy 64 – Old Morrilton	Intersection/Roundabout
	Dave Ward	Hwy 100	Intersections
RAN Corridor 4: Hwy 100 (Maumelle Boulevard)	I-40	I-430	Adaptive Signal Control System
	Maumelle Blvd at	I-430	Interchange + Ramp Mod.
	3rd entrance I-40		New Interchange + connecting rd
RAN Corridor 5: Hwy 10 / Chester St.	Chenal	I-630/I-30	Adaptive Signal Ctrl System
	Cantrell at	UPRR Viaduct	Bridge Replacement
	Cantrell at	University	Intersection Improvements
	Taylor Loop Road	I-430	Capacity improvements. (Phase II)
RAN Corridor 6: Military Rd./SH5/ Asher Ave./Wright/ Chester St.	Hwy 35	Congo	Signal Control System Upgrades
	Hwy 5 at	I-430	Interchange Modifications
	County Line Road	Reynolds Rd	Widening and Bike Lanes
	Wright	UPRR	Bridge Rehab/Replacement

Table 7-12. Regional Arterial Network Project Priorities (continued)

Facility	From	To	Improvement
RAN Corridor 7: Hwy 161/Hwy 70/ Broadway			
RAN Corridor 8: Hwy 36/Saltillo Rd/ Clinton Rd/Hwy 365/ McArthur Dr/Pike Ave./Broadway	Broadway	Pershing	Pedestrian Improvements
	Military Drive	I-40	Reconstruct/Widening
RAN Corridor 9: Hwy 300/Chenal/ Financial Ctr Pkwy	Shackleford Road	Rahling Road	Advance Traffic Control System
RAN Corridor 10: Hwy 70/Hwy 367			
RAN Corridor 11: Hwy 64 (Oak St.)	Hwy 64 at	I-40	Interchange Modifications
	Harkrider Street	German Lane	Operational Study, Acces Management; Advanced Traffic Control System
	Hwy 64 at	Harkrider	Construct roundabout/ intersection
RAN Corridor 12: Roosevelt Rd.	Asher Avenue	I-440	Intersection improvements and reconstruction (access management)
RAN Corridor 13: Hwy 107/Brockington Dr./Brookswood Rd.	General Samuels	Arnold	Widening
	Hwy 64	Hwy 67	Intersection improvements and signal upgrade
RAN Corridor 14: Kanis Rd./Chenal Pkwy/Markham Rd./Third St.	Chenal	Cumberland St.	Access management, Advance Traffic Control System
RAN Corridor 15: Dave Ward Dr./ Hwy 286	I-40	Hogan	Adaptive Signal Control System

Table 7-12. Regional Arterial Network Project Priorities (continued)

Facility	From	To	Improvement
RAN Corridor 16: Hwy 89E/Sales Rd./ Batesville Pike/Tates Mill/Hwy 89	Hwy 5	Faulkner County	Hwy 89 Realignment
	Pulaski County	I-40	Minor Widening
	Ryeland Drive	5th Street	Widen to four lanes divided w/curb and gutter
	Hwy 67	Hwy 5	Intersection Improvements and Widening
Critical Segment: Camp Robinson Rd.	37th, 34th, 33rd, EB I-40		Coordinate signals and add fiber
	Remount Road	47th St.	Reconstruct/widen to four lanes divided
	37th St	34th St.	Reconstruct/widen to four lanes divided

their high mobility function. A number of projects include access management strategies such as medians and driveway consolidation to align the corridors with prescribed standards.

- Advance Traffic Control Systems: A number of improvements can be made to traffic control systems so that they process traffic more efficiently. Most importantly, adaptive signal systems enable signals to coordinate with each other and to change dynamically in response to traffic patterns. Such systems are currently programmed for deployment on Dave Ward Drive, Maumelle Boulevard and University Avenue. Other control elements could include variable message signs and monitoring cameras. The systems would be integrated with ITS strategies on the freeway system.
- Widening: Even after corridors have been made as efficient as possible, some may not have enough capacity to handle projected traffic volumes. In these situations, widening to accommodate general purpose lanes or a median/ center turn lane should be considered.

7.5.3 Regional Transit

Building a regional transit system and the basic framework for future growth and mobility of central Arkansas is one of the major elements of *Imagine Central Arkansas*. Implementing the vision for regional transit is a significant undertaking considering that no such service exists today and there is no dedicated source of funding.

Likely Revenue Sources

Given the already significant gap between needs and available resources, it is highly unlikely that regional transit projects will receive funding from existing financial resources. The most likely candidates for new revenue are listed below.

- New Sales Tax: A dedicated sales tax is a popular source of revenue for transit. It has been used successfully in places like Denver and Salt Lake City. Funding for transit could come in the form of a sales tax for a regional mobility authority intended to provide funding to improve transportation within the region.
- Property Tax: If a constitutional amendment authorizes counties to levy an additional tax beyond 3 mills for roads, all or a portion of the additional revenue could be dedicated for regional transit projects.
- Value Capture: The increase in property tax resulting from transit improvements could be used in part to pay for those improvements.

Table 7-13. Regional Transit Project Priorities (continued)

Service Area	Project	Cost (2014)
Conway to Little Rock (RAN Corridor 8/I-40)	Express bus service/fixed guideway study.	$4.9
West Little Rock to Little Rock (RAN Corridor 9/I-630)	Express bus service and transit hub.	$2.2
Benton to Little Rock (RAN Corridor 6/I-30)	Express bus service/fixed guideway study.	$4.9
Cabot to Little Rock (RAN Corridor 7/US 67/167)	Express bus service/fixed guideway study.	$4.9
West Little Rock to Little Rock/Airport (I-630 corridor)	Light Rail Transit	$622.0

Table 7-14. Local Transit Vision Project Priorities

Service Area	Project	Cost (2014)
Systemwide	Unfunded maintenance gap[1]	$307.3
Systemwide	Improvements to pedestrian signals and crosswalks, sidewalks; transit marketing	$5.0
Conway/Central Faulkner County	New branded service: Local/paratransit service as recommended in the Conway Transit Feasibility Study plus new local routes	$6.2
Central Little Rock	New local routes, routes to be determined. Expand existing route service	$3.8
North Little Rock	New local routes, routes to be determined. Expand existing route service	$3.8

[1] Represents total 2014-2040 operating and vehicle replacement cost in forecast year dollars.

Top Projects

Building a regional transit system in central Arkansas is a from-the-ground-up proposition. As such, there is much work to be done. Most of the initial projects focus on laying the groundwork for regional transit through express bus service.

- Express Bus Service: The ultimate vision for regional transit includes fixed guideway - light rail, commuter rail or bus rapid transit – linking Little Rock's central core with each of region's the main corridors: West Little Rock/I-630, Conway/I-40, Cabot/US 67/167 and Benton/I-30. Prior to implementing full blown transit service along each of these corridors, providing express bus service is a logical first step. Express bus service, in which riders typically use park and ride lots to access motorcoaches operating on freeways, will introduce each corridor to transit service and start to build a ridership base.

Table 7-15. Cost to Maintain Existing CATA Service (cost in millions of dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024-2030	2031-2040	Total
Existing CATA Operations													
Operations	$16.7	$17.1	$17.6	$18.3	$18.9	$19.6	$20.2	$20.9	$21.8	$22.5	$178.8	$337.0	$709.3
Vehicle Replacement (Fixed Route)	$1.8	$1.8	$1.8	$1.9	$2.0	$2.1	$2.1	$2.2	$2.3	$2.4	$18.7	$35.3	$74.3
Vehicle Replacement (Demand Response)	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.4	$0.4	$0.4	$3.0	$5.6	$11.9
Total	$18.7	$19.2	$19.8	$20.5	$21.2	$22.0	$22.6	$23.5	$24.4	$25.2	$200.5	$377.9	$795.5
Available Revenue													
Federal and State	$7.2	$5.5	$5.5	$5.77	$5.76	$5.74	$5.71	$5.68	$5.65	$5.61	$38.2	$54.3	$150.6
Local	$12.7	$13.4	$13.6	$11.69	$12.07	$12.47	$12.89	$13.31	$13.75	$14.19	$113.0	$209.6	$452.8
Total	$19.9	$18.9	$19.1	$17.5	$17.8	$18.2	$18.6	$19.0	$19.4	$19.8	$151.2	$263.9	$603.3
Deficit	**$1.2**	**-$0.2**	**-$0.7**	**-$3.0**	**-$3.4**	**-$3.8**	**-$4.0**	**-$4.5**	**-$5.1**	**-$5.4**	**-$49.3**	**-$114.0**	**-$192.2**

- I-630 Light Rail: The I-630 corridor, running from Shackelford Road in West Little Rock to downtown Little Rock and Bill and Hillary Clinton National Airport was recently studied for light rail transit, which identified a potential alignment and operating characteristics. The corridor is poised to become central Arkansas' first regional fixed guideway transit service and will provide a viable alternative to travel on congested I-630, access to some of the region's largest employment centers and service as a catalyst for development and redevelopment at station locations.

7.5.4 Local Transit

Regional transit must be accompanied by a robust and reliable local transit service. The vision for local transit includes enhancements to existing service as well as expansion to new service areas.

Likely Revenue Sources

To both maintain and expand existing transit service, CATA and other potential service providers need to seek out new sources of revenue. For the most part, potential sources are very similar to those for regional transit.

- New Sales Tax: Similar to regional transit, a portion of a new sales tax could be dedicated to local transit service.
- Property Tax: A portion of the additional revenue generated by the ability of counties to levy beyond 3 mills could be used to fund local transit service.
- Fuel Tax Index: A significant share of existing funds for local transit service are derived from fuel taxes at the federal, state and (to a lesser extent) local level. A fuel tax index would result in significant revenue increases to mitigate the anticipated cost increases, essentially maintaining purchasing power. Local fuel tax turnback would also increase, providing local governments with the ability to keep pace with cost increases.

Top Projects

CATA does an excellent job of providing transit service given its limited resources. If given additional revenue sources, top projects include improved pedestrian access to stops, new service areas and improvements to existing service.

- Close the Funding Gap for Maintenance: First and foremost, resources must be allocated to close the revenue gap between projected revenues from existing sources and the cost to maintain existing CATA service. This revenue gap is estimated to total over $250 million between now and 2040.
- Pedestrian Improvements and marketing: One of the greatest impediments to using fixed route service is a lack of adequate pedestrian accommodations providing safe and convenient connections between bus stops and origins and destinations. Improvements such as sidewalks, pedestrian indicators at traffic signals and better marked and signed crosswalks create a better transit user experience. Equally important is providing riders with real time information to ease their use of the system.
- New Local Service in Conway: Conway was recently designated an urbanized area following the 2010 US Census, signifying its growth and giving it a separate allocation of FTA funds for transit (that currently go unused). A study completed in 2010 recommended specific fixed routes that could serve local mobility needs and provide connectivity to proposed regional transit.
- Service Enhancement and Expansion: Several existing places currently served by fixed route transit could benefit from service enhancement and expansion. The creation of branded high frequency routes on Markham and JFK/Hwy 107/McCain is the first step to providing premium transit services in these corridors. This includes new and expanded routes, increased frequency and expanded operating hours.

7.5.5 Bicycle and Pedestrian

Many central Arkansans indicated they would walk and cycle more if good, safe facilities were available to them. In many cases, bicycle and pedestrian

facilities can be incorporated into the design of new roads and road improvements. However, in many cases it may be necessary for bicycle and pedestrian facilities to be standalone projects.

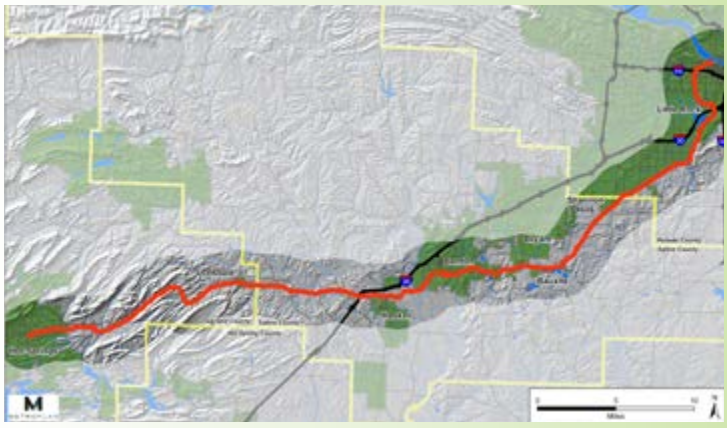
Likely Revenue Sources

The majority of pedestrian and bicycle facility improvements are made as part of roadway improvements. Therefore, new revenue for bicycle and pedestrian improvements along arterials will come from their roadway source of funds. For standalone pedestrian and bicycle facilities, federal funding is provided primarily through the Transportation Alternatives Program (TAP) created as part of MAP-21 with local match funding coming from cities using a portion of their general or street fund. Additional funding for standalone pedestrian and bicycle facilities could include:

- New Sales Tax: If a new sales tax is enacted locally, a small portion of the revenue could be set aside or earmarked for bicycle and pedestrian projects. For example, completion of the popular Arkansas River Trail could be identified as a specific project to be completed pursuant to a sales tax referendum.

Table 7-16. Bicycle and Pedestrian Vision – Top Projects (cost in millions of dollars)

Facility	Location	Project	Cost (2014)
Complete Arkansas River Trail	Crystal Hill Rd/Maumelle/Faulkner County connection	On-road and off-road facilities	$29.9
	River Bluffs section in Little Rock	Complete off-road path and provide bike alternative	
Highway 5	I-30 to county line	Regional connector in Saline County	$3.7
SH 161/SH 70/Broadway	Highway 67/167 to Broadway Bridge	Regional connector in in Jacksonville/Northeast Pulaski County	$8.4
Southwest Trail	Little Rock/State Capitol tl	New multi-use path	TBD



Southwest Trail

- Property Tax: A portion of the additional revenue generated by the ability of counties to levy beyond 3 mills could be used to fund bicycle and pedestrian projects.
- General fund transfer: Transfer of a portion of cities' or counties' general or turnback fund to pedestrian or bicycle projects.

Top Projects

The top projects for implementing the vision for bicycle and pedestrian mobility include a mix of regional connectors and local facilities. These include:

- Completion of the Arkansas River Trail: The Arkansas River Trail is one of the most popular outdoor venues in central Arkansas. Completion of the Trail, which included a combination of off-road paths, crossing treatments and on-road facilities, was identified many times as an important initiative during outreach for *Imagine Central Arkansas*. Not only would its completion be a boon for recreation and tourism, it would also create a contiguous bicycle connection between Conway and Little Rock.
- Regional Connectors: In addition to the Arkansas River Trail, the bicycle and pedestrian vision includes other important connectors that make regional bicycle travel possible. Top projects include regional connectors to Benton and Bryant in Saline County and Jacksonville in northeast Pulaski County.
- Southwest Trail: The Southwest Trail is a proposed multi-use path connecting Little Rock with Hot Springs utilizing abandoned railroad ROW.

Local projects: Many areas lack adequate facilities for bicycle and pedestrian travel in and around neighborhoods, corridors and communities. Investments in sidewalks, crossing treatments and a mix of on-road and off-road bicycle facilities will make cycling and walking possible on these corridors.

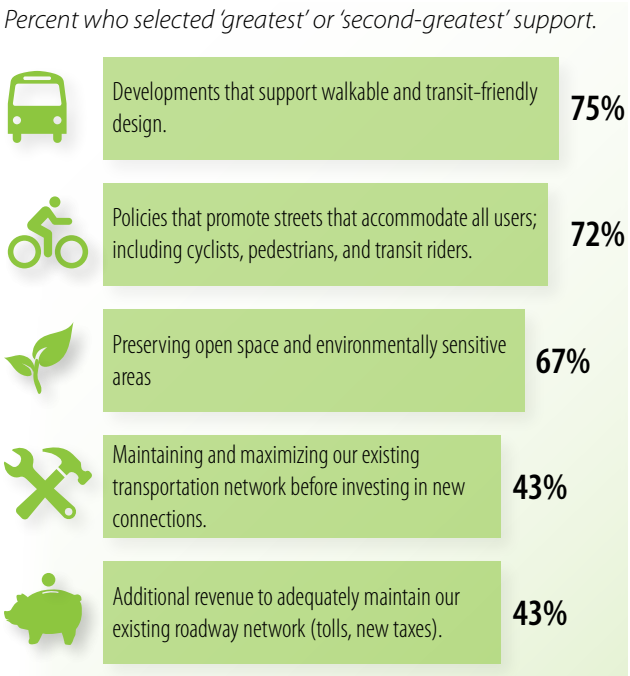
7.5.6 Project Selection

For a project to be built with federal funds, it must be included in the Transportation Improvement Program, one of two federally mandated documents produced by Metroplan (with the LRMTP being the other). To be included in future TIPs a project must demonstrate:

- Extent of consistency with and achievement of *Imagine Central Arkansas* Vision, goals and objectives as measured through:
  - Improved operations of existing facilities.
  - Quality design in terms of access management, accommodation of all users and consistency with surrounding land use and local government plans.
  - Improved safety for motor vehicles, pedestrians, cyclists and transit riders.
- Availability of federal and state funding (based on the project eligibility).
- Ability of the appropriate local government(s) to provide matching funds for federal- and state-funded projects
- Assessment of project readiness to proceed through the project development process.

Figure 7-14. Public Support for Local Policy Changes

Percent who selected 'greatest' or 'second-greatest' support.



Note: Results from the "Are We There Yet?" online tool. For complete details see Appendix B.

- Identification of any factors that would preclude the project based on environmental issues.

The assessment of these factors is a collaborative effort among a collection of organizations, including Metroplan, member local governments and AHTD. The measures can be qualitative or quantitative.

7.5.7 Collaboration, Policy Changes and Actions

The focus of the LRMTP is on a formally adopted Financially Constrained Plan, 10-Year Project list and recommendations for new sources of revenue and top unfunded projects. However, to fully implement the *Imagine Central Arkansas* Vision, additional measures are necessary. These include programs, policies and actions.

Collaboration/Organization

There is not one single entity that can achieve the Vision on its own. Instead, it is a combination of key players – Metroplan, AHTD, local governments, community and business leaders – that collectively make it happen. Thus, a significant amount of collaboration is necessary. The following are recommendations for programs that engage the region collaboratively. Other opportunities for collaboration may become evident as *Imagine Central Arkansas* moves toward implementation.

Regional leadership: Metroplan will engage regional leaders to attain a consensus on new funding sources for achieving the Vision.

Communication and engagement: *Imagine Central Arkansas* carries implications for land development decisions that are within local governments' control. Metroplan encourages local governments to support the Regional Vision by developing land use plans that are consistent with the preferred growth concept. One way this will occur is through the Jump Start program and similar initiatives. Additionally, Metroplan will continue to develop materials to communicate the Vision and associated strategies.

Transportation and Land Use Subcommittee/ Working Group: Metroplan previously convened a group of central Arkansas representatives focused on transportation and land use. Metroplan will reconvene a similar ad hoc group of professionals to focus on ways to integrate the Vision and associated transportation strategies with local government plans and decisions to support the implementatin of *Imagine Central Arkansas*.

Economic development: Metroplan maintains an active relationship with regional chambers of commerce, sharing information on how the evolving transportation picture affects quality of life and the ability to attract new growth in central Arkansas. Metroplan will continue and expand relationships with chambers across the region to ensure *Imagine Central Arkansas* and regional economic development goals are consistent and to raise awareness of, and advocacy for, new revenue sources for transportation.

Freight Subcommittee/Working Group: Metroplan previously convened representatives from freight-related industry in central Arkansas, including the Port Authority, manufacturers, logistics, etc. Metroplan will continue to engage freight interests on a periodic basis to understand their key challenges and issues and identify projects that best meet freight movement needs. Specifically, Metroplan will convene a working group to evaluate the impact of projects on freight movement as part of future TIP development efforts.

Policy Recommendations

Metroplan is guided by a set of policies, both formal and informal, as it goes about its business of coordinating regional transportation decisions. The findings and recommendations of *Imagine Central Arkansas* suggest that new policies and emphasis on and/or strengthening of some existing policies would help to better implement the Vision.

Fix it first: Central Arkansas has many critical transportation infrastructure maintenance needs as documented in this LRMTP. Projected revenue falls short of meeting these needs. As a matter of policy, Metroplan will focus first on addressing maintenance and safety needs before committing to new capacity projects.

Full lifecycle project costing: One reason that central Arkansas, not unlike most regions, finds itself with a funding deficit is because the current project planning and programming process does not take into consideration the "full cost" of transportation projects. Typically, when allocating funds, only the immediate capital cost (i.e. design and construction) is taken into consideration. In future planning and programming efforts, Metroplan and its partners must include the full lifecycle cost - ongoing maintenance and repair/replacement – of projects.

Operations over capacity: Rather than invest in new and/or expanded facilities which can be costly and add to ongoing untended maintenance liability, Metroplan partners are encouraged to first seek strategies that improve the operation of existing facilities. This could be implemented through prioritization measures for projects seeking committed funding via the TIP process. A similar measure has been included in the LRMTP project evaluation scoring.

New revenue sources: The LRMTP identifies a Ten Year List of new transportation projects to be funded with projected revenue as part of the Financially Constrained Plan. The inclusion of new major projects as part of the Financially Constrained Plan is discouraged until new revenue sources are identified,.

Quality design and balance of modes: *Imagine Central Arkansas* goals and objectives place significant emphasis on providing for a balance of modes, developing high-quality, aesthetically pleasing and livable corridors through access management and other design strategies and being responsive to the surrounding context and local land use plans. Although corridor projects that demonstrate these characteristics are already encouraged, this can be strengthened through inclusion of prioritization measures in the TIP project selection process. Several similar measures are included in the LRMTP project evaluation scoring.

Safety: Providing for the safe movement of motor vehicles, pedestrians, cyclists and transit riders continues to be of prime importance. Adoption of prioritization measures can solidify this position. Safety is reflected in the LRMTP project evaluation scoring. Beyond that, safety studies for specific facilities and locations, as warranted, will be developed.

Actions

In addition to collaboration and policy issues, several actions must be taken to fully achieve the *Imagine Central Arkansas* Vision. These actions range from plans and studies to active pursuit of new revenue sources. Some can be completed within the next few years, while others may take up to a decade.

Local government initiatives: Metroplan will continue to champion best practices by creating and supporting local government initiatives that result in efficient transportation and land use patterns and supportive sustainable, livable neighborhoods. Most recently, the JumpStart program provides resources to develop small sub-area plans that implement *Imagine Central Arkansas*. Future efforts include additional small sub-area plans or corridor studies, local transit and bicycle/pedestrian plans, design guidelines or fiscal impact analyses that show how different development types impact a jurisdiction's revenue stream.

New revenue sources: The LRMTP identifies several new sources to close the gap between Vision needs and available revenue. Pursuit of these sources must begin in earnest. The source that shows the most immediate promise in terms of revenue potential, ease of public and political receptiveness and administrative feasibility going first.

Scientific survey: Ad hoc feedback tools used during *Imagine Central Arkansas* public outreach showed very high levels of support for new revenue sources among people who participatead. As a first and very specific step toward pursuing these new revenue, a scientific sample survey to more accurately gauge the public's receptivity is required. Such a survey would include a statistically significant participant sample, meaning that results are designed to be reflective of the region's entire population.

Regional Mobility Authority: A Regional Mobility Authority (RMA) is a formally-designated, legislatively authorized, independent body comprised of local government members created to fund construction and operation of regional transportation systems. The

Table 7-17. Implementation: Collaboration, Policy Changes and Actions

Recommendation	Goal 1. Economic Growth							
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
Organization/Collaboration								
Regional leadership: Communicate/collaborate regularly with community and business leaders.			●					
Communication and engagement: EEncourage local governments to support the Regional Vision through regular communication, programs and education/resources.		●					●	
Transportation and Land Use Subcommittee/Working Group: Reconvene the Transportation and Land Use Subcommittee/Working Groups to support the implementation of Imagine Central Arkansas.								
Economic development: Continue to form and expand relationships with chambers of commerce and other economic development interests across the region.			●					
Freight Subcommittee/Working Group: Reconvene the Freight Subcommittee/Working Group to evaluate the impact of projects on freight movement as part of future TIP development efforts.	●							
Policy Changes								
Fix it first: Focus first on addressing maintenance before committing to new capacity projects.		●			●			
Full lifecycle project costing: Include the full lifecycle cost — ongoing maintenance and repair/replacement — of projects.		●			●			
New revenue sources: Discourage adopting any new projects as part of the Financially Constrained Plan until new revenue sources have been identified.								
Operations over capacity: Favor strategies to improve the operation of existing facilities over new and expanded facilities.				●		●		
Quality design and balance of modes: Give formal priority in the TIP and elsewhere to corridors that provide for a balance of modes, are high-quality, aesthetically pleasing and are responsive to the surrounding context and local land use plans.	●	●		●		●		
Safety: Give formal priority in the TIP and elsewhere to corridors that provide for the safe movement of central Arkansas' motor vehicles, pedestrians, cyclists and transit riders.						●		
Freight: Consider projects that directly support the movement of freight, provide access to freight facilities and support intermodal connections during TIP development.	●	●						

Goal 2. Transportation Choice				Goal 3. Environment Quality and Natural Resource Preservation				Goal 4. Land Use				Goal 5. Quality Transportation Corridors				Goal 6. Funding Adequacy	
2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2
																	●
●				●	●	●	●	●			●		●				
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Table 7-17. Implementation: Collaboration, Policy Changes and Actions (continued)

Recommendation	Goal 1. Economic Growth							
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
Actions								
Local government initiatives: Create and support local government initiatives that result in efficient transportation and land use patterns.		●		●			●	
New revenue sources: Begin pursuit of new revenue sources in earnest beginning with the one that shows the most immediate promise in terms of revenue potential, public and political receptiveness and administrative feasibility.								
Scientific survey: Participate in a scientific survey to more accurately gauge the public's receptiveness to new revenue sources.								
Regional Mobility Authority: Continue to pursue the formation of a Regional Mobility Authority.								
Complete Streets: Promote designs that incorporate elements for all transportation modes.		●				●		
Rail grade separations: Complete identified rail grade separations by 2020.	●	●				●		
Regional ITS Architecture: Update and deploy Regional ITS Architecture by 2020.				●		●		●
Arkansas River Trail: Complete the 88-mile Arkansas River Trail by 2020.								
Access Management: Continue to develop corridor-level access management plans and regional guidelines for the Regional Arterial Network.								

Goal 2. Transportation Choice				Goal 3. Environment Quality and Natural Resource Preservation				Goal 4. Land Use				Goal 5. Quality Transportation Corridors				Goal 6. Funding Adequacy	
2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2
●	●	●	●	●	●	●		●			●		●				
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findings and conclusions of *Imagine Central Arkansas* confirm the need for an RMA in central Arkansas and heighten the importance for the continued pursuit of such an agency.

Promote design for all users: "Complete Streets" is an increasingly popular strategy for communities and regions to support the creation of safe, walkable streets for all users. To date, over 500 jurisdictions in the US have adopted Complete Streets policies. All local governments and AHTD are encouraged to create and formally adopt a Complete Streets policy or resolution and develop design guidelines. This includes ongoing education on Complete Streets and their benefit.

Rail grade separations: The LRMTP Project Priorities identify a number of rail grade separations that are a top priority for the region. These projects will be completed or substantially underway by 2020.

Regional ITS Architecture: Intelligent Transportation Systems (ITS) represents one of the best ways to improve the operation of central Arkansas freeways and arterials. The Regional ITS Architecture will be updated to reflect changes in technology and local conditions and deployed by 2020.

Arkansas River Trail: The Arkansas River Trail is an important component of central Arkansas' recreation, tourism and regional mobility. Projects necessary to finish the Trail will be completed or substantially underway by 2020.

Access management: To support access management as an effective strategy for safe efficient operation of arterials, Metroplan will continue to develop corridor-specific access management plans. The plans will be consistent with preferred regional growth concept by placing emphasis on more access within designed centers and less access elsewhere. In addition, Metroplan will provide education and technical support to its member agencies on good corridor and access management practices.

7.5.8 Integration with Complementary Systems

As described elsewhere in this document, transportation in central Arkansas is part of a larger set of interrelated systems that affect and are affected by each other. There are a number of such systems, but some of the more important ones include land development, housing and the environment, energy and natural resources. The future health and prosperity of the region depends in large part on how much care and attention is given to these interrelationships.

Land Development

Transportation investments and other decisions can either complement and support land use or enforce its separation. Likewise, land development decisions will play a large role in determining whether trips can be made via transit, walking, cycling or a short drive versus a long, cross-town commute.

Technical Assistance Support to Local Governments

Metroplan provides technical assistance support to member jurisdictions at their request. This includes the creation of or support for land use plans, master street plans, and zoning regulations and ongoing planning education

More often than not, transportation and land development decisions are made independently of one another. This is due, in large part, to the fact that many of our transportation decisions are made regionally, while land use decisions are made locally.

As a regional planning entity, Metroplan is in a unique position to encourage and support the integration of transportation and land use planning and decision-making. Even though land development decisions reside primarily within the jurisdiction of local governments, Metroplan can engage local governments to share the Vision for mobility and how it influences and is influenced by their land use decisions. The Jump Start Program is an excellent example of collaboration with local governments to coordinate transportation and land development.

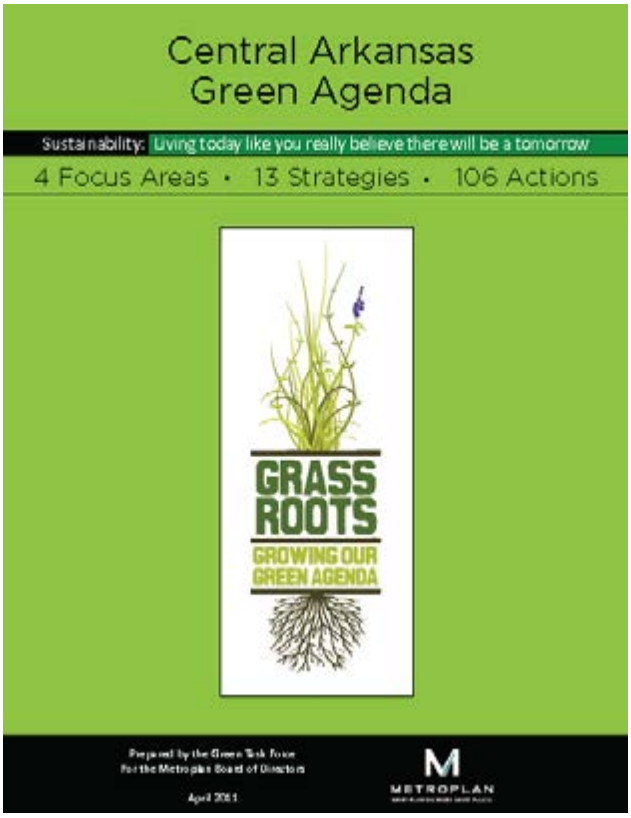
Housing

The Housing + Transportation (H+T) Affordability results show that many areas of central Arkansas are considered unaffordable for the average family. This is due, in large part, to the costs associated with long commutes that are a required to access much of the region's housing stock and a lack of integration between transportation and housing decisions.

Imagine Central Arkansas represents an opportunity to provide families with a more robust and affordable set of housing options through close integration with transportation. This may happen through a number of ways, including:

- Higher-density housing options adjacent to future transit stations with compact, walkable single family neighborhoods in close proximity.
- The creation of walkable, interconnected neighborhoods served by attractive multi-modal corridors, regional trails and off-road paths.
- Avoiding transportation investments that encourage large-scale, suburban housing developments that are located far from employment centers.

These strategies support recent trends, which have seen a slowdown in suburban single-family housing growth and return to more urban areas. Those-



trends are expected to continue with an expanding demographic of young "Millennials" and baby boomers who demand more medium to high-density and low-maintenance housing options in walkable environments with close-by activities.

As with land development, most housing decisions are made at the local level. Again, programs such as Jump Start are an excellent way to encourage the integration of transportation and housing decisions.

Environment, Energy and Natural Resources

Metroplan's 2011 Grassroots: Growing Our Green Agenda documents the link between transportation, energy, and the natural environment. With guidance from the Green Task Force and extensive public input, the Green Agenda features multiple strategies and suggested actions for movement, power, nature, and knowledge in central Arkansas. This coordinated effort supports interagency planning efforts regarding:

- Maintaining good air quality as measured by National Ambient Air Quality Standards (NAAQS).
- Maintaining good water quality by minimizing paved surfaces and reducing urban runoff.
- Reducing the impacts of transportation facilities on sensitive lands.
- Reducing fossil fuel consumption through:
  - The development of mixed use/higher density clusters.
  - Support the substitution of communication technology for transportation.
  - Higher CAFE standards and improved combustion/alternative fuel technologies.
  - Enhanced modal options that reduce roadway congestion and emissions per trip.
- Achieving greater energy efficiency and reliance on renewable energy sources.

Additionally, a recent greenhouse gas emissions inventory reveals that the transportation sector accounts for over one-third of the region's carbon dioxide emissions and energy consumption.

Clearly, transportation has tremendous potential to impact central Arkansas' environment, natural resources and energy consumption. Transportation decisions must be made in the context of potential environmental impacts. Metroplan, AHTD, and other regional transportation interests, should be an integral part of any regional dialogue that takes place where these factors are concerned.

7.6 Moving Ahead for Progress in the 21st Century (MAP-21)

On July 6, 2012, President Obama signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21). Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term transportation authorization enacted since 2005. MAP-21 represents a milestone for the U.S. economy – it provides needed funds and, more importantly, it transforms the policy and programmatic framework for investments to guide the growth and development of the country's vital transportation infrastructure.

The new legislation builds on and refines many of the highway, transit, bicycle, and pedestrian programs and policies established in 1991 under the Intermodal Surface Transportation Efficiency Act (ISTEA). Some key features of MAP-21 include:

- Expansion of the National Highway System (NHS) to incorporate principal arterials not previously included. More than one-half of the available federal funding under the act is directed to preserving and improving these most important

highways — the National Highway Performance Program (NHPP). The NHPP is included in the LRMTP financial planning.

- Establishment of a performance-based program framework for states and metropolitan areas to to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment and reducing delays in project delivery.
- Increase in the transparency, accountability, and transportation decision-making of federal transportation programs through performance-based planning and programming.
- Streamlines Federal transportation programs by simplifying and substantially consolidating the number of programs into a smaller number of broader core programs.
- Accelerates project delivery and promotes innovation aimed at ensuring the timely delivery of transportation projects, especially through the planning and environmental review process.

Specifically, MAP-21 places some new responsibilities on Metropolitan Planning Organizations (MPOs) such as Metroplan to establish a strong performance-based approach to transportation decision-making and the development of transportation plans.

- Each MPO is responsible for establishing performance targets that address the MAP-21 surface transportation performance measures.
- The performance targets selected by an MPO must be coordinated with the State and with public transportation providers to ensure consistency to the maximum extent practicable;
- MPOs are required to integrate into the metropolitan transportation planning process other performance-based transportation plans or processes.
- The MPOs must establish performance targets not later than 180 days after the date that the relevant State or public transportation provider establishes performance targets; and
- Within two years of enactment of MAP-21 (by July 2014), the structure of all MPOs will be required to include officials of public agencies that administer or operate public transportation systems (Metroplan already does this).
- The MPO's long-range transportation plan must include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- The long-range transportation plan must also include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the established performance targets;
- The Transportation Improvement Program (TIP) developed by the MPO must include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets established in the Plan, linking investment priorities to those performance targets.

The Federal Highway Administration (FHWA) is in the process of developing specific rules for developing performance targets that address the performance measures. The Final Rule is anticipated to be released in the Spring of 2015. This Plan will be revised to address the Rule after its release.

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